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BUDGET

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In collaboration with

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Disclaimer

The authors have full responsibility for the content of this report, and the conclusions, recommendations and opinions presented in this report reflect those of the consultants, and do not necessarily reflect the opinion of the Commission.

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LIST OF ACRONYMS

CAP	Common Agricultural Policy
CBD	UN Convention on Biological Diversity
CEF-E	Connecting Europe Facility - Energy
CEF-T	Connecting Europe Facility - Transport
CFP	Common Fisheries Policy
CMFP	Common Marine and Fisheries Policy
CIP	Competitiveness and Innovation framework Programme
CSF	Community Strategic Framework
EAFRD	European Agricultural Fund for Rural Development
EEA	European Environment Agency
EIA	Environmental Impact Assessment
EFF	European Fisheries Fund
ERDF	European Regional Development Fund
ESF	European Social Fund
FCS	Favourable Conservation Status
MFF	Multi-annual Financial Framework (with respect to the EU)
MPA	Marine Protected Area
MSFD	Marine Strategy Framework Directive
PES	Payments for Ecosystem Services
PoM	Programme of Measures (with respect to the Water Framework Directive)
PPPs	Public Private Partnership schemes
RDP	Rural Development Programmes
SEA	Strategic Environmental Assessment
SME	Small or Medium Enterprise
TEN-E	Trans European Energy Network
TEN-T	Trans European Transport Network
WFD	EU Water Framework Directive

EXECUTIVE SUMMARY

Background

The EU has committed itself to halting the loss of biodiversity¹ and the degradation of ecosystem services in the EU by 2020. In order to achieve this objective wider and stronger measures need to be taken to reduce environmental degradation and its resulting pressures, in particular habitat loss and fragmentation, land use intensification, disturbance and pollution. This is not just a matter of concern with respect to nature conservation for its own sake; it also has social and economic implications. Biodiversity and ecosystems provide a range of goods and services fundamental to economic and social development and human well-being, such as the maintenance of productive soils, provision of clean water, pollination, climate regulation and numerous recreational and cultural benefits.

The EU budget is a key policy tool in this respect. Although small in size compared to national budgets it has an important policy lever function and currently provides important funding for measures that benefit biodiversity, most notably through the Common Agricultural Policy (CAP) and the LIFE programme. However, pressures on biodiversity can also be increased by aspects of some EU policies, in particular in relation to the Cohesion Policy and specific funds promoting fisheries, transport and energy developments. Efforts are therefore needed to ensure primarily, that spending under the EU budget has no negative impacts on biodiversity, and additionally, that spending under the EU budget is overall supportive to achieving the biodiversity targets.

"Biodiversity-proofing" of EU funds has been promoted as a key approach that can help to achieve this objective in the next EU Multi-annual Financial Framework (MFF). The MFF defines the overall EU expenditure priorities for the period 2014-2020. This study has been commissioned to provide an overview of existing and available biodiversity proofing tools, and approaches to their implementation, to help to understand and structure options for their application under the 2014-2020 MFF.

What is biodiversity-proofing?

Biodiversity proofing the EU budget is defined in this study as a structured process of ensuring the effective application of tools to avoid or at least minimize harmful impacts of EU spending and to maximise the biodiversity benefits. It applies to all spending streams under the EU budget, across the whole budgetary cycle and at all levels of governance, and should contribute to a significant improvement in the state of biodiversity according to the 2010 baseline and agreed biodiversity targets.

Importantly biodiversity proofing needs to be understood as a step-wise process that follows the mitigation hierarchy under which appropriate actions are taken in the following order of priority: (1) avoidance of impacts; (2) reduction of negative impacts; (3) rehabilitation/restoration measures; and (4) compensation measures for significant adverse residual impacts. The focus of this study is mainly on the first three stages and partly on stage four, because other studies are investigating policy options for achieving no net loss of biodiversity through compensation measures, such as offsets and habitat banking.

¹ See Box 1.1 for definitions

All EU co-funded plans, programmes and projects should be compliant with the applicable EU legislation, in particular, Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), the Birds Directive, the Habitats Directive, the Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD), as well as policies such as the *EU Biodiversity Strategy to 2020*. Furthermore, it is recommended that biodiversity proofing should contribute to specific EU Biodiversity Strategy targets, notably ensuring no net loss of biodiversity.

Additionally, numerous tools exist to facilitate and extend biodiversity-proofing, including ex ante regulatory impact assessments (which should review policy coherence of spending programmes with respect to the EU's strategic goals and the environmental *acquis*), spatial planning, environmental selection criteria for projects, cost-benefit analysis that takes into account ecosystem services values, the setting of environmental targets and indicators, and mid-term and ex post policy evaluations.

This study finds significant opportunities to avoid and reduce negative biodiversity impacts from EU spending by means of effective applications of these directives, and tools, building upon good practice and key principles such as the polluter-pays principle and the precautionary principle. Most importantly it is evident that effective biodiversity-proofing is dependent on sufficient integration of biodiversity considerations into all relevant EU policies and related instruments at the highest levels. This is essential because it provides a mandate for 1) due consideration of potentially negative biodiversity impacts and necessary interventions to avoid and at least reduce them during the implementation of the policies (eg at the programming, project selection and project implementation levels) and 2) biodiversity beneficial spending.

Experience from many sectoral policies suggests that the 'best frame of actions' for biodiversity proofing needs to be based on holistic and integrated processes, with interventions at all appropriate stages of the policy cycle. The frameworks should use a coherent mixture of the available biodiversity proofing legislation and other tools. Of these, the Habitats Directive and the Birds Directive contain legal requirements for avoidance and reduction of environmental impacts whereas the Strategic Environmental Assessment (SEA) and project level Environmental Impact Assessment (EIA), are directives that lay down essentially procedural requirements for the consideration of environmental impacts rather than instruments that legally require the avoidance or reduction of environmental impacts. One of the key distinctions between SEAs/ EIAs and Appropriate Assessments under the Habitats Directive, apart from the fact that they measure different aspects of the natural environment and have different criteria for determining 'significance', is how the outcome of the assessment is followed. In this regard, the assessments under the SEA and EIA lay down essentially procedural requirements and do not establish obligatory environmental standards. In contrast an Appropriate Assessment under the Habitats Directive lays down obligations of substance, mainly because it introduces an environmental standard, ie the conservation objective of a site and the need to preserve its integrity.

Additionally, other legislation such as the WFD and the MSFD also has ecosystem based objectives, which will be critical both in assisting the specific objectives of the Birds and Habitats Directives and in enhancing wider biodiversity and ecosystem service protection. Each also has its own interaction with sectoral policies and should be taken into account in biodiversity proofing processes.

The specific conclusions relating to the key policies and funds that were examined in this study are set out below.

The Common Agricultural Policy

Biodiversity proofing of the CAP is necessary because the impacts of declining biodiversity trends are becoming increasingly evident in EU agricultural habitats and rural areas. Furthermore, biodiversity proofing needs to address all parts of the CAP, particularly when thinking about the design and content of measures.

However, unlike all other sectoral EU funds, Pillar 1 direct payments represent the non-programmed element of EU support and there is no shared responsibility for their design with Member States. Therefore there is a more limited opportunity for biodiversity proofing them at national and regional levels. Nevertheless, some elements of Pillar 1, such as cross compliance, eligibility rules for Pillar 1 direct payments, the Farm Advisory System and, most notably, green payments proposed for the post 2013 policy, are very important both for helping to mitigate some of the potential negative effects and for improving the overall outcomes of CAP spending. These Pillar 1 elements can, and should, therefore be addressed by the biodiversity-proofing process.

Because of its programmed character, Pillar 2 is the focus of the biodiversity proofing process within the CAP. Biodiversity proofing of Pillar 2 is crucial given it is the largest source of EU funds available to Member States for land management with positive biodiversity impacts. Furthermore, given the constrained budget in the future, it will be even more important to avoid potential negative effects of Pillar 2 funding on biodiversity. This key goal of biodiversity proofing needs to include careful consideration of how the positive benefits of targeted biodiversity management can be maximised. Effective use of technical safeguards and standards for the Pillar 2 measures that were identified as possible sources of damage to biodiversity in the past, such as afforestation, irrigation, drainage, and certain capital investments (such as forest infrastructure, access roads and tourism infrastructure), should therefore be the focus of the proofing process. In addition, it is important to use available biodiversity proofing tools to maximise the positive potential of agri-environment schemes. This involves, for example, avoiding conflicts between biodiversity management actions funded by these schemes and other activities supported by rural development policy.

Entry points for the biodiversity proofing of Pillar 2 exist at virtually every stage of the policy cycle. The **best frame of actions** for biodiversity proofing the CAP should therefore comprise a holistic and integrated use of strategic instruments supported by procedural tools such as ex-ante and ex-post evaluations. At all governance levels, the proofing tools should focus not only on avoiding harm to biodiversity from CAP measures, but also on preparing specific approaches to maximise biodiversity benefits in intensively farmed areas and extensively farmed areas.

It is important to firstly address biodiversity priorities in the EU policy framework, including the European Agricultural Fund for Rural Development (EAFRD) Regulation. The EAFRD sets out the overall objectives of the fund as well as the structure of supported measures, their specific objectives, eligibility criteria and mandatory technical safeguards. The programming stage is critical for the biodiversity proofing of Pillar 2, given the fact that it is at this stage that Member State/regional authorities determine the design and content of RDPs and their measures, and thus influence to a large extent the design and content of individual funding

applications. Biodiversity proofing should incorporate ex-ante and ex-post evaluations (including SEA), and consider funding allocations, the design of biodiversity management measures, information and institutional capacity. There is also a need to better synchronise biodiversity policy and programming, for example to avoid the situation where Biodiversity Action Plans are too out of date to usefully inform the development of RDPs. The specification of mandatory technical safeguards (eg afforestation and irrigation projects), as well as the identification of other potential safeguards (eg for drainage activities) should be amongst the focal entry points of the Pillar 2 proofing process at operational levels.

Biodiversity proofing should identify opportunities for creating networks, enhanced co-operation and sharing information etc between the Managing Authorities and environmental authorities, environmental groups, research organisations and other partners to improve the performance of the programme for biodiversity. Cooperation and increased capacity building is important to inform all aspects of programming. Monitoring and evaluation of programmes is generally guided by the Common Monitoring and Evaluation Framework (CMEF) requirements, which are implemented in a uniform and systematic manner across the EU-27 and at all programme and project implementation levels. Procedural proofing tools can be used to strengthen the compliance with biodiversity related CMEF requirements. This is all the more important given the fact that biodiversity elements of mid-term and ex-post evaluations received low attention by Member States in the past. At the programme implementation stage, including the screening of applications for funding, proofing should ensure that applications comply with the generic eligibility criteria and mandatory technical criteria (eg for afforestation and irrigation), and other technical safeguards for other types of project that have had biodiversity impacts in the past.

Cohesion Policy

In the proposed Common Provisions Regulation, biodiversity and green infrastructure are not included as one of the eleven new thematic objectives but are included as priority actions for the European Regional Development Fund (ERDF) and the Cohesion Fund under the thematic objective for “protecting the environment and promoting resource efficiency”, which means that they can be financed. Therefore Cohesion Policy funds can be used to support biodiversity conservation objectives. Furthermore, the proposed Common Strategic Framework (CSF) investment in green infrastructure to promote the protection and restoration of biodiversity and ecosystem services is included as indicative actions of high European added value contributing to the achievement of the thematic objective for protecting the environment and promoting resource efficiency.

However, it is also clear that Cohesion Policy funding can have negative impacts on biodiversity and this needs to be addressed. There are a number of stages in the Cohesion Policy cycle where the impacts on biodiversity ought to be considered and addressed. The appropriate use of SEA (programming stage) and EIA (project stage) in Cohesion Policy are key instruments in this respect. However, as noted above their effectiveness in contributing to biodiversity proofing could be much improved.

As with the CAP above, the **best frame of actions** for biodiversity proofing Cohesion Policy should be through an integrated approach utilising the full range of biodiversity proofing instruments. Ideally the strategic instruments should firstly set the framework for biodiversity proofing (eg with respect to conditionalities, objectives and implementation principles). These should be supported by procedural tools at different administrative levels (eg EIA, SEA and ex-ante evaluations) that in turn can also help with setting project selection

criteria and monitoring (supported by a uniform approach to indicators across different levels). Managing authorities need to create appropriate structures and make resources available to ensure proper implementation and monitoring, partially supported through technical assistance.

The coherent use of relevant environmental indicators during programming and monitoring is also important. Environmental indicators could therefore be introduced more formally into the Cohesion Policy cycle to better measure and report on environmental performance, with a clear requirement for their systematic and comprehensive reporting in annual implementation and strategic reports and evaluations.

Finally, effective biodiversity-proofing of Cohesion Policy is dependent on further information, awareness-raising and capacity building, both among stakeholders and managing authorities. These types of capacity building activities are also eligible for dedicated support from the Cohesion Policy funds.

Connecting Europe Facility – Energy

There is a range of potential energy infrastructure projects, known as “Projects of Common Interest” (PoCIs) that could be funded by the Connecting Europe Facility (CEF) and the TEN-E fund. The installation of oil and gas pipelines, power lines, infrastructure for carbon capture and storage projects, and general expansion of the electricity grid, could all have significant impacts on biodiversity in the EU. The exact extent of impacts, and the consequences for the Natura 2000 network in particular, will not be clear until the PoCIs have been determined in 2013. According to the proposed Guidelines for the TEN-E fund under the CEF, which are still being discussed by the European Council and Parliament, PoCIs might be considered projects of “overriding public interest” under the Habitats Directive. This exemption from the Habitats Directive is likely to undergo additional analytical scrutiny, but could mean that in the event of an absence of alternative development routes, the PoCI would be permitted to go ahead despite potentially detrimental impacts on Natura 2000 sites. Similar considerations might apply to water bodies under the WFD. Compensatory measures would, however, be required for residual impacts on the coherence of the Natura network under the Habitats Directive. The collective impact of the proposed infrastructure, as well as the impact of individual projects, will be key to determining the overall biodiversity impact of the CEF TEN-E funding stream. Until all the PoCIs have been determined this cumulative impact will be impossible to determine.

The challenges in relation to the funding of energy infrastructure and prospects for biodiversity proofing, lie in the post 2013 funding period once PoCI projects have been selected. Although the Habitats Directive and SEA and EIA legislation will provide the framework for input in to the approval of projects and programmes, there is little information available to determine how exactly decisions will be made concerning biodiversity impacts. At present, biodiversity and other environmental considerations are not addressed in the proposed TEN-E regulation, and there is no systematic review of either concept proposed for the mid-term assessment of PoCIs in 2017.

It is therefore clear that biodiversity proofing of the TEN-E is required, the **best frame of actions** for which should include the use of substantive, procedural and organisational proofing tools. Most importantly, a strong statement on the need to take biodiversity conservation considerations into account is required within the TEN-E Regulations and guidelines and the CEF. At a programmatic level, DG ENER and Member States should include biodiversity-related requirements in their respective Work Programmes. Procedural

initiatives could then be used to set conditions that ensure that EU funding is provided only to projects that minimise biodiversity impacts in accordance with the mitigation hierarchy. Appropriate conditions should be set through ex-ante risk evaluations of biodiversity risks, and revised in accordance with mid-term and ex-post evaluations of programmes and projects.

Connecting Europe Facility – Transport

The proposed Regulation on the Guidelines for the Trans-European Transport Network (TEN-T) is intended to set the policy framework, including the objectives and priorities, for the development of the TEN-T for the 2014-2020 programming period, while the proposed Regulation on the CEF aims to set the rules for the granting of funds to TEN-T projects. It is likely that there will be a significant amount of investment in TEN-T infrastructure in the 2014-2020 programming period. This potentially brings greater risks for biodiversity from, for example, habitat loss and fragmentation, as well as the increased eutrophication of natural habitats from increased levels of disturbance and pollutant emissions. In this respect, it is important to remember that biodiversity impacts result from the use, as well as the construction, of transport infrastructure.

From the perspective of biodiversity proofing the CEF-Transport/TEN-T, it is firstly important that the relevant Regulations (ie those setting up the CEF and the TEN-T Guidelines) are strong from the perspective of biodiversity. The wording in the draft Regulations is stronger than that in the comparative Regulations governing the 2007-2013 programming period, and should be retained, or even strengthened, in order to ensure that there is a strong basis for protecting biodiversity when developing the core and comprehensive TEN-T network.

The existing wording in the draft Regulations of the need to avoid, or at least mitigate or at worst compensate for, adverse impacts on the environment, as well as the need to effectively protect biodiversity, potentially provides a strong justification for the evaluation of the potential impacts on biodiversity (and other key environmental issues) in the ex-ante evaluation (and also the ex post evaluation) of the TEN-T programme. A **best frame of actions** to biodiversity proof the CEF-Transport/TEN-T would therefore start with an ex-ante evaluation that identifies the core network corridors, and therefore potential projects, where there is a high risk that the development of additional infrastructure would have an adverse impact on biodiversity. Under such an approach, increased attention to biodiversity (and other important environmental impacts) would ideally be included in the respective annual and multi-annual Work Programmes that will govern the calls for projects under the CEF-Transport, such as the inclusion of a biodiversity principle, for instance that of “no net loss”. Additionally, eligibility and selection criteria could be included in Work Programmes to ensure that action has been taken to minimise impacts on biodiversity in accordance with the mitigation hierarchy.

In addition, an ex-ante identification of core network corridors and projects that have a high risk of damaging biodiversity would enable the Commission and other stakeholders to focus more attention on those TEN-T projects with the highest risk of adverse effects. Such projects could then be targeted (eg for assistance with project preparation and for increased evaluation and monitoring), in order to ensure that potential biodiversity impacts are avoided or reduced, and residual impacts compensated for. A wider engagement of biodiversity stakeholders and experts at different stages of the policy cycle would also help to ensure that expenditure is effectively biodiversity-proofed.

The main challenges to biodiversity proofing the CEF-Transport/TEN-T come from the nature of the policy and the resources and knowledge of the respective actors. The TEN-T/CEF-Transport policy is an infrastructure development policy, which must respect other EU legislation, such as that on biodiversity. Hence, biodiversity considerations would be weighed against other considerations. In this context, increasing the profile of biodiversity in the Programmes governing expenditure is likely to be a challenge, as it will need the approval of the Member States (in the TEN-T Financial Assistance Committee), which need to approve each Work Programme. However, given that the EU is not meeting its original biodiversity targets, biodiversity-proofing the CEF-Transport/TEN-T expenditure should not be seen as a barrier to the development of infrastructure, but as a means of ensuring coherence between different EU policy objectives.

As with previous programming periods, resources and capacity are likely to remain challenges for the 2014-2020 programming period. However, many of the proposals in the best frame of action noted above would help to address, to some extent, some of these concerns. For example, a targeted approach to identifying the TEN-T projects that are at most risk of adversely affecting biodiversity would help to focus limited evaluation and monitoring resources more efficiently, as would ensuring that project promoters shoulder the burden for monitoring the impacts of their project on biodiversity, as is required by the EIA Directive. Involving competent environmental authorities and more stakeholders and experts with biodiversity knowledge at various stages of the policy cycle would help to increase capacity.

Maritime and Fisheries Policy

The proposed Regulation on the European Maritime and Fisheries Fund (EMFF) is intended to set the policy framework, including the objectives and priorities, for the development of the EMFF for the 2014-2020 programming period, replacing the 2007 to 2013 European Fisheries Fund (EFF). The proposed EMFF has a marginally greater budget at a fixed value (€6.5 billion) than the current envelope for the EFF, and aims to streamline measures and priorities to have greener, more efficient and more innovative fishing and aquaculture industries. Despite spending €1.7 billion since 1994, public aid provided through the EFF such as scrapping of fishing vessels has failed to reduce the overcapacity of the EU fishing fleet, leading to continued overexploitation of fish stocks and degradation of marine ecosystems. The EMFF proposal tries to address these failures, by removing the flawed measures (such as those funding the scrapping of fishing vessels), and adding increased conditionality, but the outcome of the on-going negotiations is not a foregone conclusion.

A **best frame of action** for biodiversity proofing the EMFF, would firstly ensure that the text of the EMFF Regulation is ambitious in terms of biodiversity content. Measures that were previously funded but which resulted in biodiversity harmful activities should no longer be supported. The proposed Regulations are greener than the Regulations currently in operation, and these should be maintained or strengthened to ensure sustainable exploitation of marine living organisms.

Biodiversity concerns will also need to be safe-guarded at the Member State level in the Operational Programmes. Particular attention should be paid by Member State Managing Authorities and Monitoring Committees in designing the project selection procedures and project selection criteria, to ensure that funds do not go towards projects that may have harmful consequences for biodiversity (as did happen in the previous funding period). To identify the types of projects for which there is an elevated risk of negative impacts, and

therefore a need for selection criteria, Member State should conduct a thorough ex ante evaluation of their programmes. Selection criteria should then address the measures and projects that have been identified to pose the greatest risk in the ex-ante evaluations. However, selection criteria should be revisited and if necessary, adapted, if it becomes apparent that they are insufficient to ensure the projects selected are environmentally sound. To enable this, closer monitoring of the biodiversity impacts of projects is needed.

Research and Innovation

Horizon 2020, the new framework programme for research and innovation, will be the financial instrument implementing the Innovation Union. Running from 2014 to 2020 with an €80 billion budget, the EU's new programme for research and innovation is part of the drive to create new growth and jobs in Europe. Compared to research and innovation funding in the current budget period, Horizon 2020 will provide major simplification through a single set of rules.

The EU budget provides significant levels of funding for research focused on ecosystems and biodiversity, and their conservation, and there is also an increasing focus on sustainability within other sectoral research areas (such as agriculture, energy and transport). Research and innovation funding also has potential adverse impacts on biodiversity, both directly (by supporting research projects which may affect sites and species) and indirectly, by funding research and innovation in sectors with biodiversity impacts (such as energy, transport and agriculture).

Possible entry levels to incorporate biodiversity considerations are all at an EU level and include EU level programming, calls for proposals, appraisal of proposals, and programme evaluation. Biodiversity impacts could also be addressed outside the research and innovation process, for example through the wider planning and development control process and through SEA and EIA requirements in the sectors that benefit from research and innovation projects. There is no existing mechanism for evaluating the environmental impacts of research and innovation proposals, although applications are subject to an ethics review procedure which takes account of certain aspects of human and animal welfare.

A promising potential entry point for biodiversity proofing is through the project appraisal process, where the existing ethical review procedure could potentially be extended to include consideration of impacts on biodiversity and the environment. However, a complete absence of evidence of negative impacts of EU funded research and innovation initiatives makes it difficult to advocate biodiversity proofing such funds at present. Research on the potential and actual impacts of EU research and innovation funding on biodiversity is therefore a more immediate priority.

LIFE Programme

The LIFE programme, and especially the LIFE-nature component is one of the most important sources of funding for biodiversity conservation, especially regarding support for the implementation of the Habitats and Birds Directives. Although funding is comparatively low compared to the CAP and other EU funds, it supports specific targeted projects such as those that are demonstrating or testing innovative approaches to ecosystem management and restoration.

Other LIFE projects may also provide biodiversity conservation benefits indirectly. However, the potential to have unintended detrimental impacts has not been sufficiently explored. To date, assessments of the environmental impacts of the LIFE programme have focused on the environmental benefits achieved or not achieved, and information on unintentional possible detrimental biodiversity impacts is lacking. One of the major constraints on identifying and addressing such problems under the current implementation of LIFE is the supervisory capacity in Member States, which sometimes is severely limited. Insufficient administrative capacities in Member States can lead to poor dissemination, guidance and monitoring and an overall weak application process. This is a particular problem in smaller EU Member States and the EU-10 as they often lack expertise with European application processes. Another recurring problem relates to the sustainability of projects. Often the lifespan of funded activities does not last beyond the duration of the LIFE funding. Ensuring a long-term and independent impact is a critical challenge for Member States and hence also the selection of projects that have good prospects of running on their own after LIFE funding ceases to exist. Adopting a stronger top-down approach will help with priority setting, but priority setting also needs to remain reflective of Member State needs. Good communication is therefore essential.

Given its environmental focus biodiversity proofing of the LIFE programme appears to be a low priority from the point of view of avoiding negative impacts. However, as a number of changes are envisaged in the LIFE programme post-2014 funding period proofing could help to support and refine the programme and thereby improve biodiversity outcomes. In particular SEA can be used as an ongoing process to develop the quality of the multi-annual work programmes, which sets the eligibility criteria, allocation of funds between priority areas, indicators etc. Consequently the SEA would be able to contribute to the appropriate development of these tools as well as feeding back on the outcomes of the LIFE programme through its monitoring requirements. SEA can therefore help in developing improved indicators in addition to using the existing baseline of indicators proposed by the Commission as part of the work programme as well as helping with the development of the next multi-annual work programme. This in turn would improve the understanding of the LIFE programme's outcomes as a whole and move away from the project specific evaluations under the current funding period. It is important that the additional dimensions of SEA (positive impacts, monitoring, links to indicators) in relation to LIFE+ are fully realized and acted upon.

1 INTRODUCTION

1.1 Background and need for biodiversity proofing

The conservation of biodiversity (ie ecosystems, species and genetic diversity) and associated ecosystem services is an important policy objective for the EU (see Box 1.1 for definitions). As a result the EU has a relatively comprehensive biodiversity conservation policy framework in place, at the heart of which are the Birds Directive² and Habitats Directive³. Consequently, in 2001 EU Heads of State and Government felt able to commit to a target of halting the loss of biodiversity in the EU by 2010. However, despite the development of an EU Biodiversity Action Plan⁴ to support the target, and the implementation of many environmental measures, a Commission assessment⁵ clearly indicated that the target was missed, with many species and habitats continuing to decline significantly.

The main causes of biodiversity declines from 2001 to 2010 were considered to be habitat loss (eg due to land use change, fragmentation), overexploitation, pollution, invasive alien species and climate change; which were driven by changing demographics, consumption and life style choices, institutional, market failures and economic growth (EEA, 2010a). Although existing measures and the Biodiversity Action plan set out to address these pressures and drivers, its effectiveness was hampered by insufficient integration into other sectoral policies, incomplete implementation of existing legislation, policy gaps, insufficient funding, limited awareness about biodiversity, inadequacy of policy framework and governance as well as missing administrative capacity, skills and knowledge gaps⁶.

However, over recent years there has been growing acknowledgement of the importance of conserving biodiversity because of its fundamental role in underpinning ecosystem services that are of immense socio-economic value in the EU and globally (eg TEEB 2008, 2010a, 2011a). This has led to widening concern over the situation and public and political desires to renew efforts to curb biodiversity losses. Therefore, despite the challenges involved, on 15 March 2010, the Environment Council adopted the most ambitious of the four 2020 targets proposed by the Commission³ of *“Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.”* A new vision was also adopted, that *“By 2050, EU biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.”*⁴ The vision and target were subsequently endorsed by the European Council on 26 March 2010⁵.

The development of the EU's targets and Biodiversity Strategy has also been influenced by its international environmental commitments, most notably with respect to the UN

² Council Directive 2009/147/EC on the conservation of wild birds (codified version of Directive 79/409/EEC).

³ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

⁴ Communication on halting biodiversity loss by 2010 – and beyond: sustaining ecosystem services for human well-being, COM(2006)216 final.

⁵ Communication on the 2010 assessment of implementing the EU Biodiversity Action Plan, COM(2010)548 final.

⁶

http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/bap_2010/4%20EC_Knowledge_Base_Assessment_BAP_final.pdf

Convention on Biological Diversity (CBD). The 10th meeting of the Conference of the Parties to the CBD, held in Nagoya, Japan, in October 2010, concluded with the adoption of a new global Strategic Plan for biodiversity. This includes a vision that by 2050 “biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people”. To implement this vision, the Plan sets out 20 headline targets (known as the Aichi targets) under five strategic goals to be achieved by 2020.

To support the achievement of the EU and CBD targets, at the request of the Council, the Commission developed in cooperation with Member States, an EU post-2010 Biodiversity Strategy⁷, including sub-targets and feasible and cost-effective measures and actions needed to achieve them (see Box 1.2). It is important to note that the role of biodiversity in underpinning ecosystem services is clearly recognised in the EU Biodiversity Strategy to 2020, and as such it “is an integral part of the Europe 2020 Strategy⁸, and in particular the resource efficient flagship initiative⁹”. It is therefore expected to contribute to the European Union’s strategic objectives, including a more resource efficient economy, a more climate-resilient and low carbon economy, a leader in research and innovation, and the creation of jobs and economic growth.

Amongst other things the Biodiversity Strategy recognises the importance of ensuring that priorities for spending under the next EU budget period (2014-2020) do not constrain the EU’s general ability to reach its biodiversity policy objectives. In fact the need for minimising potential conflicts between biodiversity conservation objectives and other priorities for EU funding and their implementation, and increasing beneficial synergies (eg with respect to ecosystem-based climate change adaptation) has been debated for quite some time. However, little progress has been made to improve the overall “biodiversity friendliness” of the EU budget. To address this the Biodiversity Strategy includes action 7a, which states that “In collaboration with the Member States, the Commission will develop a methodology for assessing the impact of EU funded projects, plans and programmes on biodiversity by 2014”. This will contribute the achievement of Action 7, which is to ensure no net loss of biodiversity and ecosystem services, in support of Target 2¹⁰.

A further related measure is Action 17c, which states that “The Commission will work with Member States and key stakeholders to provide the right market signals for biodiversity conservation, including work to reform, phase out and eliminate harmful subsidies at both EU and Member State level, and to provide positive incentives for biodiversity conservation and sustainable use.” This supports Action 17, which is to “Reduce indirect drivers of biodiversity loss”, and although this relates to Target 6 of helping to avert global biodiversity loss, it clearly also addresses subsidies that may have environmental impacts within the EU.

Beyond the Biodiversity Strategy the Commission has also indicated in its June 2011 proposal for the next long-term EU budget that it recognises the need for having environmental policy priorities “mainstreamed” into all major funding instruments of the EU budget¹¹. Biodiversity proofing of EU expenditure is a key tool in this respect (see below and section 2.4 for

⁷ Communication on our life insurance, our natural capital: an EU biodiversity strategy to 2020, COM(2011) 244 final. Hereafter referred to as the “Biodiversity Strategy”.

⁸ Communication on Europe 2020: A strategy for smart, sustainable and inclusive growth, COM(2010)2020.

⁹ A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy, COM(2011)21.

¹⁰ “By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems.”

¹¹ A Budget for Europe 2020 - Part II: Policy fiches COM(2011) 500 Part II.

definition). However, while the main intention is clearly spelled out, the concrete operationalization of such an approach remains nascent.

Box 1.1 Key definitions

Biodiversity: The variability among living organisms from all sources including terrestrial (above and below ground), marine and other aquatic ecosystems and the ecological complexes of which they are part. This concept covers the diversity of genes, species and ecosystems. Source: CBD

Biodiversity proofing: A structured process of ensuring the effective application of tools to avoid or at least minimize harmful impacts of EU spending and maximise the biodiversity benefits. It applies to all spending streams under the EU budget, across the whole budgetary cycle and at all levels of governance, and should contribute to a significant improvement in the state of biodiversity according to the 2010 baseline and agreed biodiversity targets. See Chapter 2 for a detailed discussion.

Biodiversity offsets: measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity. Source: Business and Biodiversity Offsets Programme.

Compensation measures: the term is used in this report in accordance with its meaning in the Habitats Directive, such that compensation measures aim to result in no overall impact on the coherence of the Natura 2000 network; which is broadly analogous to biodiversity offsets.

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. Source: CBD.

Ecosystem services: The direct and indirect contributions of ecosystems to human wellbeing. They can be categorised in four main types: provisioning services (eg food, water, fuel); regulating services (eg flood and disease control); supporting/habitat services (eg nutrient cycling); and cultural services (eg recreation).

Mitigation measures: Measures which aim to reduce impacts to the point where they have no adverse effects. Examples of mitigation measures include avoidance of sensitive sites or disruptive work at sensitive times (eg breeding seasons) and the use of best available technologies to reduce pollutants.

Mitigation hierarchy: the principle that appropriate actions to address potential biodiversity impacts are taken in the following order of priority: (1) avoidance of impacts; (2) reduction of negative impacts; (3) rehabilitation/restoration measures; and (4) compensation measures for significant adverse residual impacts.

Pressures: Habitat loss, overexploitation of natural resources, the introduction and spread of invasive species, pollution and climate change are the five key pressures on biodiversity.

Residual impact: The remaining adverse impact on biodiversity after appropriate avoidance, minimisation and rehabilitation measures have been taken according to the mitigation hierarchy.

Box 1.2 The EU 2020 Biodiversity Strategy targets

Target 1: To halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status so that, by 2020, compared to current assessments: (i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive show an improved conservation status; and (ii) 50% more species assessments under the Birds Directive show a secure or improved status.

Target 2: *By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems.*

Target 3

A) Agriculture: By 2020, maximise areas under agriculture across grasslands, arable land and permanent crops that are covered by biodiversity-related measures under the CAP so as to ensure the conservation of biodiversity and to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by agriculture and in the provision of ecosystem services as compared to the EU2010 Baseline, thus contributing to enhance sustainable management.

B) Forests: By 2020, Forest Management Plans or equivalent instruments, in line with Sustainable Forest Management (SFM)²¹, are in place for all forests that are publicly owned and for forest holdings above a certain size (to be defined by the Member States or regions and communicated in their Rural Development Programmes) that receive funding under the EU Rural Development Policy so as to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by forestry and in the provision of related ecosystem services as compared to the EU 2010 Baseline.

Target 4: Fisheries: Achieve Maximum Sustainable Yield (MSY) by 2015. Achieve a population age and size distribution indicative of a healthy stock, through fisheries management with no significant adverse impacts on other stocks, species and ecosystems, in support of achieving Good Environmental Status by 2020, as required under the Marine Strategy Framework Directive.

Target 5: By 2020, Invasive Alien Species and their pathways are identified and prioritised, priority species are controlled or eradicated, and pathways are managed to prevent the introduction and establishment of new IAS.

Target 6: By 2020, the EU has stepped up its contribution to averting global biodiversity loss.

1.2 Study objectives, methods and outputs

1.2.1 Objectives

To support the development and implementation of biodiversity proofing procedures for EU policy instruments and related funds, the European Commission established this study, the overall objective of which is:

“to ensure consistency between the implementation of nature and biodiversity policy and other EU policies, especially by identifying 'biodiversity proofing' [objectives and] tools and developing a framework to avoid measures taken under EU sectoral policies having negative impacts on biodiversity and nature objectives.”¹²

The study focussed on policies that have a high spatial impact, such as agriculture and rural, urban and regional development, fisheries, energy, climate and transport, and therefore covers the following key EU policies and funding instruments:

- The Common Agricultural Policy (CAP)
- Cohesion Policy
- Connecting Europe Facility (CEF) – Energy, and the Trans European Energy Network (TEN-E)
- Connecting Europe Facility (CEF) – Transport, and the Trans European Transport Network (TEN-T)
- Common Fisheries Policy (CFP), proposed Common Marine and Fisheries Policy (CFMP) and European Fisheries Fund (EFF)
- Research and Technical Development (RTD) framework programmes
- LIFE+ programme

To achieve the study’s overall objective the following tasks were undertaken, the interrelationships of which are illustrated in Figure 1.1:

1. Development of a definition of 'biodiversity proofing' (see Chapter 2)

This comprised a literature review and consultations, that developed a definition of what is meant by 'biodiversity proofing', what can be considered as a biodiversity proofing tool, and what the expected outcomes of 'biodiversity proofing' would be where a project/plan/programme/measure/payment is considered to be 'biodiversity proofed'.

2. Development of a biodiversity proofing framework for the EU budget

a. Review of existing policies that may impact on biodiversity (see Chapter 3 and Annexes)

This comprised a review of EU policies, funds, regulations, guidelines and policy reforms and proposals that have potentially significant impacts on biodiversity and the achievement of the 2020 biodiversity target.

b. Review of climate proofing tools and initiatives (see Chapter 4)

¹² Specifications for the study ENV.B.2./ETU/2011/0035, p3

The focus of this task was the identification of synergies between climate and biodiversity proofing and good practices of climate proofing that with the necessary adjustments could potentially be replicated for biodiversity proofing.

c. Identification of the Best Framework of Actions (see Chapters 5 - 11)

This task identified the potential for better biodiversity proofing of the EU budget with respect to each key policy and associated funds. These were assessed with respect to the full range of possible integration approaches (eg strategic planning level, national or regional Operational Programme levels, project level; during programming or implementation or monitoring and evaluation). The advantages and disadvantages of biodiversity proofing at different levels of decision making were considered taking into account differences in administrative capacity and experience with EU funding amongst Member States. See 1.2.2 below for further discussion of the methods used for this task.

3. **Screening EU co-funded investments** (see Chapters 5 – 11 and separate guidance documents)

a. Development of screening criteria and identification of knowledge gaps

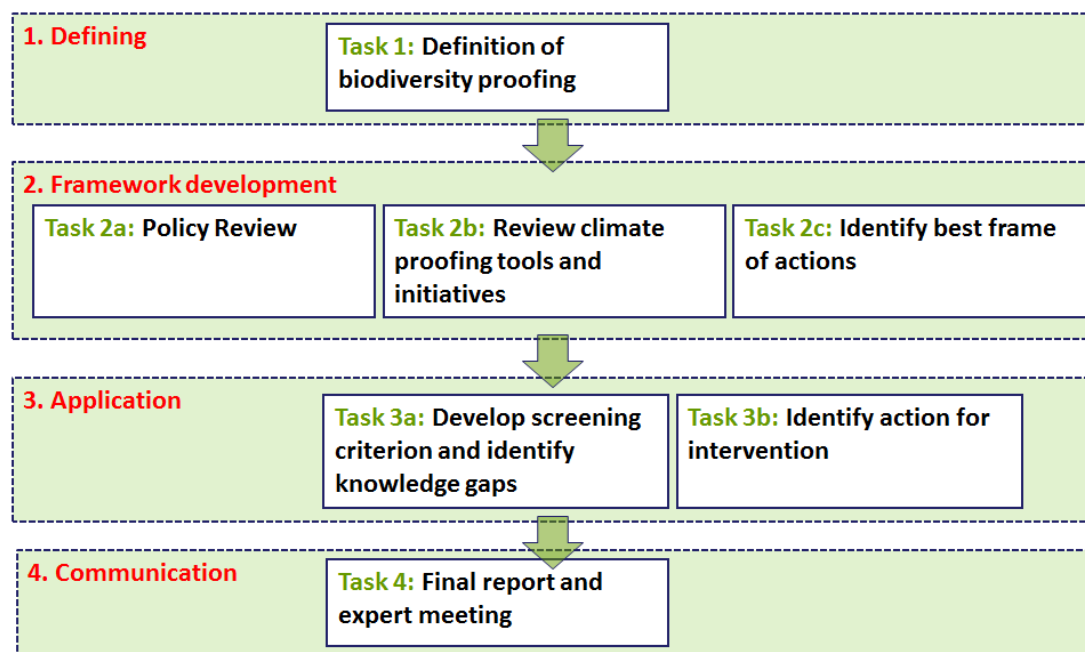
This task provided a set of criteria against which the different EU policies and funds can be screened to identify plans, programmes or projects with potential negative impacts on biodiversity. It also assessed knowledge and capacity gaps, in particular at the level of the authorities running and implementing EU funded programmes, and from this identified actions that are needed to further develop and apply biodiversity proofing criteria.

b. Identification of actions for intervention (see separate guidance documents)

This identified actions that should be taken where consideration of the screening criteria suggests that a plan, programme or project building on EU co-funding has the potential to result in negative impacts on biodiversity.

4. **Organisation of one-day workshop to obtain feedback on the draft findings of the study**

The workshop was held in Brussels on the 3rd July 2012 and presented a summary of the key findings of this study to a range of invited experts and stakeholders. Specific discussions were held on proposals for improving biodiversity proofing with respect to the CAP, Cohesion Policy, Connecting Europe Facility (CEF) – Energy, and Connecting Europe Facility (CEF) – Transport. The workshop participants are listed in Appendix 1 and a summary of the main conclusions from the discussions is provided in Appendix 2.

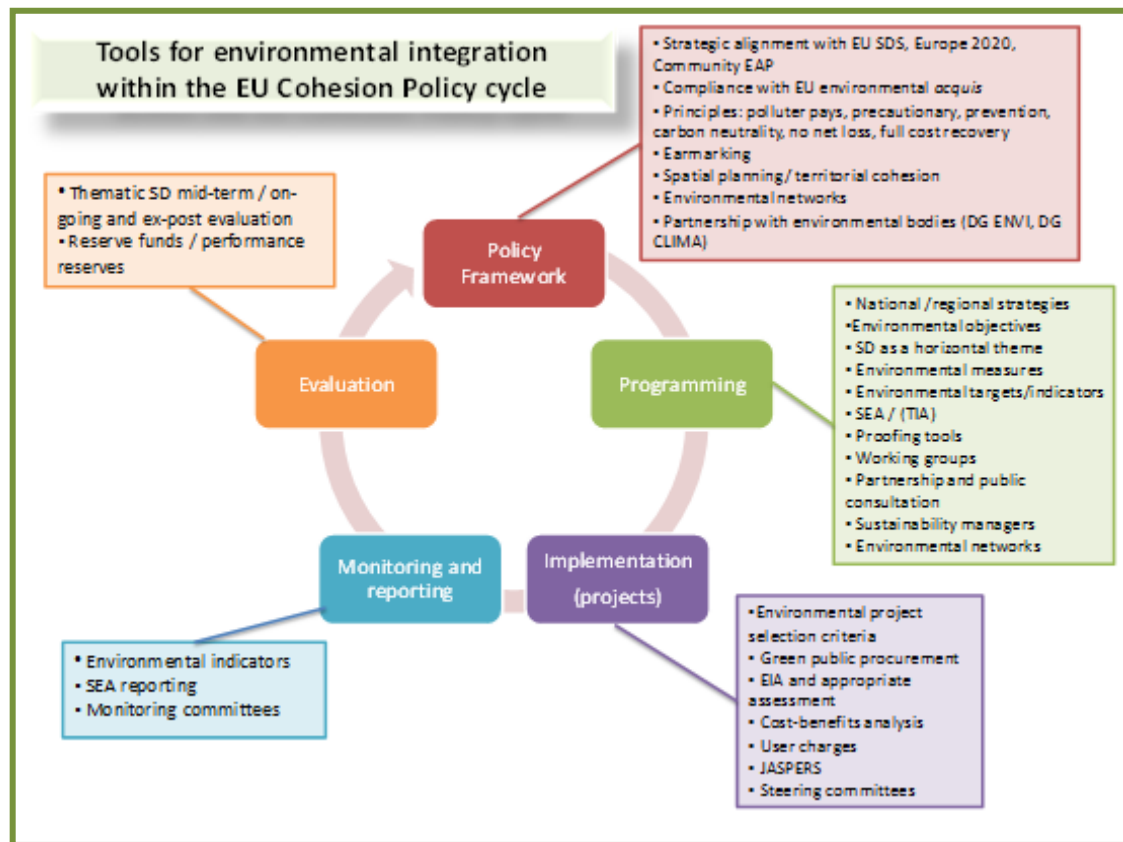
Figure 1.1 This study's tasks and analysis framework and outputs

1.2.2 Scope and methods

During the course of this study the biodiversity proofing process together with related tools were examined across the whole cycle of programming and implementation of each of the key policies / funds (see example in Figure 1.2). Particular attention was given to identifying barriers to proofing and factors that can facilitate its uptake within existing regulatory frameworks. The analysis particularly focussed on existing good practice from the current MFF framework 2007-2013, and lessons from measures that have been taken to climate-proof the EU budget (see Chapter 4).

Consideration was also given to the potential effects of proposed post 2014 policy reforms on biodiversity and biodiversity proofing opportunities. **However, it should be noted that at the time of writing this report aspects of the post 2014 policy proposals were potentially subject to change. Therefore some aspects of the policy proposals that were considered to be especially uncertain were not investigated in detail. Furthermore, subsequent changes to the proposals may have occurred and some assumptions made below may no longer be correct. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.**

Figure 1.2 Example of tools for environmental integration within EU Cohesion Policy



Source: Adapted from Hjerp et al (2011a).

The identification of the best framework for action (ie Task 2c) considered which options are likely to be most promising for biodiversity proofing each of the key policies and related funds. This was carried out over the following steps.

1. We described the various stages of implementation, governance levels and timeframe for intervention and examined where in the policy cycle of budget programming and execution critical decisions are taken that affect the level of biodiversity impact. Potential entry-points for biodiversity proofing were the identified (as for example shown in Figure 1.2).
2. We assessed in greater detail tools that are already in place at different stages and levels of the cycle, and provide an initial analysis of their effectiveness in addressing biodiversity pressures (as identified in Task 2a).
3. A SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of the tools was carried out to identify those that may contribute most effectively to biodiversity proofing. The analysis provided particularly useful insights on the following questions:
 - What tools offer greatest potential for improving the performance of the EU budget in terms of **halting the loss of biodiversity** in Europe?
 - Which opportunities exist in **socio-economic and political framework conditions** that can be exploited to better utilize tools for biodiversity proofing?

- What tools can be used best by which **actors**? At what **governance levels** are the greatest opportunities for biodiversity proofing (eg EU, Member State, regional or local levels – and indeed public, private sector or citizen level)? This includes an assessment of related **technical capacities**.
- At what point in the policy cycle are there greatest opportunities for action, in quantitative and qualitative terms?
- Is the tool applicable across different funding fiches (**multiple applicability**)?

On the basis of the findings from the SWOT analysis we identify those tools that are principally available for biodiversity proofing and which of these appear to be most promising in terms of their effectiveness, feasibility and application to the post-2013 MFF.

4. Finally the analysis was synthesised into an appraisal of the best framework for biodiversity proofing each of the policies and associated funds.

The analysis of biodiversity proofing tools and the development of the best frame for action in this study firstly considered the needs to meet the obligations of the EU's environmental legislation. Of particular concern are the objectives of the Birds Directive and Habitats Directive as these primary legal instruments for the maintenance of biodiversity, especially with respect to threatened habitats and species. As summarised in Box 1.3, these Directives include a number of obligations, most notably the need for an Appropriate Assessment, under Articles 6(3) and 6(4) on Member States to ensure that activities, such as those that might be supported through EU funds, do not lead to impacts that would conflict with their aims. The examination of biodiversity proofing instruments has therefore given special attention to assessing the degree to which existing biodiversity proofing processes and tools are integrated with the obligations of the Habitats and Birds Directives. It is, however, beyond the scope of this study to provide detailed recommendations on how biodiversity proofing tools may be better integrated with these Directives. Furthermore, detailed guidance on the applications of Articles 6(3) and 6(4) has been developed by the European Commission¹³.

While the principle instruments to deliver biodiversity outcomes in the EU are the Birds and Habitats Directives, other legislation also has ecosystem based objectives which will be critical both in assisting the specific objectives of the Birds and Habitats Directives and in enhancing wider biodiversity and ecosystem service protection, so contributing to the primary objectives of the Biodiversity Strategy. Of particular importance are the Strategic Environmental Assessment (SEA)¹⁴ and Environmental Impact Assessment (EIA)¹⁵ Directives, which can help to support and complement Appropriate Assessments. Although SEA and EIA procedures do not legally require a specific level of protection (in contrast to Appropriate Assessments), they help support the decision making process (eg by requiring consideration of alternatives, public consultation and post project monitoring). They also ensure that biodiversity concerns that are not addressed by the Birds and Habitats Directives (eg for widespread but nonetheless culturally important species) are taken into account in environmental decision making.

¹³ http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm#art6

¹⁴ Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment", hereafter referred to as the SEA Directive

¹⁵ Directive 85/337/EC as amended by 97/11/EC and 2003/35/EC, "on the assessment of the effects of certain public and private projects on the environment", hereafter referred to as the "EIA Directive"

Box 1.3 Key aims of the Birds and Habitats Directive and Member State obligations regarding the assessment of potential impacts of activities

The principal aim of the Birds Directive (Article 2) is to ensure that *'Member States shall take the requisite measures to maintain the population of the species referred to in Article 1¹⁶ at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.'*

The Habitats Directive includes a number of requirements for Member States to implement conservation measures for habitats and species of Community interest¹⁷. The general purpose of such measures should be to achieve the overall aim of the Directive, which as stated in Article 2(1) *'shall be to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.'*

Article 2(2) then states that *'Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.'* FCS can be described as a situation where a habitat type or species is prospering (in both quality and extent/population) and with good prospects to do so in future as well'.

These directives give the legal EU basis for the protection and management of sites of particular importance for species and habitats of Community Interest. These comprise Special Protection Areas (SPAs) designated under Article 4 of the Birds Directive (for birds listed in Annex I of the Directive and for migratory species) and Special Areas of Conservation (SACs) designated under Article 4 of the Habitats Directive (for habitats and species of Community interest). These SACs and SPAs are combined under Article 3(1) of the Habitats Directive with the intention of forming 'a coherent ecological network' referred to as the Natura 2000 network, which forms the cornerstone of the nature legislation in the EU. However, it is important to note that FCS has to be achieved across each species' and habitat's natural range, and not just within the Natura 2000 network.

The term 'coherence' in Article 3(1) of the Habitats Directive is of key importance as it indicates that Natura 2000 sites may not be seen as isolated ecological hot spots that can survive on their own, but as elements of a broader 'green infrastructure' system'. Similarly, Article 4(3) of the Birds Directive refers to the need for SPAs to *'form a coherent whole which meets the protection requirements of these species in the geographical sea and land area where this Directive applies.'*

In accordance with Articles 6(3) and 6(4) the following procedures must be followed where developments might affect a Natura 2000 site.

- Any plan or project likely to have a significant effect on a Natura 2000, either individually or in combination with other plans or projects, shall undergo an Appropriate Assessment to determine its implications for the site. The competent authorities can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned (Article 6.3)
- In exceptional circumstances, a plan or project may still be allowed to go ahead, in spite of a negative assessment, provided there are no alternative solutions and the plan or project is considered to be of overriding public interest. In such cases the Member State must take appropriate compensatory measures to ensure that the overall coherence of the Natura 2000 Network is protected. (Article 6.4).

¹⁶ All species of naturally occurring birds in the wild state in the European territory of the Member States to which the Treaty applies.

¹⁷ These are habitats and species that are listed in Annex I and II of the Directive respectively.

Two other important instruments are the Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD). Each also has its own interaction with sectoral policies and should be taken into account in biodiversity proofing processes. The WFD's main objectives are based on an assessment of the ecosystem character of water bodies with the aim to reach Good Ecological Status by 2015, although major use of exemptions by Member States is likely to delay this to 2012 or 2027 (see forthcoming Commission Communication on implementing the WFD in November 2012). The WFD applies to surface freshwaters, groundwater and coastal waters (to 1nm). The MSFD establishes an objective for Good Environmental Status to be met in marine regions by 2020, but it is effectively less stringent than the WFD. Both Directives require all Birds and Habitats Directive requirements to be integrated in their assessment and planning processes. Furthermore, the MSFD requires the establishment of a network of MPAs.

It is also important to note that biodiversity proofing should go beyond ensuring compliance with EU legislation, and should contribute as much as feasible to the achievement of the headline biodiversity target and implementation of the EU Biodiversity Strategy, most notably the achievement of no net loss of biodiversity. This study therefore also examined the degree to which current biodiversity proofing processes and tools are contributing to these broader aims, and the potential for them to better address biodiversity issues under the future MFF.

1.2.3 Study outputs

The results of Tasks 2a and 2c and the identification of knowledge gaps in Task 3a, as described above, have been combined in this report for each key policy and related funding instrument and are presented in Chapters 5 - 11. These primarily aim to meet the information needs of those responsible for setting the overall framework conditions for programming and implementation of the EU funds at EU and MS level. Full accounts of the analyses carried out for each policy and fund as part of Tasks 2a and 2c are provided in separate annexes to this report.

In addition to this report and annexes a set of guidelines have been produced that aim to provide step-by-step guidance on screening EU funded programmes and projects for potential biodiversity impacts. The guidance is based on Tasks 3a and 3b and is primarily intended to assist Commission officials and national and regional authorities over the different stages of the planning process: 1) when drafting programmes, 2) screening already drafted programmes, 3) drafting proposals and projects under different funds and 4) screening project proposals for different funds. The guidelines have been produced for all the key policy / funds covered by this study other than those related to research and the LIFE programme.

2 DEFINING ‘BIODIVERSITY PROOFING’ – A LITERATURE REVIEW

2.1 Towards a definition for biodiversity proofing

There is widespread agreement among relevant environmental policy actors that nature and biodiversity concerns are still poorly and incoherently reflected in current spending patterns under the EU funds (Kettunen et al, 2011). The contribution of future European Union expenditure is vital to the achievement of the targets of the EU biodiversity strategy and other relevant obligations under the EU environmental *acquis*, particularly those under the Habitats and Birds Directives. ‘Biodiversity proofing’ has entered policy discussions, offering a conceptual lens for linking EU spending under the next MFF to biodiversity impacts and ensuring policy coherence between agreed EU biodiversity objectives and actual EU funding practice. The terminology is borrowed from discussions about “climate proofing” which has been used in the overall development policy context since some time. Existing debates about defining “climate proofing” make reference to a number of different concepts very often used interchangeably, such as “climate resilience”, “mainstreaming” and “integration”, (Medarova-Bergstrom et al, 2011). Nonetheless, there is no commonly agreed understanding of what “biodiversity proofing” means in the context of discussions on the EU budget.

Through a literature review, and consultations with experts, this study has screened the relevant academic and non-academic literature to identify potential criteria that could be usefully applied to define biodiversity proofing (including the notion of defining the character of an investment being harmful to biodiversity). This chapter brings together different concepts regarding this subject and proposes a comprehensive definition of biodiversity proofing of EU spending. Such a definition can be utilised in the discussions of future programming of EU funds under the next MFF.

2.2 What concepts and expected outcomes does the definition build on?

In the limited literature available on climate proofing the EU Budget, the development of the concept and approach is often strongly linked to discussions on strategies and approaches on integrating environmental policy into other sectoral policies (eg Medarova-Bergstrom et al, 2011; WWF 2010a; WWF 2010b; ADB 2005; Ferrer 2009). In fact, the discussion about the links between the concepts of policy integration, policy coherence, mainstreaming and proofing tends to be confusing, as these concepts approach the same topic from different angles and on different levels. Below we provide a summary discussion of the concepts and their links.

The requirement for integrating the environment has been included in the EU Treaties since 1987. The so-called principle of **environmental policy integration** (EPI) has been retained in Art. 11 of the Lisbon Treaty on the Functioning of the European Union (TFEU), which states that “*Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development.*” In the context of integrated policy-making, this could mean introducing the environment as a cross-cutting objective in different policy areas (Meijers and Stead 2004). As such it is perceived by some to be different from **policy coordination** (OECD 1996 in Meijers and Stead 2004), which is seen to lead to shallower inter-sectoral interaction. The focus of policy coordination is thought to be more on ensuring overall consistency of sectoral objectives rather than achieving joined policies (Meijers and Stead 2004). **Policy coherence** on the other hand can be taken to be a particular aspect of policy coordination and was defined as an ‘*overall state of mutual consistency among different*

policies' (OECD 1996 in Meijers and Stead 2004). It envisages ensuring that policies are complementary and do not contradict each other. Contrary to the OECD definition, which separates integration and coherence, policy coherence could also be seen as a first step or minimum achievement of the environmental integration process as it attempts to ensure that other sectoral policies as a minimum do not undermine environmental policy objectives, and while minimising potential trade-offs also explore opportunities of synergies (Medarova-Bergstrom et al, 2011).

Another concept used in discussions on integration and proofing, is the issue of **mainstreaming** environmental objectives into policy-making. Climate proofing is sometimes discussed in close connection to climate change mainstreaming. It has been argued that one of the features distinguishing the concept of climate proofing from the concept of mainstreaming is that in climate proofing the primary focus is on aspects of climate change risks, whereas the focus of mainstreaming is on the integration of climate concerns and adaptation responses into relevant policies, plans, programs, and projects at different governance tiers. Similarly, mainstreaming is often seen as referring to processes and frameworks for action whereas climate proofing as a concept is highly focused on implementation (Olhoff and Schaer, 2010). Most academic and practical efforts on climate proofing tend to focus on the project level, analysing specific activities and investments in, for example, infrastructure (ADB, 2005).

One might argue that the word mainstreaming itself puts an emphasis on the magnitude of the actual integration achievement. It can also have a negative connotation, as 'mainstreaming' one policy area (eg climate change) can be easily associated with the 'crowding' out of other policy areas from a limited amount of resources available (eg environment, biodiversity) (Dalal-Clayton & Bass, 2009). In the context of discussions on mainstreaming biodiversity into development policy (CBD, 2009), policy coherence has also been identified as an '*important objective to [...] bring operational meaning to aspirational concepts*'.

Based on the above, we have:

- *Defined proofing as a process which leads to the actual operationalization of the integration objective, drawing on how the concept has been defined in the context of climate proofing the EU budget. However, the definitions avoided the word mainstreaming, to emphasise the importance of building on synergies and addressing potential trade-offs.*
- *Described policy coherence as one of the first steps towards operationalizing integration by ensuring that biodiversity objectives at least are not undermined. This is a key difference though not focusing on actively contributing to the achievement of relevant targets.*

Understanding of what environmental integration, mainstreaming or coherence means varies strongly, but common to several of the concepts above is the expected **outcome**. Several of the definitions and related approaches analysed in the context of this study (Medarova-Bergstrom et al, 2011; WWF, 2011a; WWF, 2011b; Dalal-Clayton & Bass, 2009; CBD, 2009) not only looked at how such an approach can help to avoid losses, but also explored potential gains and win-win solutions. In the context of 'climate proofing', Medarova-Bergstrom et al (2011) argue that the approach is about stepping up and promoting spending that is both carbon saving and climate resilient, while at the same time minimising and gradually phasing out spending that is counterproductive to these objectives. It suggests that climate proofing is about both climate change mitigation and adaptation.

The focus is on the ultimate outcome for the EU budget in terms of reducing its carbon intensity and increasing its resilience to respond to climate risks. The study also argues that 'climate proofing' is a **process**, which provides a frame for coordinating activities to integrate climate change concerns in other policies in a coherent way and for deploying tools aimed at improving the performance and result-orientation of EU spending in this regard. It is suggested that to be **effective**, climate proofing should be undertaken across the whole budgetary cycle at all levels of governance and should be pursued in a long-term perspective.

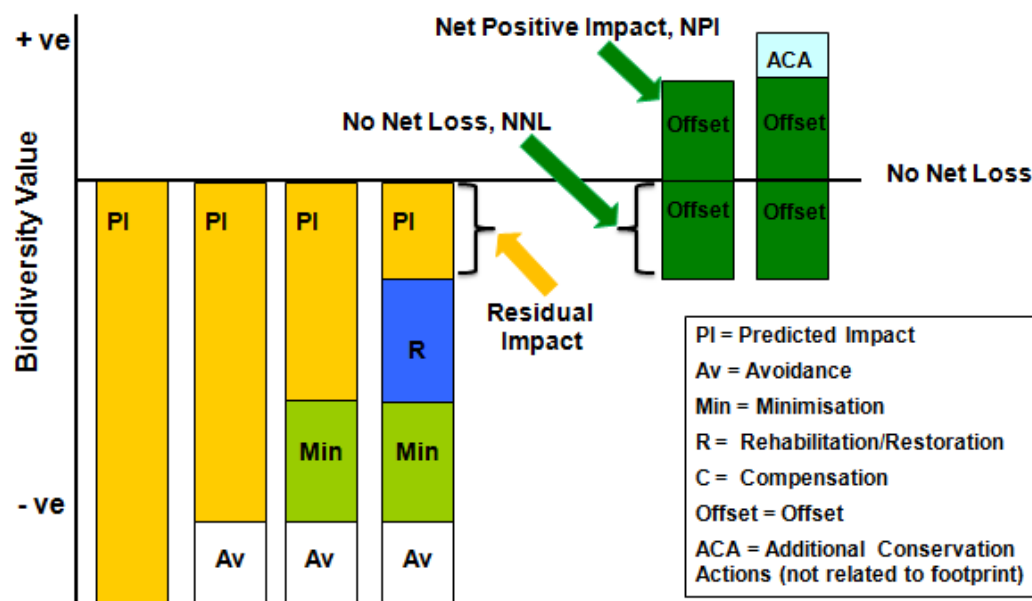
In relation to defining biodiversity proofing, this has been interpreted the following way:

- *The expected outcome of the approach is both process- and result-oriented. The first refers to the effective application of a range of tools at the various levels and stages of implementation and throughout the whole programming cycle, whereas the second addresses the need for achieving progress towards the biodiversity objective for 2020.*
- *In relation to the expected outcome, the wider definition of biodiversity proofing not only aims to avoid or minimise negative impacts on biodiversity, but leads to further recognition of the opportunities linked to increased dedicated expenditure and the need for identifying potential risks related to spending due to incurred biodiversity losses (eg increasing costs).*

Ultimately, the 'biodiversity proofing' process should, at the very least, aim to achieve no net loss of biodiversity – to avoid the EU budget undermining the objectives of the EU Biodiversity Policy (ie halting biodiversity loss and restoring it in so far possible by 2020). Progress against the objective should be measured against the EU 2010 Biodiversity Baseline (EEA, 2010a). In addition, biodiversity proofing should contribute to the achievement of no net loss of biodiversity in accordance with the mitigation hierarchy. The mitigation hierarchy is a prioritisation framework that is widely followed by financial institutions when considering necessary actions to alleviate potential negative impacts on biodiversity (eg EIB, 2010). According to the mitigation hierarchy (see Figure 2-1) actions to achieve no net loss of biodiversity (or a positive gain) should be considered in the following order.

1. **Avoidance:** measures taken to avoid creating impacts from the outset, such as careful spatial or temporal placement of elements of infrastructure, in order to completely avoid impacts on certain components of biodiversity.
2. **Minimisation:** measures taken to reduce the duration, intensity and / or extent of impacts (including direct, indirect and cumulative impacts, as appropriate) that cannot be completely avoided, as far as is practically feasible.
3. **Rehabilitation/restoration:** measures taken to rehabilitate degraded ecosystems or restore cleared ecosystems following exposure to impacts that cannot be completely avoided and/ or minimised.
4. **Offsets / compensation:** measures taken to compensate for any residual significant, adverse impacts that cannot be avoided, minimised and / or rehabilitated or restored, in order to achieve NNL or a net gain of biodiversity (see Box 1.1).

Figure 2-1: The achievement of no net loss in relation to the mitigation hierarchy

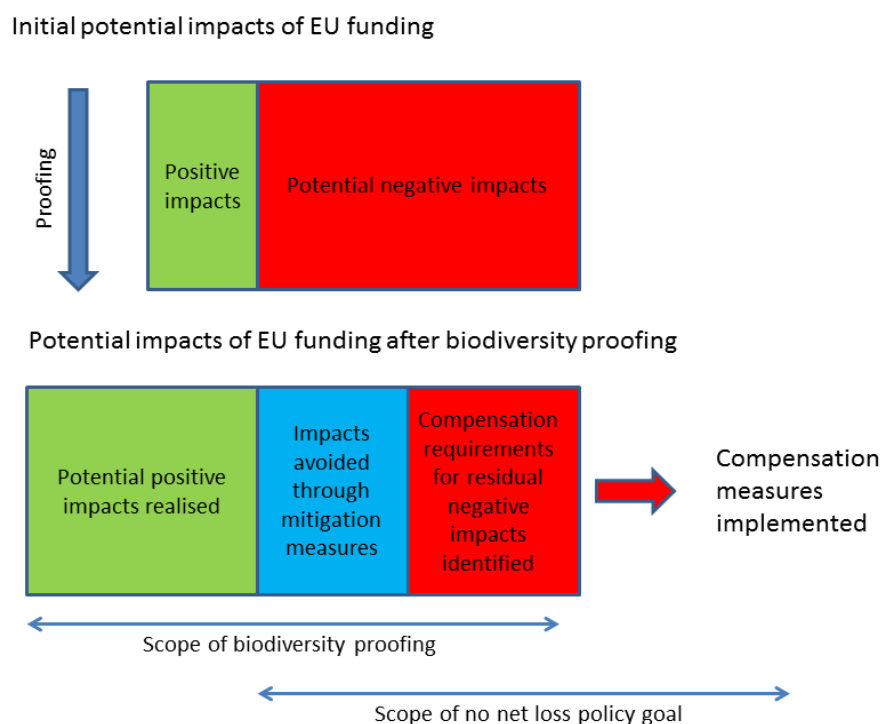


Source: BBOP, adapted from Government of Australia and Rio Tinto

It is important to note though that whilst biodiversity proofing should identify residual impacts it does not aim to identify the particular policy instruments or practical means that will be used to offset / compensate for residual impacts. Policy instruments to achieve no net loss through offsetting measures are currently being investigated by a working group has been established by the Commission to support the implementation of Action 7 of the EU Biodiversity Strategy, which is to “ensure NNL of biodiversity and ecosystem services”. Policy measures to achieve no net loss of biodiversity through offsetting / compensation measures are therefore not considered further in this study.

Biodiversity proofing can be summarised in the schematic illustration provided in Figure 2.2.

Figure 2-2: Illustration of how biodiversity proofing changes potential impact of EU spending on biodiversity



2.3 What key elements does the definition reflect?

Key elements are understood to be the core components of a proofing approach. In the context of climate proofing the EU budget, Medarova-Bergstrom et al (2011) has identified the following:

- **scale of funding:** addresses the needs for scaling up funding through dedicated climate change funds, stepping up dedicated spending under other funds and through reforming climate harmful spending; and
- **quality of funding:** refers to improving the performance, coherence and transparency of strategic programming; and enhancing appropriate governance conditions for better implementation on the ground.

Other approaches speak of 'freeing' up funding by phasing out harmful subsidies and 'creating win-win solutions' (environment proofing in WWF, 2011a); reducing 'risks to acceptable levels' and 'strengthening human and institutional capacities' (climate proofing in ADB, 2005); or improving 'resource mobilisation' and referring to tools that 'incentivise and reward integration while discouraging inappropriate behaviours' (environment mainstreaming in Dalal-Clayton & Bass, 2009). Though addressing sometimes different concepts, many approaches share similar reflections in their core, from climate proofing to environment and biodiversity mainstreaming. These very often include elements such as the **avoidance and phasing out of environmentally harmful spending**, attempts to scale up **dedicated funding**, seeking to increase **coherence and transparency** as part of improving the quality of funding; **improving governance conditions** for the implementation of funds and the **monitoring of funds** in terms of the development of intended and unintended impacts

over time. The following sections outline in more detail our understanding of some of these elements and their interpretation in the context of ‘biodiversity proofing’.

2.3.1 Scale of funding

A key part of increasing the scale of funding for the environment, including action relating to climate change and biodiversity, relates to the phasing out of environmentally harmful spending. This raises the question of what ‘harmful’ spending actually is and links to the subject of increased quality of spending by shifting its focus. It is closely related to discussions on phasing out environmental harmful subsidies, such as the recently recognised need for such in the Europe 2020 Strategy and the related ‘Roadmap for a resource efficient Europe’. Some of the ideas, concepts and approaches being explored in this context could prove useful in defining this key element in relation to ‘biodiversity proofing’.

There is currently no commonly agreed definition of an environmentally harmful subsidy. One proposed definition (drawing on the OECD 1998 and 2005) defined an environmentally harmful subsidy as ‘*a result of a government action that confers an advantage on consumers or producers, in order to supplement their income or lower their costs, but in doing so, discriminates against sound environmental practices*’ (adapted from OECD (1998 and 2005) in Valsecchi et al, 2009).

It is recognised that the reform or phasing out of such subsidies can not only alleviate environmental pressures but also increase economic efficiency, reduce the burden on government budgets, and free up funds for other purposes, such as rewarding those who provide biodiversity benefits (Lehmann and ten Brink, 2011). It is thus important to take a broad approach, targeting those subsidies that are **no longer relevant** (eg their original rationale is no longer relevant or a priority), **ineffective** (in that they do not always achieve their purpose), **inefficient** (as their objectives can sometimes be achieved more cost-effectively by other means), **inequitable** (as they can have inappropriate distributional affects), and lead to negative externalities (due to **non-action**). The definition above only encompasses *action*. However, in some cases non-action, eg not applying road pricing to cover the costs of roads, leads to prices that do not reflect environmental and social costs and hence creates implicit subsidies (ie it lowers costs to polluters in the market and thereby confers an advantage on them).

The reform process is thus not only a way of reducing subsidies, but also of shifting investment patterns and reforming those subsidies that remain, for example by strengthening the application of environmental assessment tools such as SEA and EIA, or governance conditions (Lehmann and ten Brink, 2011; IEA 2010; OECD, 2009; Valsecchi et al, 2009; EEA, 2007). The reform process also seeks to identify opportunities and win-win situations, for example by promoting more cost-effective ecosystem-based solutions compared to technological approaches.

Although phasing out subsidies that can be considered harmful to biodiversity is considered an important aspect of biodiversity proofing, this study does not look into what this would entail under on-going political negotiations on key policy areas related to the EU budget (eg CAP, Cohesion Policy, CFP). Rather, this study has analysed ways to minimise the harmful impacts of funding streams that are likely to remain in place, through, for example, strengthened safeguards. To the extent possible, the study also indicates the potential for shifts in funding to less environmental harmful alternatives.

In the context of this study, the ‘harmfulness of spending’ is determined by the direct and/or indirect impacts of the activities financed, taking into account their cumulative effects, on achieving the objective of halting the loss of biodiversity and restoring it in so far as possible.

2.3.2 Quality of funding

The second key element, which is complementary to ensuring proper scale of funding and/or discouraging environmentally harmful spending, is to improve the quality and performance of EU spending. The EU budget operates in a complex and dynamic multi-level governance system where institutional structures and constellations of actors interact between different tiers of governance and can equally enhance or deter the scope for action. Therefore, even if convincingly designed as a concept, proofing can fail when the respective conditions of the political context and the existing governance structures are not adequately taken into account. The concept thus needs a **realistic approach towards implementation**, in particular taking account of organisational arrangements (institutional set-up) and normative context conditions (leadership, political will) and the opportunity structures they offer. Furthermore, climate proofing the EU-budget is not a one-off exercise, but a **long-term process** that evolves and needs to be pursued over time beyond 2020 (see Medarova et al, 2011; EEA, 2005).

The EU Budget is executed in a **multi-level governance system**. Hence, any approach to biodiversity proofing needs to cut across all levels of EU governance, representing both a challenge and an opportunity.

Based on the rationale above, the definition of 'biodiversity proofing' emphasises the importance of applying a range of tools at various levels and stages of the budgetary cycle from the initial programming through the implementation. In some cases our analysis may suggest the need for more fundamental reforms. Where these possibilities are identified, the process of proofing can help to recognise cases where further safeguards might be needed in case reforms are not feasible in the short term.

2.3.3 Feedback from experts

As part of this study, a range of experts were contacted (listed in the Acknowledgements) to obtain their opinion on the findings from the literature review and key questions relating to the preliminary working definition of biodiversity proofing used in this study (see below). A summary of discussions and main changes undertaken or envisaged are outlined in this section.

Generally experts thought that the definition is easily accessible and that the expected outcomes of the process are clearly outlined. However, the differentiation between a wider definition of biodiversity proofing and the more narrow working definition caused some confusion. This particularly related to the use of "no net loss" and "net biodiversity gain". One expert emphasised that the EU objective of halting biodiversity loss goes far beyond the "no net loss" concept, as it entails that the conservation status of species and habitats improves (ie there should be a biodiversity gain compared to the 2010 baseline). One major concern raised with regard to taking the more narrow approach (only avoiding and minimising without looking into opportunities) was that it could undermine the ability to achieve the EU biodiversity objective for 2020. If biodiversity proofing means that the EU budget is made coherent with the EU biodiversity objective, this clearly entails that overall the end result of EU spending should be a biodiversity gain or at least no further loss of existing biodiversity. On the other hand it is clear that this cannot be achieved without ensuring that a number of spending streams do not cause biodiversity loss.

Experts recommended the application of the broader definition, which is clear on its own and inclusive. With respect to describing the actual practical implementation, outlining a

step-by-step approach was thought to be useful. The first step would consist of looking at the “no net loss” aspect, identify budget lines where trade-offs related to the biodiversity objective are unavoidable, and define mechanisms that ensure those are addressed. In addition, it was recommended that the definition more clearly distinguishes between the actual definition of biodiversity proofing, which should relate to the actual process, and its benefits, which refer to the expected outcomes of the process.

Our response to expert feedback:

- ➔ *The wider definition of biodiversity proofing is now adopted, with the earlier working definition presented as a step-by-step approach in the text.*
- ➔ *It is more clearly emphasised that biodiversity proofing should also aim for positive gains rather than focusing on avoiding or minimising harmful activities only.*

Experts recommended the inclusion in the related explanatory text of a short reference to existing practices and instruments (eg SEA, EIA) and to explain how biodiversity proofing relates to these. When biodiversity proofing appears in discussions, the question is often raised why this is necessary when we already have instruments such as SEA and EIA at hand (even though they are limited to certain projects, plans and programmes only). It is therefore thought important to clarify – especially if the outcome of this work is to be used in the wider policy debate – that biodiversity proofing is not an enhanced SEA/EIA nor does it aim at covering deficiencies in the application of SEA/EIA rules. This does not change the overall concept explained in the study, but it is intended to improve clarity concerning the need for biodiversity proofing.

In addition, though the text provides indications that proofing takes place at different governance levels, it was thought that additional information was required to highlight that proofing aims to address several layers, from overall spending to sectoral strategies and expenditures, funding allocations and actual operational programmes.

2.4 Conclusion

The review above is a brief summary of complex discussions addressed in the vast literature on policy integration/mainstreaming strategies and tools in relation to wider environmental objectives. It was subject to analysis in the context of climate proofing by Medarova-Bergstrom et al (2011), due to its use in framing the concept, providing potential outcomes linked to ‘proofing’ and tools applied for the wider integration of environmental objectives. Given the complexity of discussions and the lack of an agreed common understanding, the authors aimed for a pragmatic approach that is clear in terms of the expected outcomes, but still uses terminology that is related to the specific context of the discussion. Building on those concepts, we therefore provide the following definition of ‘biodiversity proofing’, for use in this study.

Biodiversity proofing is a structured process of ensuring the effective application of tools to avoid or at least minimize harmful impacts of EU spending and maximise the biodiversity benefits. It applies to all spending streams under the EU budget, across the whole budgetary cycle and at all levels of governance, and should contribute to a significant improvement in the state of biodiversity according to the 2010 baseline and agreed biodiversity targets.

The review reiterated the need for a broad definition that covers a range of different aspects (eg mitigating negative effects, but also taking into account the opportunities that

biodiversity offers). However, given the limited scope of this study, we concentrate on those parts of the definition that are particularly relevant for the study objectives.

At the very least, biodiversity proofing is understood as a process that, for operationalizing integration, ensures the coherence of the EU Budget with biodiversity objectives and that as a minimum does not undermine the achievement of the EU's objective of halting biodiversity loss and restoring it in so far as possible by 2020. This means that, as a minimum, expenditure patterns with potentially significant cumulative negative impacts are either avoided or substantially reduced, and where possible synergies between policy areas are explored. The application of appropriate tools should ensure that project funding under different EU funds is in line with halting the loss of biodiversity and ecosystem services, as stipulated in the EU Biodiversity Strategy.

As a consequence of successful additional efforts, the overall impact of spending under the EU budget will contribute effectively to the achievement of the EU's biodiversity objective of no net loss and more generally of halting biodiversity loss and ecosystem services degradation and restoring them in so far as possible by 2020. This includes both attempts to mitigate risks to and from biodiversity loss, as well as attempts to identify and foster potential benefits for biodiversity from EU funding. Expenditure patterns with potential positive impacts on biodiversity are thus fostered, creating new opportunities and increasing the EU value added, whereas negative impacts of expenditure patterns are avoided or mitigated to the extent possible, and residual impacts are adequately compensated for to ensure as a minimum no net loss of biodiversity, if not a net biodiversity gain.

It should be noted that a minimum criterion for policy coherence refers to the absence of major conflicts between policies, or preferably full mutual agreement of policy approaches. Moreover, policies need to reinforce synergies to the extent possible while minimising negative trade-offs. Issues of policy coherence often arise within single policies, between different sectoral policies and across different levels of EU governance. The EU budget is no exception in this regard, and an approach to biodiversity proofing the EU budget needs to be understood in this context. First and foremost, it is about ensuring better coherence of spending in view of established biodiversity objectives and through the means of better integration and operationalization of biodiversity concerns in the programming of key EU funds.

3 REVIEW OF KEY PRESSURES ON BIODIVERSITY RESULTING FROM EU POLICIES AND RELATED FUNDS

3.1 Overview of sectoral pressures on biodiversity

This chapter addresses Task 2a of this study (see section 0) by firstly providing an initial summary of the key pressures on biodiversity and how they relate to broad policy sectors. Section 3.2 then provides detailed fiches on the key policies and funds covered by this study, which describe the overall aims of the policy and funds, their potential impacts on biodiversity and the main safeguards that are in place to avoid and reduce such impacts. The analysis shows the variety of possible direct and indirect pressures that may arise from EU funded activities, and the range of measures that may be taken to avoid and reduce these. It therefore also emphasises the breadth of activities that need to be considered and the depth of understanding of related biodiversity impacts that is necessary to achieve biodiversity proofing across the EU budget.

The analysis also underlines the importance of looking at linkages across different funding instruments; for example, infrastructure development can be supported either under Cohesion Policy or as part of programmes on transport and energy infrastructure development (eg Connecting Europe Facility). It should also be noted that not all major activities are driven by the EU funding instruments and many are primarily influenced by other policy instruments. This for example applies to climate change mitigation and adaptation measures with potential negative impacts on biodiversity (eg biofuels).

3.1.1 Pressures leading to biodiversity loss

In its Biodiversity Baseline Report the EEA (2010a; 2010b)¹⁸ considers that habitat change or loss is the most significant pressure in the terrestrial environment¹⁹ followed by pollution, over-exploitation, the spread of invasive alien species and climate change. In the marine environment, over-fishing, climate change, acidification of the sea, invasive alien species and pollution/eutrophication are cited as the main pressures (2010a).

The most widespread habitat changes have affected agricultural habitats, which have to some extent been encouraged by the EU Common Agricultural Policy (CAP) (see below) as well as technological advances and market forces. These drivers resulted in significant structural shifts in farming, investments and technological developments, particularly in western Europe which led to some agricultural expansion and more widespread **intensification** with typical environmental impacts (EEA, 2005; Stoate et al, 2001; Townshend et al, 2004), including:

- over-grazing of semi-natural grasslands;
- agricultural improvement of semi-natural grasslands (eg through drainage, use of fertilisers, and ploughing and reseeded);
- conversion of semi-natural habitats to arable;
- intensification of arable systems (ie greater use of fertiliser, pesticides, irrigation and cultivations etc);
- agricultural specialisation and reduced landscape diversity;
- air and water pollution; and

¹⁸ The Biodiversity Baseline report (EEA, 2010a) sets the baseline against which the achievements of current biodiversity strategy are to be measured.

¹⁹ Under this classification, habitat change includes habitat loss, fragmentation and degradation.

- soil degradation and erosion.

In the coming years, greater intensification of land use (eg in terms of the use of water, chemicals and frequency of cultivations) is expected, particularly in the new Member States. This is of concern because these countries currently hold a high proportion of high quality semi-natural habitats. Although some biodiversity-rich semi-natural agricultural areas have been impacted by intensification, many have also been lost or degraded as a result of the opposite process of **agricultural abandonment** (Keenleyside and Tucker, 2010; Rackham, 2008). This is because many low intensity traditional farming systems are no longer economically viable, particularly in marginal agricultural areas (eg mountains, areas with poor soils or remote locations). Many such farming systems are considered to be of High Nature Value (HNV) and therefore their abandonment poses a serious threat to semi-natural habitats of high conservation importance.

The latest assessment of global forest resources of the Food and Agriculture Organisation (FAO, 2010) underlines the trend, referring to an increase of 0.36 per cent in forest coverage in Europe (excluding Russian Federation) between 2000 and 2010. However, the area of plantations has also augmented over the last decades (FAO, 2010), from 10.9 million hectares in 1990 to 13.3 million hectares in 2005 in the EEA region (EEA, 2008). The on-going **intensive management of some forests** (both semi-natural forests and plantations), fragmentation of forest habitats, airborne pollution, invasive alien species, pests, drought and fires are usually defined as the main causes for the continuing decline in forest biodiversity. The growing demand for forest biomass for energy is likely to encourage new plantations and the further intensification of forestry practices (COM(2010)66 final)²⁰.

Intensive forest management often includes an increased use of non-native high production genotypes, with shortening of rotation cycles, resulting in homogenous even-aged forests with reduced amounts of deadwood. Such forests therefore have fewer available niches and consequently an impoverished diversity of species. It has to be noted that biodiversity impacts of such practices are accompanied by effects on carbon captured in soils and vegetation which underpin the on-going decline in the overall forest carbon sink of the EU (Böttcher et al, 2012). Furthermore, new plantations are sometimes linked to soil drainage, increased fragmentation due to road construction, intensive use of fertilisers and pesticides, and damaging harvesting methods (such as stump removal). Certain afforestation projects can also lead to the loss of highly biodiverse habitats such as semi-natural grasslands and associated species if inappropriately located.

At the same time, in the last 50 years Europe has also experienced significant land conversion to built up land amongst others due to urban expansion and infrastructure developments, with serious impacts on biodiversity and ecosystem services. According to the 'European Environment: State and Outlook 2010 on Land Use' (EEA, 2010c), artificial surfaces increased by 3.4 per cent from 2000 to 2006 – a deceleration in conversions for residential purposes was counteracted by a substantial increase in conversions for the purposes of economic sites and infrastructures. Such developments can have a variety of effects on biodiversity (as summarised in Table 3-1. Importantly, although the impacts from direct habitat loss may be relatively small the overall impacts of infrastructure developments on biodiversity can be significant, for example, as a result of noise and disturbance, pollution, and habitat fragmentation.

²⁰ Green Paper on Forest Protection and Information in the EU: Preparing forests for climate change (COM(2010)66 final) and accompanying staff working paper (SEC(2010)163 final <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0066:FIN:EN:PDF>)

Table 3-1 Summary of typical biodiversity impacts from infrastructure developments

Impact source / impact type	Direct mortality	Direct habitat loss (footprints)	Habitat fragmentation	Disturbance ^a	Indirect habitat degradation	Secondary impacts	Potential for significant cumulative impacts
Buildings and associated lighting ^{*1}	Tall glass and illuminated buildings can be significant hazards for birds	Variable	Can form barriers to movement for some sensitive species, causing fragmentation	Disturbance from people nearby, and some species avoid buildings, and lighting can affect nocturnal species	Normally minimal	The presence of buildings may encourage further development	High
Heavy industry, chemical plants, incinerators and power stations	Toxic pollutants can cause significant impacts	Generally relatively moderate	Can form barriers to movement for some sensitive species, causing fragmentation	As buildings	Ecosystem disruption from pollutants can reduce food resources	The presence of industry etc may encourage further development	Moderate
Transport: roads, railways, ports, airports	Some collisions may occur especially where roads cross flight-lines animal crossing points , but impacts relatively low	Relatively low, but can be concentrated along biodiverse coastal strips (causing coastal squeeze), lakes and river valleys	Can be significant, especially where new infrastructure occurs in otherwise unfragmented landscapes, and where disturbance sensitive species occur that require large areas of habitat	Often substantial disturbance impacts, but some species become habituated especially if people are not visible	Hydrological disruption, polluted run-off and air-pollutants (esp NOx) can disrupt ecosystems and food resources	Increased hunting pressures and recreational disturbance if access is improved. Encourages further development	High
Water treatment plants and drains	Significant detrimental impacts are unlikely	Normally small	Significant detrimental impacts are unlikely	Normally small	Pollution of water-courses and coastal areas, near to outfalls, but higher levels of treatment reduce overall ecosystem impacts	Unlikely	Low
Flood defences & land reclamation	Some impacts in flood storage areas	Can lead to significant loss of upper tidal habitat (coastal squeeze)	May fragment floodplain / coastal habitats	Disturbance during construction and maintenance works	Can have large-scale impacts on coastal geomorphology and adjacent habitat and profound hydrological	Encourages development of flood-protected areas	Moderate

Biodiversity Proofing the EU Budget

Impact source / impact type	Direct mortality	Direct habitat loss (footprints)	Habitat fragmentation	Disturbance ^{*a}	Indirect habitat degradation	Secondary impacts	Potential for significant cumulative impacts
					impacts on adjacent floodplains		
Dams for hydro-power or water storage	Losses of some species, eg ground-nesting birds from flooding	Increases open water but at the expense of other habitats (eg mires).	Causes significant fragmentation of river ecosystem and associated habitats	Disturbance during construction and maintenance works	Disruption of down-stream flow regime (eg causing low summer flows and reduced flooding of adjacent wetlands)	Reservoirs are frequently subject to significant tourism and recreational impacts	Low
Overhead electricity transmission lines	Collisions occur especially where lines cross flight-lines and sites with large numbers of birds; population impacts normally low for most species, but potentially high for some vulnerable species	Generally insignificant	Generally insignificant effects, but lines can form barriers to movement for some vulnerable species, causing habitat fragmentation	Potential disturbance during construction	Normally no significant impact likely	Normally no significant impact likely	Moderate / high
Underground electricity transmission lines, gas and oil pipelines and storage	Normally no significant impact likely	Impacts are normally low and reversible, but can lead to habitat loss of some sensitive habitats that cannot be restored; this can be significant if they are rare.	Normally no significant impact likely	Potential disturbance during construction	Excavation can lead to pollution of water courses from run-off	Normally no significant impact likely	Low
Wind turbines	Bird and bat collisions can be significant where turbines are inappropriately placed	Normally insignificant from turbines, but service roads can be significant	Can form barriers to movement for some sensitive species, causing fragmentation	Some species avoid turbines. Some disturbance during maintenance	Can cause some hydrological disruption, eg as a result of service roads	Increased hunting pressures and recreational disturbance if service roads improve access	Moderate / high

Negative impacts on biodiversity can also result from **climate change** mitigation and adaptation measures. For instance, efforts to reduce carbon emissions to reduce the impacts of climate change, are putting new demands on the use of land, through the construction of wind farms, hydro dams, infrastructures harnessing tidal and marine energy, renewable energy storage and the expansion of energy crops that have the potential to impact negatively on biodiversity (Anderson et al, 2003; European Commission, 2010a; Firbank, 2007; Gill, 2005; Hossell et al, 2006; Langston and Pullan, 2003; Maxwell, 2005; McDonald et al, 2004; MRAG et al, 2010; Rowe et al, 2007). However, the direct impacts of climate change on biodiversity are also apparent and not to be underestimated. Although they are currently relatively moderate they are growing and are expected by many organisations to become the greatest threat to biodiversity over the course of the 21st Century (UNEP-WCMC cited in Bertzky et al, 2010; IPCC, 2007; Millennium Ecosystem Assessment, 2005).

3.2 Overview of the impacts of EU policies and funding instruments on biodiversity

Many of the Community's policies focussed on establishing the internal market, facilitation of free-trade and financial support for agriculture and regional development. However, over time the community's objectives have broadened and have increasingly included environmental issues. Biodiversity conservation policy on the EU level started end of the 1970s with the Birds Directive and received a major push with the Habitats Directive in 1992. However, the notion of the socio-economic relevance of ecosystems and ecosystem services has only recently started to enter mainstream politics. The need to take environmental considerations into account in all EU policies was first mentioned by the single European Act in 1987 and became subsequently integrated into the Treaties in the 1990s. It has been reconfirmed in the 2009 Lisbon Treaty. The integration agenda has affected the objectives of the Habitats and Birds Directives, and other policies indirectly affecting biodiversity²¹ (eg by reducing related pressures) and increasingly being integrated into EU policies and funding criteria. It was also promoted by the need to undertake an Appropriate Assessment (in accordance with Article 6.3 of the Habitats Directive) of any project or plan that may have a detrimental impact on the species and habitats of Community interest in Natura 2000 sites. Such projects may not go ahead unless there are overriding reasons of public interest, no alternatives and adequate compensation measures are implemented. Furthermore, Strategic Environmental Assessments, if required, need to consider impacts on Natura 2000 sites and, in accordance with good practice, should be coordinated with Appropriate Assessments under the Habitats Directive.

An increased integration of biodiversity concerns has particularly occurred with subsequent reforms of the **Common Agriculture Policy (CAP)**. The CAP has modified its priorities considerably over the past three decades. The CAP initially developed as a means of harmonising and maintaining the generally rather strong levels of intervention that the founding members of the European Economic Community had in agriculture and originally focussed on supporting agriculture to provide stable food supplies. This was achieved by a range of market measures - including import tariffs, export subsidies, intervention purchasing, private storage aid and output quotas (Garzon, 2006; Ritson & Harvey, 1997; Winter, 1996). Income support was also provided through direct payments, initially coupled to production. These measures encouraged underlying trends towards agricultural expansion, investment, restructuring and specialisation, especially in the countries now

²¹ For instance: Nitrates Directive, Framework Directive on Sustainable Use of Pesticides, WFD, Urban Waste Water Treatment Directive, Integrated Pollution Prevention and Control Directive, Environmental Impact Assessment Directive

comprising the EU-15, and more recently in the “new” Member States of Central and Eastern Europe. As a result, the CAP in combination with technological advances was successful in increasing agricultural production. However, at the same time it contributed to significant and widespread environmental changes and led to strong impacts on biodiversity, as summarised in the preceding section.

As a result of the environmental problems and other considerations, including the cost of the CAP and the need to comply with international trade rules, it has been subject to several reforms and many incremental revisions to its component regulations, especially since the 1980s. Since the 1990s these have constituted a substantive element in the overarching direction of change in the CAP, which has been to facilitate greater market integration, whilst tempering some of the pervasive market failures associated with agricultural management, with policies to support environmental and resource protection (Baldock et al, 2008). Although the CAP may be inadvertently and indirectly contributing to some biodiversity impacts, it now has measures in place that aim to reduce such impacts (eg principally through the requirement to meet cross-compliance standards to qualify for direct payments). Furthermore, it provides specific funding for environmental purposes, including funding to maintain beneficial farming systems and practices, support new biodiversity friendly practices and to restore degraded habitats (Tucker et al, 2010; Poláková et al, 2011).

The impacts of other EU policies, and in particular the major funding instruments, are much more mixed as the adoption of environmental considerations into their objectives are typically incomplete. Some funds may be used to achieve environmental objectives. For example, the **Structural and Cohesion funds** make positive contributions to the environment through funding of waste water treatment, which has had a significant impact on freshwater and marine ecosystems (Farmer, 2011). Provisions exist under the Structural Funds, ie the European Regional Development Fund (ERDF) and European Social Fund (ESF) to directly fund Natura 2000 and biodiversity more broadly. In the funding period 2007-2013, Member States allocated a maximum €4.7bn under their national Operational Programmes for the Structural funds that could be used for these provisions.

However, there is evidence that the focus of many EU policies and their funding priorities tend to be towards economic development goals, and therefore funds are not achieving their full potential in terms of supporting biodiversity (Kettunen et al, 2011). A study on the use of EU funds found that Member States gave *de facto* priority to economic development and growth (following the objectives of the Lisbon Strategy) over sustainable development, particularly in convergence zones (Nordregio, 2009), while the European Commission (COM(2010)110)²² reports that investments in traditional infrastructures under the Cohesion Policy occur to a much greater degree than in renewable energy and environment investments.

It is currently not possible to provide an exact assessment of the impacts of Cohesion Policy on biodiversity. The funding streams are diverse and complex and the relatively general expenditure categories can lead to different type of outputs and corresponding impacts. Nevertheless, Cohesion Policy funding supports many of the developments listed in Table 3-2 that are known to have significant impacts, especially cumulatively. Cohesion Policy funding that probably has the greatest impacts on biodiversity is linked to transport and energy infrastructure developments. However, some expenditure under the Cohesion Policy

²² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Cohesion policy: Strategic Report 2010 on the implementation of the programmes 2007-2013. COM(2010)110 final and accompanying SEC(2010)360

can have positive biodiversity benefits. For example, wastewater treatment plants have reduced pollution of freshwater courses with benefits for biodiversity. The impact of some other Cohesion Policy expenditure categories is variable. With the appropriate use of environmental safeguard procedures, such as Environmental Impact Assessment (EIA), negative impacts on biodiversity can be substantially reduced or avoided altogether.

An on-going cause of concern is the lack of adequate safeguards and scrutiny for projects of European importance and the lack of resources allocated to enforcement activities. For example, the high proportion of funding for transport projects (new Member States channelled 24 per cent of total EU funds on transport infrastructure (in Farmer, 2011; section 12.2) suggest there is a risk that the allocation of the funds could lead to increased emissions, although to date there are no comprehensive assessments of the impact of Cohesion Policy on climate change (Hjerp et al, 2011a). It is also worth noting that an important element of European transport policy is the development of a pan-European network of infrastructure, as set out by the policy on the **trans-European transport network** (TEN-T). TEN-T policy is used in conjunction with CF/ERDF to develop the transport infrastructure of the EU; the proposals are that the two areas work more closely together in the 2014-2020 programming period. Under either Cohesion Policy or TEN-T policy, the construction of transport infrastructure (eg funded through the Cohesion Fund or ERDF) can have several negative impacts on biodiversity. The development of transport infrastructure can increase the number of cars on the road (thus increasing emissions of carbon and eutrophying pollutants such as NO_x) and increase the demand for aggregates (the process of mining for which can put pressure on habitats (see European Commission, 2010b)). It can also have indirect impacts through the opening up of areas for further secondary developments such as afforestation and development in remote areas.

There is also concern over some projects that have potential to provide environmental benefits. For instance, while afforestation measures have the potential to provide biodiversity benefits, environmental conditions attached to forest improvement infrastructure, restoration and afforestation in the framework of RDPs are often weak and may even conflict with biodiversity objectives (MRAG et al, 2010). Similarly, certain transport infrastructural projects, which are often considered as environmentally friendly (such as investment in rail infrastructure due to low associated carbon emissions) can result in habitat loss or fragmentation if poorly sited without due consideration of biodiversity concerns (Byron and Arnold, 2008). As reviewed by IEEP (Tucker et al, 2008) and others the production of renewable energy can have significant detrimental impacts if not properly planned and mitigated. Bowyer and Kretschmer (2011) sum up the likely increased demand for biofuels as follows: *“The RED target, for 10% of transport fuel to be from renewable sources by 2020, is anticipated to stimulate a major increase in the use of conventional biofuels up to 2020, contributing up to 92% of total predicted biofuel use or 27.3 Mtoe in 2020. This would represent 8.8% of the total energy in transport by 2020; 72% of this demand is anticipated to be met through the use of biodiesel and 28% from bioethanol”*.

In the marine environment, the **Common Fisheries Policy** (CFP) provides the framework for managing the fisheries sector, aiming to ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions. The current European Fisheries Fund (EFF) supports the objectives of the CFP by setting a framework for the provision of public financial support for the fishing sector. Despite sustainability being the core objective of the CFP, both the CFP and EFF are widely recognised to have failed in achieving sustainable levels of exploitation of fish stocks (European Commission, 2012c; European Court of Auditors, 2011c). Moreover, there are certain policies or measures within

the CFP Regulation and the EFF which have the potential to hinder or slow efforts to remedy the imbalance between fishing fleet capacity and catch potential. For example, the current CFP Regulation obliges fishermen to discard fish that they have caught in excess of their quota allocations or that are below the minimum landing size. These 'regulatory discards' are particularly a problem in mixed fisheries if the allocation of quota does not match the proportion of species in the catch. On the other hand, under the EFF there are measures that have social or economic objectives but which may inadvertently cause negative impacts on the natural environment. Although such measures are not intended to harm biodiversity, because of unintended consequences and loopholes in their design they may create perverse incentives, and either fail to reduce the capacity of the fleet or increase it, and thereby maintain fishing effort at unsustainable levels. For example, there is evidence to suggest certain modernising investments in the fleet covered by EFF funds have increased fishing vessels' abilities to catch more fish. There is also concern over potential impacts to biodiversity arising from EFF support for the aquaculture industry, which in its intensive forms may have negative impacts on wild fish stocks by deteriorating the quality of waters (particularly around estuaries where they are often sited), genetic contamination of wild stocks via escaped fish, and spreading of parasites and pathogens to wild fish populations.

Table 3-2 below provides an overview of the relationship between the main pressures on biodiversity in the EU and the principle policy instruments and their related funds. This draws on studies mentioned above and the more detailed analysis of the key policies and funding instruments provided in the annexes to this study. The analysis shows that the policies and funding instruments considered in the table have important influences on biodiversity and all have the potential to increase some pressures significantly. However, it should also be noted that some funding, eg for CAP measures that maintain semi-natural habitats and Cohesion Policy funding for water treatment objectives, provide clear biodiversity benefits. Other pressures are more influenced by the policy framework under which they operate, with effects cutting across different EU funding instruments (eg RED and biofuels support), whilst others are little influenced by EU policies and funds.

Table 3-2 The potential* impacts of sectoral policies and related funding instruments on key biodiversity pressures

Note: Key pressures are as identified by the EEA in the Biodiversity baseline Report (EEA 2011a). Research and development impacts are not considered here as these all vary considerably according to the specific types and aims of research that is undertaken.

Key to potential impact levels:

↑ = the policy and related financing results in an increase in the pressure. ↓ = a decrease in the pressure

↑ / ↓ = weak link with the activity little influenced by the policy and related financing, resulting in only minor and local changes in the pressure and biodiversity impacts.

↑↑ / ↓↓ = moderate link with the activity significantly influenced by the policy and related financing, resulting in widespread minor impacts OR locally major increases in the pressure and biodiversity impacts.

↑↑↑ / ↓↓↓ = strong link with the activity highly influenced by the policy and related financing, resulting in widespread major changes in the pressure and biodiversity impacts.

S = Secondary detrimental impact, ie the result of activities (eg increased hunting) that are not the intended aim of the policy (eg road building). Such impacts are very difficult to quantify and therefore impact levels are not estimated here.

Blank = no significant link

NB. In many cases mitigation measures, as for example identified through impact assessments, may avoid or reduce impacts to acceptable levels

Potential* or commonly observed pressures & harmful activities	CAP	Cohesion Policy	Transport	Climate & Energy	CFP
Habitat loss /land use change					
• Conversion of land to energy crops (biofuels)	↑ ¹	S ²	S	↑↑ ³	
• Afforestation	↑ ⁴	S ⁵			
• Conversion of wetlands to agricultural land	↑ ⁶	↑	S		
• Bottom-sea trawling		S	S		↑↑ ⁷
• Conversion of land by extractive industries ⁸		S	S	?	
• Urban and industrial expansion, and infrastructure development		↑↑ ⁹	↑↑ ¹⁰	?	
Habitat degradation					
• Intensification of agricultural management practices	↑ ¹¹	S ¹²	S	?	
• Construction of wind farms, hydro dams and infrastructure exploiting tidal range/flow.		↑↑ ¹³	S	↑↑ ¹⁴	
• Loss of open habitats to secondary succession on abandoned agricultural land in semi-natural areas;	↓↓ ¹⁷	↓	↓	?	
Fragmentation					
• Dissection of habitats through the construction of transport/energy infrastructure	↑ ¹⁸	↑↑↑ ¹⁹	↑↑ ²⁰	↓↓	
Over exploitation of natural resources					
• Unsustainable fishing levels		↑			↑↑↑ ^{21,22}
• Use of damaging fishing methods such as discarding					↑↑↑ ²³
• Unsustainable hunting of terrestrial species			S		
Pollution					
• Enrichment of farmland (via intensification)	↑	S	S		

Potential* or commonly observed pressures & harmful activities	CAP	Cohesion Policy	Transport	Climate & Energy	CFP
• Emissions from vehicles causing eutrophication of habitats via air-borne nitrogen pollution		↑↑ ²⁴	↑↑	↓	
• Industrial emissions contributing to acidification of habitats via air-borne pollution		?	S	↓↓	
• Discharge of wastewater to freshwater courses		↓↓ ²⁶			
• Agricultural run-off to water courses	↑ ²⁷	S	S		
• Pollution from aquaculture, particularly close to estuaries (thus affecting migratory species such as salmon)		↑	S		↑↑ ²⁸
Climate change					
• Increase consumption of fossil fuels through use of road or other vehicles		↑ ²⁹	↑ ^{30,31}	↓	↑ ³²
• Emissions through domestic homes sector		↓ ³³		↓	
• Emissions through industrial production (via consumption)		↑ ³⁵	S ^{36,37}	↓	
Invasive alien species					
• Introduction via horticulture/gardening industry					
• Increasing transportation of goods by sea	S	S	↑	↑	↑
• Expansion of tourism	S	?	↑ ³⁸	S	
• Development of linear infrastructure which provides a path for movement (eg roads and rail)		↑↑	↑↑	↑↑ ³⁹	
• Escapees from fish farms and resulting genetic mixing & transfer of sea lice and introduction of alien species		↑	S	S	↑↑ ⁴⁰

Notes:

EAFRD: Potential to fund establishment of energy crops under RDPs. However, potential negative impacts can be reduced by robust grant application assessment (eg the Energy Crop Scheme in England) and/or mandatory sustainability standards and reporting.

² **ERDF** support for capacity building such as support for farming cooperatives for diversification (eg biofuels). InCrops Project. <http://www.incropsproject.co.uk/>

³ **RED** target for 10% of transport fuel to come from renewables, of which 90% is likely to be from first generation biofuels. Fuel quality directive requires companies to reduce life-cycle emissions of fuel, which can be met by biofuels. **Member States financing:** not financed at EU level, but it is subsidised at MS in order to meet EU targets, through measures such as tax exemptions, feed-in tariffs, preferential quotas, including IE, DE, SE and UK (see EHS Inception Report).

⁴ **EAFRD:** Measures 221, concerned with afforestation of agricultural land, and 223, non-agricultural land, have been adopted in 66 and 41 (respectively) of the 88 rural development programmes in the EU (Kretschmer et al, 2011). In principle, this could benefit woodland biodiversity by increasing woodland area. However it depends on the characteristics of former land use (Kretschmer et al, 2011). New woodland will also have indirect impacts on other land uses.

⁵ **ERDF:** Construction of roads can lead to secondary developments such as afforestation, and development in remote areas.

⁶ **EAFRD:** Infrastructural payments may allow for the continuation and upkeep of drainage schemes.

⁷ See 'Unsustainable fishing levels'

⁸ **ERDF/CF:** Cohesion and transport policy can result in increased demand for aggregate from extractive industries.

⁹ **ERDF:** construction of roads and developments

¹⁰ **ERDF:** construction of roads has a direct impact on habitat loss, and encourages urban/industrial expansion

¹¹ **EAFRD:** CAP policy mainly beneficial, but some payments may encourage modification and indirectly intensification.

¹² **ERDF/CF:** Use of structural funds to support agricultural intensification (MRAG et al, 2010)

¹³ **ERDF**: has provide vital support of offshore wind energy industry (Hjerp et al, 2011a).

¹⁴ **RED**: Potential negative impact on biodiversity through poor siting of renewables.

¹⁵ **EAFRD**: Support for management of broad-leaf forests for conservation is positive impact for multi-functional use of , although potential for over-use

¹⁶ **RED**: There could be damage to woodland in the case of changes to the structure of woodland eg to plantation structure. The use of residues from forestry (leaves, barks etc) may take nutrients/biomass from the forest.

¹⁷ Poláková et al, 2011

¹⁸ **EAFRD**: Forest access roads can be built to protect forests from deer supported under competitiveness objective.

¹⁹ **ERDF**: New MS channelled 24% of total EU funds on transport infrastructure – which causes fragmentation.

²⁰ **TEN-T** policy is achieved through the construction of transport infrastructure often without due consideration of GI (either in planning or greening of verges).

See (Byron & Arnold, 2008)

²¹ Special arrangement has been created for fisheries, which allows Member States to provide financial support to firms in difficulty

²² **EFF**: 1) The EU fishing fleet is not subject to excise duties on fuel on the basis of regulations regarding excise duties in general: Article 14.1c of the Directive 96/2003. Also dis-incentivises fuel efficiency – hence greater climate impact. 2) Special assistance for young fishermen (€50,000 for 2nd hand vessel). 3) Axis I measures allows for investments on board fishing vessels which can be used to increase capability to fish.

²³ Existence of quotas and TACs promotes discarding.

²⁴ **ERFD/CF**: Construction of motorways increase air-borne pollution and nitrogen deposition

²⁵ Fuel excise duties exemptions (see 'unsustainable fishing levels').

²⁶ **ERDF/CF**: overall structural and cohesion funds make a positive impact by funding wastewater treatment plants. Nonetheless, emphasis on growth and encouragement of development could result in increased pressure if mitigation measures not in place.

²⁷ In general, positive impact through cross compliance. Where funding aids intensification, possible negative impacts on water quality.

²⁸ **EFF**: Funding available for aquaculture. Under the new EMFF, aquaculture to be a new pillar, to promote growth of the industry.

²⁹ **ERDF/CF**: Indirect link via increasing capacity on roads

³⁰ **ERDF/CF**: Expansion of transport infrastructure network.

³¹ **ERDF/CF**: Expansion of transport infrastructure network.

³² Fuel excise duties exemptions (see 'Unsustainable fishing levels')

³³ **ERDF/CF**: Overall positive impact through support for energy efficiency measures; however, support for development would increase demand for energy

³⁴ Transport policy encourages greater development

³⁵ **ERDF/CF**: Potential to support industrial activity, although this tends to be for efficiencies.

³⁶ Transport infrastructure provides extra capacity which in turn may promote industrial activity.

³⁷ **ERDF/CF**: Overall positive impact through support for energy efficiency measures; however, support for development would increase demand for energy

³⁸ **ERDF/ESF/CF**: resources allocated to biodiversity often used to promote tourism (building facilities, stimulating enterprises linked to natural areas) (EEA, 2009)

³⁹ Conservative

⁴⁰ **EFF**: Funding available for aquaculture. Under the new EMFF, aquaculture to be a new pillar, to promote growth of the industry

4 BIODIVERSITY PROOFING OF FUNDING FICHES – LESSONS LEARNED FROM CLIMATE PROOFING TOOLS AND INITIATIVES

This chapter, which relates to Task 2b of the study (see section 1.2), presents important insights into the application of climate proofing and mainstreaming approaches regarding the EU budget, ending with an initial overview of lessons to be learned for biodiversity proofing. Extensive practical experience with better integration of climate change concerns into the practice of spending EU funds has been gained. However, so far this is happening in a rather ad-hoc, fund-by-fund or project-by-project way. In view of the discussions about the next MFF a debate among practitioners and academics has started to better conceptualise a broader approach to systematically reflect and foster the integration of climate change concerns into all relevant aspects of funding and project cycles. This broader discussion is fed from different angles. “Mainstreaming” or “climate proofing” are key concepts, but are also used rather interchangeably.

4.1 Core components of climate proofing approaches

The core of the discussions concerns the development and application of a set of instruments to help increase the share of climate-related funding (grants) and financing (other financial instruments such as loans, guarantees or debt) under the EU budget and help ensure that the remaining funding is not detrimental to achieving the set objectives of EU climate change policy. A key aim is to ensure that overall effectiveness and delivery of results is improved. The discussion is particularly engaged through the commitment made by the Commission that at least 20 per cent of the next MFF should support climate-relevant activities and that financing of actions should mainly happen through “mainstreaming” climate change financing obligations across different funding instruments. In addition to this broader mainstreaming argument, a smaller dedicated climate change component under the LIFE programme is supposed to provide direct spending on climate change mitigation and adaptation.

How to best operationalize such a strategy? The discussion can draw on a number of experiences gained in a few “front-runner” Member States. In the past, mainstreaming of environment and climate change concerns under the MFF was related to ensuring compliance with the Environmental *Acquis* to ensure that investment needs under investment-heavy Directives such as the Urban Wastewater Treatment Directive were met. A few Member States have been setting up additional efforts, including, for example, in France where a carbon-screening tool (NECATER) has been established to help regions design “carbon-neutral” operational programmes. In the UK the South West of England Regional Development Agency has been the first agency to undertake explicit efforts to frame environment related investments under operational programmes as drivers for regional development, looking at the interplay of de-resourcing strategies, positive investment strategies (win-win projects) and integrated skill management (Medarova-Bergstrom and Volkery 2012). A host of other country examples can be found in a recent evaluation of the 2000-2006 evaluation as delivered by the European Network of Environmental Authorities in charge of Cohesion Policy (ENEA). In fact, cross-cutting analysis shows that climate change concerns have been integrated into the national strategic reference frameworks under Cohesion Policy in the 2007-2013 period in quite a few Member States, although increased spending on renewable energies and energy efficiency projects has still been at a relatively low overall level (see EEA 2009). It has been found that it is important to include concrete measures in programming documents and ensure a sound description of their benefits to enable successful application (ENEA-REC 2009).

4.2 Categories of key tools for climate proofing

A key lesson from a cross-cutting analysis of efforts to promote climate mainstreaming (or proofing) in the past concerns the need for the interplay of the following different instruments.

- **Substantive instruments** – objective- and target-setting followed by adequate earmarking/allocation of funds, milestones and result indicators, eco-conditionality and performance incentives and corrections ('carrots and sticks'), concrete requirements for climate proofing and policy coherence, etc.
- **Procedural instruments** – SEA/EIA, tracking expenditure accompanied with carbon screening and risk assessment tools, climate favourable project selection criteria, independent ex-ante, on-going and ex-post evaluations and verification of results, etc.
- **Institutional instruments** – dedicated administrative units/institutional arrangements tasked with climate change mainstreaming, cross-sectoral coordination and communication mechanisms, environmental networks, working groups and monitoring committees, institutional capacity building and training, improving the knowledge/technical base for expenditure planning etc.

Table 4-1 provides an overview of relevant tools for a climate proofing approach under the EU budget. These target different stages of the lifecycle of the EU budget from strategic planning and implementation, to monitoring, reporting and evaluation. The EU budget operates in a complex and dynamic multi-level governance system where institutional structures and constellations of actors interact between different tiers of governance and can equally enhance or deter the scope for action.

Earmarking climate relevant spending under EU funds is one critical component. The other critical component concerns the reform and gradual phasing out of ineffective spending with detrimental environmental impacts. Climate proofing would help to better assess and choose project activities and investment types that fulfil the original policy objectives at the lowest potential environmental impact, and foresee for this purpose a more prominent role for strategic environmental assessments and other carbon-screening tools. For the area of transport, options would include (Hjerp et al, 2011a):

- *shifting emphasis towards most environmental friendly systems of transport, eg meeting mobility needs through providing for rail, rather than road infrastructure, or encouraging other mobility services;*
- *shifting emphasis towards most environmental friendly mode of road transport, eg enabling transport to be powered by less carbon intensive energy sources through investing in the development of electricity charging point networks for road infrastructure; and*
- *applying 'conditionality' to ensure that carbon assessment tools are fully used and allow for fully fledged assessment of carbon impacts over the whole life cycle of products and processes and set incentives for improving demand for most environmental friendly products and processes through greening public procurement.*

Table 4-1 Tools for climate proofing the EU budget

1) Scaling up funding both through a new dedicated climate change fund and in existing funds, including reforming and phasing out carbon harmful spending								
Instruments	Horizontal and vertical CC objectives	Strategic framework	Allocating sufficient funding	Priority measures	Reforming and phasing out harmful spending	Reforming categories of expenditure	Coordinating structures and partnerships	Innovative financing
Stage of the EU budget cycle								
Strategic planning	✓	✓	✓	✓	✓		✓	
Implementation					✓		✓	✓
Monitoring, reporting						✓	✓	
Level of governance								
EU	✓	✓	✓	✓	✓	✓	✓	✓
National			✓	✓	✓		✓	✓
Regional				✓	✓		✓	✓
Timeframe								
Up to 2013					✓		✓	
2014-2020	✓	✓	✓	✓	✓	✓	✓	✓
Beyond 2020		✓	✓	✓			✓	✓

2) Improving climate change performance and making EU spending more results oriented in order to increase it's added value							
Instruments	Preparatory studies and mapping vulnerability	Enhancing admin. capacity for CC	Ex-ante carbon screening tool	Conditionality and incentives	Project development and selection criteria	CC indicators and reporting	Thematic CC evaluation
Stage of the EU budget cycle							
Strategic planning		✓	✓	✓			
Implementation	✓	✓			✓		
Monitoring, reporting		✓				✓	✓
Level of governance							
EU		✓		✓		✓	✓
National	✓	✓	✓		✓	✓	✓
Regional	✓	✓	✓		✓	✓	
Timeframe							
Up to 2013	✓	✓	✓				
2014-2020		✓	✓	✓	✓	✓	✓
Beyond 2020		✓	✓	✓	✓	✓	✓

4.3 Entry points in planning and implementation cycles

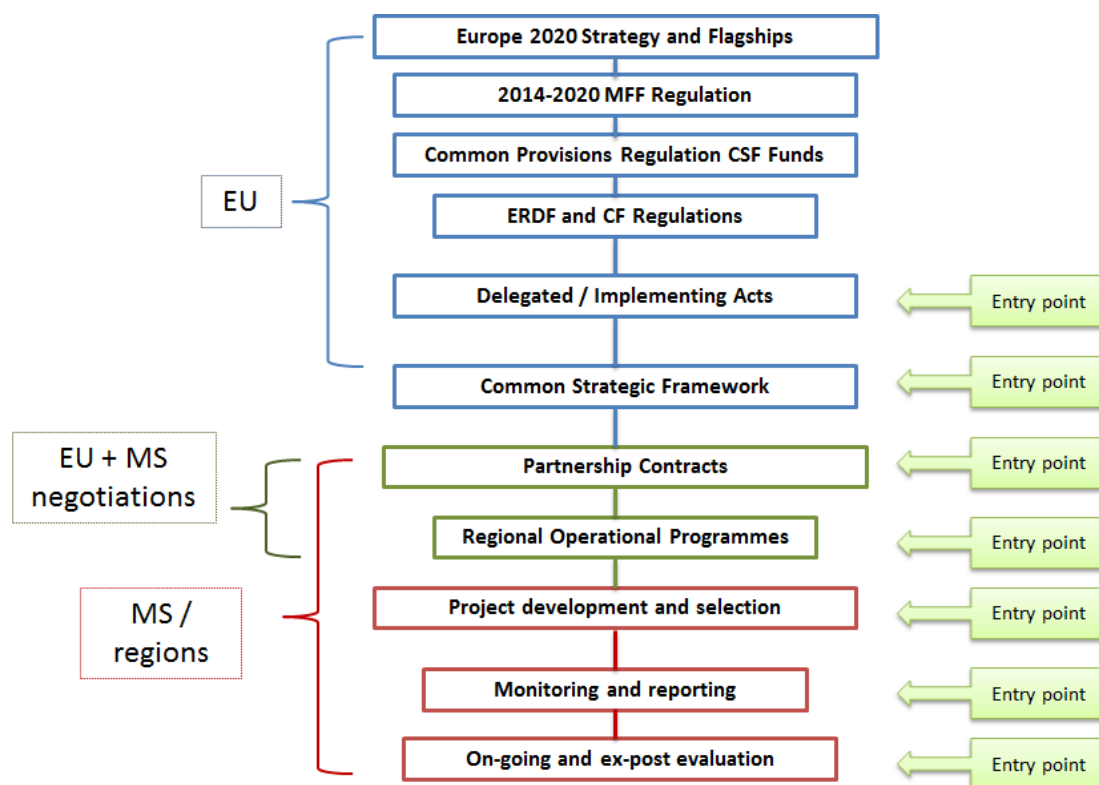
Climate proofing needs to concern itself with the full cycle of funds programming, execution, monitoring and evaluation and reprogramming. There are a number of entry points along the entire budgetary cycle which should be used to advance the climate mainstreaming agenda. Figure 4-1 illustrates these entry points for the example of EU Cohesion Policy.

Hence, effective climate proofing needs to build on clear and well understood objectives as to what needs to be considered genuine climate change relevant spending, how much of the overall budget should be spent on climate change related activities, and how to ensure compliance of the remaining other funding activities with overall climate objectives and ensure effective delivery, ie avoid cases of ineffective spending that are jeopardizing the prospects of meeting EU objectives for climate change policy.

A number of open questions remain on the table for the moment, such as for example the question how to account for climate change spending? Most of the spending under the EU budget is multi-functional and serves different purposes. Singling out climate relevant spending is a difficult task but it is needed to establish to what extent set objectives such as

the aspirational objective of having 20 per cent of the EU budget being spent on climate relevant activities are being met, and how the different funds can contribute. Would it, for example, be necessary to establish an overall objective that all funds have to contribute 20 per cent or should this be differentiated across funds?

Figure 4-1 Entry points for climate proofing EU cohesion policy



Source: Medarova-Bergstrom and Volkery 2012

4.4 Key tools for climate proofing – examples

The Commission has proposed a modified Rio Markers methodology (with a simple scoring system attributing 100-40-0 per cent of the expenditure to climate goals) as a main tool for tracking climate change related expenditure. This builds on the work done by OECD-DAC (2006). It is foreseen as a way to report the contribution of the different EU funding instruments towards the proposed 20 per cent spending commitment. All expenditure under the EU budget is to be marked into one of three possible categories, each of which is assigned a different weight. The expenditure options include:

- climate only related, which will be counted fully (ie 100 per cent as climate expenditure);
- significantly climate related, which will be counted partially (ie 40 per cent as climate expenditure); and
- not climate related, which will not be counted (0 per cent climate expenditure).

Table 4-2 presents eligibility criteria and activities counted as climate change mitigation and adaptation options, as applied in the OECD-DAC tracking system. While this system is not

perfect, it provides for a starting point to facilitate discussions among the Commission and Member States about the list of activities that should be counted as climate –relevant and hence promoted within the context of programming the next operational programmes.

Table 4-2 Eligibility criteria and activities counted as climate change mitigation and adaptation under the OECD-DAC tracking system

	Mitigation	Adaptation
Eligibility criteria	<ul style="list-style-type: none"> • Limiting GHG emissions; or • Protection and enhancement of GHG sinks and reservoirs; or • Institutional capacity building and strengthening the regulatory and policy frameworks of recipient countries; or • Helping countries to meet obligations under the UNFCCC. 	<ul style="list-style-type: none"> • Climate change adaptation objective is explicitly indicated in the activity documentation; and • Activity contains specific measures targeting the definition above.
Type of activities²³	<ul style="list-style-type: none"> • GHG emission reductions or stabilisation in the energy, transport, industry and agricultural sectors (eg focus on renewable energy and energy efficiency) • Methane emissions reductions through waste management or sewerage treatment • Development, transfer and promotion of low-carbon technologies • Sustainable forest management, rehabilitation of areas affected by desertification • Sustainable management and conservation of oceans and other marine and coastal ecosystems, wetlands, wilderness areas and other ecosystems • Preparation of national inventories of greenhouse gases; climate change related policy and economic analysis and instruments; development of climate-change-related legislation; climate technology needs surveys and assessments; institutional capacity building • Education, training and public awareness • Climate-change-related research and monitoring as well as impact and vulnerability assessments. • Oceanographic and atmospheric research and monitoring 	<ul style="list-style-type: none"> • Promoting water conservation in areas where there is enhanced water stress • Promoting heat and drought resistant crops and water saving irrigation methods • Promoting a diverse mix of forest management practices and species • Promoting changes in fishing practices to adapt to changes in stocks and target species • Measures for flood prevention and management such as watershed management, reforestation or wetland restoration • Measure to control malaria in specific areas • Developing emergency prevention and preparedness measures to cope with potential climatic disasters • Measures to respond to glacial lake outburst flood risk • Supporting the integration of climate change adaptation into national and international policy, plans and programmes • Improving regulations and legislation • Education, training and public awareness • Adaptation-related climate research

Source: OECD DAC 2006

While the Rio markers have a number of disadvantages (eg they indicate a commitment to achieve a policy objective, not the outcome itself, are relatively imprecise in terms of providing a quantified estimate of spending, allow room for subjectivity in interpreting the data, etc.), they remain the only internationally accepted methodology. DG DEVCO has already had experience in applying the markers in the context of EU development cooperation funds since 2008. Some national governments (eg the Netherlands and Belgium) have also been using the markers in an international context. This means that there is an important ‘in-house’ expertise which should be better utilised.

²³ The lists are intended to have an orientation character; they are not exhaustive

Developing an effective tracking methodology is therefore a key challenge for policy formulation. However, a recent expert workshop discussed whether the current suite of Rio markers is precise enough or if there is not a need to further distinguish categories of expenditure²⁴. Moreover, perceptions differ from sectoral policy to sectoral policy. It is important to establish a coordinated and coherent approach for tracking expenditure under the different funding instruments, to avoid inconsistencies and double counting and avoid 'climate washing' of investments. Further detailing of expenditure categories can help, but should be consistent with the need for a light approach in order to not impose a huge administrative burden.

Knowing how much is to spend is one need, knowing on what to spend it is another need. Prioritising action so as to get the highest value added from EU funding is a key prerequisite.

Priority-setting needs to be linked to existing policy objectives. Experience from Member States shows that the balance between prescriptive requirements for thematic foci of national operational programme and required flexibility to account for specific regional and local problems needs to be carefully struck. The most effective spending tends to occur when environmental/climate policies are developed outside Structural Fund programming and subsequently clearly and fully incorporated in the programmes, providing guidance and a framework for expenditure (EEA 2009). In Austria, for example, strong national policy goals for renewable energy provide the context and identify broad objectives for spending funds on renewable energy and energy efficiency. Spending under the Structural Funds fits into this policy context and complements domestic resources. In the 2000-2006 period, financing from the Structural Funds was equivalent to approximately 15 per cent of Austria's domestic public financing in renewable energies and energy efficiency. In most cases Structural Funds and national resources are used to co-finance projects, often in the private sector. During the 2007-2013 funding period, Austria significantly increased Structural Fund spending for energy efficiency, which matches a similar focus for domestic resources.

Mainstreaming of climate change concerns into Operational Programmes benefits from making hard links to other national strategies such as the National Climate Strategy and the National Sustainable Development Strategy (NSDS) which can help to increase the coherence and effectiveness of efforts. See Box 4.1 for a case study on France.

²⁴ See Medarova-Bergstrom, K. and Volkery, A. (2012) Practical options for mainstreaming climate change concerns into the EU budget. Report for the Dutch Ministry on Infrastructure and the Environment (forthcoming).

Box 4.1 Integrating sustainable development in the National Strategic Referential Framework (NSRF) – an example from France

The French NSRF has two thematic priorities which relate to climate change, namely to protect the environment, prevent risks and adapt energy practices in a sustainable development perspective and to develop transport modes other than road for individuals and companies.

The NSRF requires partners to fix criteria and common objectives for selection of projects in their operational programmes, taking into account the objectives of the Lisbon Strategy and the EU SDS. Projects funded under the Structural Funds should also fit a sustainable development perspective and take the national SDS as a reference point. Those regions which have appropriate strategic instruments and comply with the reference framework (Agenda 21, national parks charters, climate plans etc) are to have priority access to funds.

***Source:** ENEA. 2009. Improving the Climate Resilience of Cohesion Policy Funding Programmes: An overview of member states' measures and tools for climate proofing Cohesion Policy funds. ENEA Working Group on Climate Change and Cohesion Policy. November 2009.*

These efforts need to be matched with efforts to ensure effective consideration of climate proofing aspects when programming funds and selecting projects for funding on MS level. The application of better **ex-ante impacts assessment** tools with a view to assessing GHG emissions of proposed interventions is crucial. This could be done either through introducing a new procedure or through the revision of existing tools such as SEA/EIA by incorporating climate change among their assessment criteria. There are a number of good practices at the national or regional level across Member States which apply various locally developed approaches to measuring the carbon footprint of investment programmes. Perhaps the most often quoted example is the French NECATER tool which is designed to ensure carbon neutrality of French Regional Operational Programmes. It has been designed to inform the potential carbon emissions generated by the planned interventions at a programme level. Similar ex-ante assessments have been advanced recently in the Czech Republic where an ex-ante assessment of the potential GHG emission reduction of projects was carried out as a requirement of the selection procedure (Medarova et al, 2011).

Simple multi-criteria tools have been used for climate proofing development cooperation. Table 4-3 presents a simple tool used by GTZ in the context of climate proofing German development assistance (GTZ 2010).

Table 4-3 List of criteria for priority setting from climate proofing development cooperation

Criteria	Description
Strategic relevance	The option for action particularly concerns severely affected and vulnerable regions or fields of action. The option for action has a reliable and long-term, goal-oriented effect (ie risk reduction). The option for action prevents irreversible and dramatic damages.
Urgency	Climatic trends are already occurring or will occur in the near future. Decisions about long-term investments and development paths are taken.
Side effect	The option for action supports or is consistent with the objectives of other activities (sustainability, biodiversity, climate protection). The option for action engenders positive effects on different fields of action (win-win solutions, in particular concerning climate protection and sustainability).
No regret	Positive effects will be generated both without changed climatic conditions as well as within different climate scenarios.
Flexibility	The option for action can be modified or further developed. The option for action can be reversed once conditions change.
Economic aspects	The medium or long-term benefit of the option is greater compared to its costs (including non-monetary aspects). The use of resources is efficient.
Political and social acceptance	The moment for implementing the option for action is favourable ("window of opportunity").

Source: GTZ 2010

Well formulated calls for proposals by national authorities which take into consideration climate change aspects can help steer the direction of project development and can therefore influence project design (ENEA-REC 2009). The integration of climate change issues at this stage in the project cycle can be enhanced by ensuring that the application form steers applicants towards relevant climate targets and includes questions regarding the potential carbon impacts of the proposal (ENEA-REC 2009). Thematic calls for proposals which target specific issues, for example, improved energy efficiency in housing, can help to target certain groups of beneficiaries and raise awareness of the issue (EPRC 2008). In addition to calls for proposals and thematic programme announcements, a complementary exercise is the so called commission approach that has been, for example, practiced in South West England in the 2007-2013 programming period. Here, regional partners can submit project and investment ideas to the responsible implementation agency. A dedicated board in the agency assesses the strategic compliance of the proposal with the Operational Programme, and in case of positive evaluation starts the commissioning stage, informed through various framework documents (localised strategies, either geographically or by investment type) that define a strategy for project delivery. These framework documents send clear signals as to what should be approved. This bottom up approach allows for a high flexibility to respond to regional / local circumstances, but in a well-designed framework (ENEA-REC 2009).

Appropriate **selection criteria** are found to be critical to ensure that projects funded under the Structural and Cohesion Funds sufficiently address environmental and climate change considerations (ADE 2009b). Essentially, the project selection criteria could a priori be designed so that the scoring system favours climate-saving and resilient projects. In some

ways, this is another expression of conditionality. Some regions have already taken this approach forward. Regarding project appraisal, establishing innovative institutional mechanisms (eg environmental panels) could aid the selection process by way of environment/climate expertise (ADE 2009b). In Vlaanderen (BE) for example, the target of carbon neutrality is the starting point for the project appraisal process (ENEA-REC 2009). Projects relating to infrastructure development in Burgenland (AT) are required to undertake energy-saving measures. Every project has to prove that it is energy efficient to obtain national and regional funds. Thus, national standards, regulations and practices (including EIA and SEA) drive projects within every Operational Programme to be beneficial to climate change (ENEA-REC 2009).

Integrating climate change mitigation at a project level, for example by incorporating carbon accounting into **Cost-Benefit Analysis** (CBA) of large projects, can build on substantial expertise. The European Investment Bank (EIB) has been developing a methodology for carbon footprinting of its operations. This gives an ex-ante estimation of the carbon performance of projects, most of which are large. The EIB's 'share' of impacts is calculated. While this is a work in progress the main purpose it demonstrates is the use of procedural tools for the integration of climate mitigation to aid the prioritisation and planning in programme and/or project development. Simple multi-criteria tools are used also, particularly in development cooperation. Table 4-4 presents an example from the German development cooperation (GTZ 2010).

Table 4-4 Criteria for simple multi-criteria analysis for climate proofing development cooperation

Criteria	Scores for selected options for action (OA) (1 = very much; 5 = not at all)		
	OA 1) (please specify)	OA 2) (please specify)	OA 3) (please specify)
Do the benefits from this option for action promote climate change adaptation?			
Compared to the benefits, are the additional costs reasonable?			
Taking into account the costs and benefits, are the required funds available to implement this option? If not, what additional funding is available?			
Would the benefits of this option for action also occur in the long-term?			
Is the planning horizon for the option for action in line with the planning horizon for the climatic trends?			
Do the required technical skills to implement the option for action exist? If not, which skills have to be acquired?			
Total Score			
Rank			

Source: GTZ 2010

While tracking approaches such as the Rio markers show the climate relevance of planned expenditure they do not track the actual performance once the expenditure has taken place. Therefore, a robust performance framework for climate change mainstreaming would require that the tracking is accompanied by a set of **performance indicators** which demonstrate the actual results of the investment ex-post. However, up to date there is little experience available with establishing such a system of performance tracking. Methodologically, the evaluation of performance orientation faces the problem of linking impacts and outcomes to project outcomes. Impacts such as changes in the environment are the result of a complex interplay of different factors which are often difficult to capture. Whether an impact is project induced or would have happened in the absence of the project is often difficult to establish. However what is regarded as a minimum condition is a better focus on outputs of funding. So far, the attention is mainly devoted to process monitoring, ie whether funds are absorbed and spent in time and under compliance with basic legal and procedural requirements. Whether the spending has really addressed the objectives that were originally set up in the Operational Programmes and has delivered according outputs is often not explicitly evaluated.

Monitoring and evaluation of projects include opportunities for climate proofing. In Scotland, for example, an extended range of activities eligible to receive support for environmental audits and carbon footprints following SEA recommendations or results can also be brought into the later stages of the programme cycle — for example, in Wales, the SEA conclusions, and the risk assessment specifically, are used as a reference point in the approval process (ENEA-REC 2009).

4.5 Financing instruments and administrative capacities

While most of the expenditure of the EU budget is in the format of grants, a small but increasing share is spent through financial instruments such as loan, guarantee or debt instruments. They are increasingly relevant as they hold the prospect of significantly expanding the financial amounts available for climate change mitigation and adaptation investment. A meta-study of existing evaluation studies found that their use is guided by a very divergent and often difficult to understand set of rules and eligibility criteria, which has hampered a more effective uptake (Withana et al, 2011). Future needs include creating transparent and accessible rules for the use of these financial instruments. It is important that the design and implementation of financial instruments meet certain conditions. Possible criteria could include inter alia respond to market needs; avoid crowding out private activities, national or regional public funding; EU value added; positive economic rates of return, coherence with key EU policy objectives; efficient and timely; achieve high leverage while capping the risk to EU budget resources and aligning the interest of private and public contributions. It needs to be noted that financial instruments are market driven. Hence their current applicability under a biodiversity proofing approach is constrained, as fewer activities and projects in the biodiversity realm provide for marketable conditions and a return to investment as a prerequisite for private investor interest.

Any strategy for climate proofing, or mainstreaming, of EU funds depends on **well-functioning administrative systems** that are capable of delivering modern, knowledge-intensive governance (Ferrer 2012). On the one hand this concerns the capacity of national and regional authorities to integrate climate change objectives, priorities and requirements in the Partnership Agreements and Operational Programmes. However, the capacity of project developers and consultants to incorporate climate change mitigation and adaptation in the feasibility studies of large-scale infrastructure projects is also a challenge that needs to be addressed. There is also an issue with the capacity of practitioners carrying out SEA/EIA

assessments. They are not necessarily equipped methodologically to incorporate carbon footprint and risk assessments. Building proper institutional capacity requires awareness raising, technical training and negotiation skills, and needs to be recognised on the EU and national agenda. A key insight from the evaluation literature on using climate proofing tools in the context of development cooperation is that process is key: administrations and their staff need to change planning and project appraisal routines, and this needs a long-term approach. It is also stressed that in order to be successful climate proofing approaches would need to build on the buy-in of all actors involved rather than being imposed by a central institution or a specifically charged institution like an environmental administration. Strong emphasis is also put on the observation that any strategy needs to reflect the existing capacities and the opportunities they present, ie form needs to follow function which is informed by the current context conditions (GTZ, 2010).

4.6 Applicability of tools for biodiversity proofing and their effectiveness

The experiences gained with climate change proofing EU funds and related expenditure provide many useful insights for a strategy to biodiversity proof the EU budget and a number of the tools can be transferred. A key constraint on their effectiveness concerns the available information base – data and information are much more scattered for biodiversity than for climate change, starting with the absence of a sufficiently detailed baseline for comparing project impacts. Moreover, the problem structure in terms of impacts on biodiversity, and broader aspects of related ecosystem services, is more complex than for climate change where GHG emissions are a relatively easy to operationalize indicator.

It appears to make sense to transfer the established distinction of substantive, procedural and organisational instruments to the discussion about a strategic approach towards biodiversity proofing the EU budget. In terms of objective and target setting it seems that Member States could easily link their 2014-2020 Programmes (eg Operational Programmes, Rural Development Programmes) to existing commitments at the national level and also engage in a subsequent earmarking and allocation of funds. This is mainly a question of finding political agreement. However, there are limitations as the information base is often not sufficiently developed to enable prioritisation according to potential impacts on priority ecosystems and services. Inclusion of biodiversity requirements into the EIA Directive requirements is also the subject of on-going discussions, and Member States can draw on some lessons learnt with regard to using EIA and SEA as effective tools for better consideration of biodiversity aspects in planning (including requirements for mandatory scoping and screening, mandatory alternative assessment and monitoring). Nothing prevents the development of a simple check-list to define criteria for simple prioritisation and multi-criteria analysis that, while not being perfect, can help to establish a process of lesson-learning among implementation authorities.

There will be a strong overlap between climate proofing and biodiversity proofing in the case of dedicated administrative units or other cross-sectoral coordination and communication mechanisms. In fact it would be highly relevant to avoid a splitting up of competencies for climate proofing and biodiversity proofing in the phase of implementing the EU funds.

5 COMMON AGRICULTURAL POLICY

Note that at the time of writing this report aspects of the post 2014 CAP proposals were potentially subject to change. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.

5.1 Introduction to the fund

In today's Europe, the impacts of declining biodiversity trends are becoming increasingly evident in EU agricultural habitats and rural areas. A Common Agricultural Policy (CAP) that is fully biodiversity-proof will bring benefits not only to the maintenance of these habitats but also to ecosystem services that are essential to human well-being and the sustainable resource base of land based sectors.

The CAP is structured within two pillars: Pillar 1 which currently mainly provides direct payments to farmers and Pillar 2, used by Member States to support Rural Development Programmes (RDPs). The environmental baseline for Pillar 1 and Pillar 2 land based activities is represented by cross compliance²⁵. It requires Member States to enforce national and EU regulatory standards (including those under the Birds and Habitat Directives) as a condition for receipt of Pillar 1 and Pillar 2 payments; and standards of Good Agricultural Environmental Condition (GAEC) in which Member States are given more discretion to design and implement particular standards relevant to their local conditions. Pillar 2 rural development policy offers a range of measures relating to environmental, social, and economic priorities within which Member States can design their seven-year programmes. While Member States and regions are given considerable flexibility in designing programmes on the basis of the defined measures, these must be approved by the Commission to ensure that they meet the strategic policy priorities and objectives, set out in the regulation for the European Agricultural Fund for Rural Development (EAFRD) and, in the post 2013 period, in the Common Strategic Frameworks and Partnership Agreements²⁶. The Common Monitoring and Evaluation Framework (CMEF) sets out a series of indicators and methodologies for monitoring and evaluation within the whole policy cycle²⁷.

Ensuring that policies do not cause damage to biodiversity needs therefore to address all parts of the CAP, particularly when thinking about the design and content of measures. This

²⁵ Enshrined in the Council Regulation (EC) 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers and, in the reformed framework for post 2013 policy, in Proposal for a Regulation of the European Parliament and of the Council on the financing, management and monitoring of the common agricultural policy, COM(2011) 628/3, 2011/0288(COD).

²⁶ Currently set out in the Council Regulation 1698/2006, and the principles of the reformed framework in the Proposal for a Regulation of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD), COM(2011) 627/3. The requirements for CSFs and PAs are specified in Proposal for a Regulation laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund covered by the Common Strategic Framework and laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund. (COM(2011)615).

²⁷ Current CMEF framework, set out in the Council Regulation 73/2009, is proposed to be replaced by the re-designed framework, set out in Proposal for a Regulation of the European Parliament and of the Council on the financing, management and monitoring of the common agricultural policy, COM(2011) 628/3, 2011.

will be even more important in the future given that Pillar 1 is proposed to have environmental objectives, to be applied through the 'greening' measures. However, unlike all other sectoral EU funds, Pillar 1 direct payments represent the non-programmed element of EU support and there is no shared management or responsibility for their design by Member States. Therefore there is a much more limited opportunity for biodiversity proofing at national and regional levels. The negative effects associated with overarching agricultural trends, such as intensification and specialisation of farming in some areas and agricultural abandonment in others (Stoate et al, 2009), are to a large extent an outcome of the production support under the past agricultural policies or driven by factors exogenous to current policy, such as commodity prices, technological change, market requirements, bioenergy demand etc. Pillar 1 direct payments, however, continue to ensure the stability of incomes across the EU and are likely to encourage, albeit indirectly, the above mentioned agricultural trends and the associated biodiversity impacts in some places. Biodiversity proofing of Pillar 1, although not a straightforward exercise, is therefore important. Some elements of Pillar 1, such as cross compliance, eligibility rules for Pillar 1 direct payments, Farm Advisory System (FAS), and most notably 'greening' measures proposed for the post 2013 policy, are very important both for the effects of Pillar 1 direct payments and for the achievements of Pillar 2 spending for biodiversity. They should be therefore addressed by the biodiversity-proofing process. Although the post 2014 policy is outside the scope of the present study, it is worth highlighting that more opportunities for biodiversity proofing of Pillar 1 need to be created and to achieve this, the details of the legal proposals will be critical.

The 2007-2013 EU budget allocated to Pillar 1 is approximately €370 billion which accounts for around 70 per cent of the total CAP budget. Funds allocated to Pillar 2 in the same period account for approximately €96 billion (€155 billion with national co-financing). Whilst it has been proposed by the Commission to maintain the post 2013 CAP budget at current levels, it means a reduction in real terms. Relating to the budget of Pillar 2 in particular, there are more measures proposed for rural development policy, so there is a risk that allocations for environmental objectives will be under more pressure since the total money will have to serve more needs.

Because of its programmed character, Pillar 2 is the focus of the biodiversity proofing process in the CAP. Given the constrained budget in the future, it will be even more important to avoid negative effects of Pillar 2 funding on biodiversity as well as ensuring optimal outcomes of the targeted biodiversity management. There is a whole range of Pillar 2 measures, some of which may be beneficial to biodiversity and others neutral or having a potential adverse impact. The types of measures that were risk to biodiversity in the past were those involving afforestation, irrigation, drainage, forest infrastructure and access roads, tourism infrastructure (Boccaccio et al, 2009). Effective use of technical safeguards and standards for avoiding such effects will be the focus of biodiversity proofing of Pillar 2. On the other hand, maximising the benefits of the agri-environment measure merits special attention since it is the most important CAP measure for the delivery of biodiversity benefits in agricultural habitats, together with Pillar 1 cross compliance.

Monitoring and evaluation is part of the programming cycle and is enshrined in the Common Monitoring and Evaluation Framework (CMEF). The CMEF framework involves a suite of indicators for baseline values and outputs, results and impacts. Biodiversity specific indicators are included within the result indicators (currently 'area of land subject to successful management for biodiversity') and impact indicators ('farmland bird index' and

the ‘maintenance of High Nature Value farmland’). The annual reporting, ex ante, mid-term and ex-post evaluation against these indicators is a mandatory policy requirement.

Changes foreseen in the CAP proposals for 2014-2020 include a shift in the priorities for Pillar 1 direct payments. Several additional schemes and elements are proposed to accompany the basic payment in the future²⁸. ‘Greening’ measures are the main additional element with a programming character and of relevance for biodiversity. Cross-cutting issues in the proposals with a potential to influence biodiversity include a revised cross compliance framework, revised FAS and the extension of the CMEF to both Pillars.

A restructured GAEC framework will retain the current standards focussing on issues with a potential to benefit biodiversity, including soil structure, soil organic matter and water pollution through the installation of riparian buffer strips. It will also comprise a revised standard for the retention of landscape features including a ‘ban on cutting hedges and trees during the bird breeding and rearing season and possible measures for avoiding invasive species and pests’. Other new standards relevant to biodiversity focus on maintaining soil organic matter and protecting wetlands and carbon rich soils. The revised SMRs feature new requirements relating to the Water Framework Directive and the Sustainable Use of Pesticides Directives, alongside the existing requirements in relation to the Birds and Habitats Directives and the Nitrates Directive.

Provision of biodiversity related advice has been highlighted as important for the environmental performance of EU farms (European Commission, 2010e; ADE, 2009a; Dwyer et al, 2007). It is foreseen that the revised FAS will continue to provide mandatory advice on cross compliance, and additionally on requirements related to biodiversity, protection of water (including integrated pest management) and climate change²⁹. Although the requirements are set up as part of the Pillar 1 framework, it is very important to note that the establishment and use of advisory services is funded from Pillar 2. It is therefore important to address the linkages between Pillar 2 funding and FAS by biodiversity proofing.

5.2 Relevance for biodiversity

The CAP is the fund with the largest impact on agricultural habitats and the wider countryside. It provides specific funding for environmental purposes under Pillar 2, including:

- maintaining beneficial farming systems and practices,
- supporting new biodiversity friendly practices,
- restoring degraded habitats, and
- provisions for packages of measures to support biodiversity management and ensure stable incomes in extensively farmed areas (potentially comprising agri-environment payments, other land based payments, farm investments, access to markets, support to producer groups, diversification etc.).

The negative effects associated with overarching agricultural trends, such as intensification and specialisation of farming in some areas and agricultural abandonment in others, are highly relevant to consider in the biodiversity proofing process. These trends often lead to a decline in farmland biodiversity, and the degradation of semi-natural habitats in particular (Stoate et al, 2001; Townshend et al, 2004; Keenleyside and Tucker, 2010).

²⁸ Proposal for a Regulation of the European Parliament and of the Council establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy, COM(2011) 625/3.

²⁹ Ibid.

The farming practices associated with the above mentioned agricultural trends may to varying degrees adversely affect biodiversity through:

- over-grazing of semi-natural grasslands;
- agricultural improvement of semi-natural grasslands (eg through drainage, use of fertilisers, and ploughing and reseeded);
- conversion of semi-natural habitats and grasslands to arable;
- switch from hay cutting to silage production on intensively managed temporary grasslands;
- inappropriate burning of grasslands and shrublands;
- greater use of fertiliser, pesticides, irrigation and cultivations etc;
- specialisation in certain crops and reduced use of rotations;
- drainage and flood control;
- withdrawal of livestock from grasslands, due to a switch to stockyard systems with livestock entirely fed on silage or other fodder crops;
- frequent mechanical operations (which causes soil compaction and high levels of mortality of ground-nesting birds and some other fauna);
- loss or intensive management of hedgerows and other boundary features, and amalgamation of fields; and
- unsustainable use of irrigation.

However, it is important to note that the above farming changes are in many situations an outcome of the past agricultural policies, or are driven by factors exogenous to the current CAP, such as commodity prices, technological change, market requirements, bioenergy demand etc. The key intended effect of Pillar 1 direct payments is to create economic conditions that contribute to the stability of farm incomes across the EU. It is important to address whether Pillar 1 payments may therefore indirectly encourage in some places and circumstances detrimental changes in farming practices such as those listed above. Biodiversity proofing of Pillar 1 should therefore include above all the baseline aspects such as cross compliance, eligibility rules, farm advisory system, monitoring and, in post 2013 policy, 'greening' measures, whilst focussing on the minimisation of negative effects of agricultural activities wherever possible.

Continuation of farming, which is encouraged through Pillar 1 direct payments, can be detrimental to biodiversity in sensitive habitats and areas, such as blanket bogs that are easily damaged by livestock. On the other hand, some other semi-natural habitats critically depend on the maintenance of low intensity management practices (Beaufoy et al, 1994; Tucker et al, 2010). In the coming years, greater intensification of land use is expected, for example in terms of the use of water, inputs and frequency of cultivations, particularly in the new Member States, some of which host high quality semi-natural habitats at large scales. At the same time, low intensity farming systems characterising High Nature Value farming risk becoming economically unviable, particularly in remote areas, mountains, and in areas with poor soils. An effectively implemented biodiversity proofing process should therefore contribute both to the better implementation of Pillar 1 and more careful spending under Pillar 2 in these habitats. In doing so the proofing process should ideally minimise the biodiversity losses associated with both intensification and abandonment.

CAP Pillar 2 is the largest funding source available for positive biodiversity management in the EU. It is therefore important that biodiversity proofing supports the use of Pillar 2 funds in a way that allows Member States to meet their biodiversity objectives. The key goal is therefore to minimise potential adverse effects of Pillar 2 measures. This has to be accompanied by a thoughtful process of maximising the positive biodiversity benefits. The

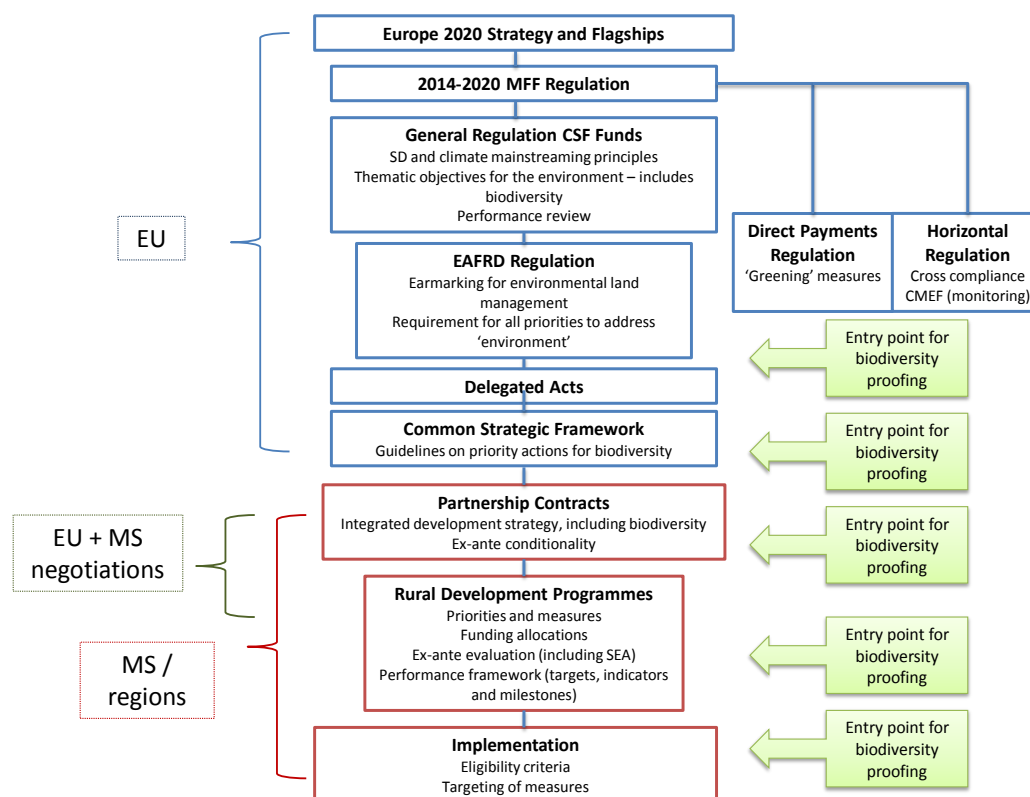
Pillar 2 measures that were identified as possible sources of damage to biodiversity in the past, for example through afforestation, irrigation, drainage, and some capital investments that cause disturbance or habitat fragmentation (such as forest infrastructure, access roads and tourism infrastructure), have to be some of the focal points of the biodiversity proofing process. On the other hand, it is critical to use available biodiversity proofing tools to maximise the positive potential of agri-environment schemes. This involves, for example, avoiding conflicts between biodiversity management funded by these schemes and other activities supported by rural development policy.

Biodiversity proofing CAP Pillar 2 measures is not an easy task. Potential impacts on biodiversity from various Pillar 2 measures vary. Some may be positive and others negative and avoiding negative effects alone may not help to achieve EU biodiversity goals for agriculture unless efforts are also made to optimise beneficial impacts. There is a range of preventative procedural tools provided in environmental legislation (EIA, Habitats Directive and Water Framework Directive) and mandatory technical safeguards (eg for afforestation and irrigation) provided in the EAFRD Regulation. These existing tools and safeguards should avoid or, at least, mitigate, or at worst compensate, for negative impacts on the environment and to effectively protect biodiversity. But other adverse effects on biodiversity (eg land use conversions or intensification affecting semi-natural habitats) are often not captured by existing policies such as EIA (European Commission, 2009; BIO Intelligence et al, 2012). Such effects may be directly or indirectly driven by sub-optimal policy design or policy interpretation (European Court of Auditors 2008, 2011a, 2011b).

5.3 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing

With regard to the CAP, biodiversity proofing is focussed on Pillar 2 since it requires iterative interventions in the key points of the policy cycle, including programming, implementation, monitoring, evaluation and policy improvement, and the programming elements at the general regulatory level, ie Community Strategic Frameworks (CSFs) and Partnership Agreements (PAs). Since the quality of spending under Pillar 2 is influenced by the design and interpretation of biodiversity related components in Pillar 1, notably cross compliance, eligibility rules for Pillar 1 direct payments, and Farm Advisory System, these Pillar 1 components should ideally be addressed in the process of biodiversity proofing too. It is expected that green payments under the reformed Pillar 1 will create a new layer of programmed measures in post 2013 policy. Particular attention will have to be paid to the linkages between green payments and Pillar 2. However, at the time of writing the details of green payments are not yet known. Therefore they are not addressed in this study.

The policy framework for Pillar 2 has a character of a programmed tool set at the EU level, so entry points for biodiversity proofing exist at virtually every stage of the policy cycle. Figure 1 presents the schematic overview.

Figure 5-1 CAP future Policy Framework and entry points for biodiversity proofing

It is important to address biodiversity priority firstly in the setting of EU policy framework including the EAFRD Regulation which sets out not only the overall objectives of the fund but also the structure of supported measures, their specific objectives, eligibility criteria, and mandatory technical safeguards. This is very different from, for example, the Cohesion Fund where many such elements are determined at lower governance levels in the programming and implementation stage. A range of **thematic objectives** is set out at EU level in the Common Provisions Regulation. The environmental protection (alongside resource efficiency, climate change mitigation and adaptation, and risk prevention etc) is included in the menu of thematic objectives.

Programming stage – high strategic level

The Member State authorities will translate the thematic objectives of the Common Provisions Regulation into their **Common Strategic Frameworks (CSFs)** and **Partnership Agreements (PAs)**. It can be expected that the prioritisation of biodiversity in CFs and PAs will influence the balance between the different Pillar 2 objectives. The elaboration of the contents of the CSFs and PAs is therefore another important entry point for biodiversity proofing. Common Strategic Frameworks will determine key actions toward the achievement of the thematic objectives. The Commission guidance on CSF advises that 'it is essential that Member States ensure that all ministries and Managing Authorities responsible for the implementation of the CSF funds work closely together in the preparation, implementation, monitoring and evaluation of the Partnership Agreement and programmes' (European Commission, 2012b). Ensuring such co-operation between ministries will already be an advance on the situation in the past and is likely to affect

biodiversity parameters within the CSFs. Such co-operation can also ensure that some of the key Pillar 2 actions proposed in the CSF guidance are integrated in the CSF in practice. These actions include eg 'restoring, preserving and enhancing biodiversity, including in Natura 2000 areas and farming systems with a High Nature Value'.

Partnership Agreements (PAs) will describe the approach taken by Member States in the prioritisation of the different thematic objectives under the different funding streams, including Pillar 2. To ensure that the ambition formulated for the CSF is properly followed up on, Member State authorities shall translate the prioritisation of biodiversity into all elements of PAs, including a consolidated table of milestone and targets, summary of assessment and fulfilment of ex-ante conditionality, assessment of administrative capacity of authorities and beneficiaries, and summary of proposed actions and corresponding targets as mandatory components. Biodiversity proofing may ensure that this is done effectively for biodiversity priority. The Commission can help to provide guidance where necessary.

Programming stage – Rural Development Programmes

The process of **prioritising objectives of Pillar 2** at national/regional levels will involve stakeholders from different societal interest groups and will ensure weighing the priority of biodiversity vis-à-vis other environmental, economic and social goals. This prioritisation will immediately inform the design of RDP measures, and is therefore a critical entry point for biodiversity proofing at the level of Managing Authority. This process will be informed by the outcomes of the needs assessment, including SWOT analysis and will be informed by ex-post and ex-ante evaluations including the SEA of the programme. There is also a need to better synchronise programming with other policies, for example in some countries Biodiversity Action Plans may be out of date yet will not be reviewed until after the development of RDPs.

The **process of designing RDPs** is another critical entry point for biodiversity proofing. Managing Authorities will translate Pillar 2 objectives into the budget allocations, whilst ensuring that at least 25 per cent of EAFRD is earmarked for 'issues related to land management and the fight against climate change'. Designing a coherent mix of measures to best address the environmental needs resulting from the ex-ante analysis, as well as specifying the content and eligibility criteria for these measures is critical at this stage. Biodiversity proofing at this stage can therefore identify opportunities for creating networks, enhanced co-operation, sharing information etc between the Managing Authorities and environmental authorities, environmental groups, research organisations and other partners to improve the design and subsequent performance of the programme for biodiversity. For example, biodiversity proofing can ensure the right targeting and tailoring of schemes focussed on biodiversity management, appropriate specification of the content of mandatory technical safeguards (eg for afforestation and irrigation), identification of other potential safeguards (eg for drainage activities) and put in place pre-conditions for the packages of measures that can support extensive farming systems of High Nature Value.

The Managing Authorities should take account of interactions with biodiversity tools which form the backbone of environmental legislation, namely the Birds Directive, Habitats Directive (Articles 3, 6(3) and 6(4)), Water Framework Directive (Article 4.7), and EIA, and utilise the potential synergies with the biodiversity proofing of RDPs. However, there has been consistent criticism of the weak implementation of the above mentioned procedural tools in Member States. According to evaluations, the projects of high risk to semi-natural grasslands, eg involving conversion to arable, afforestation, irrigation and drainage are often

below the threshold specified for the EIA procedure, and the potential effects of investments on Natura2000 sites side-lined due to vaguely justified 'overriding concerns' (European Commission, 2009; BIO Intelligence et al, 2012). More options for mitigating potential adverse effects should be therefore developed by the use of substantive and procedural proofing tools. Cooperation and need for increased capacity building is important to inform all aspects of programming. Managing Authorities can request input from the environmental authorities on options to avoid damage through types of measures that were risk to biodiversity in the past and are not under the mandatory technical safeguards. In addition, biodiversity proofing can identify new opportunities, eg using technical assistance funds for filling in knowledge gaps. Further points of focus for biodiversity proofing are set out in the Screening Guidance.

Monitoring and evaluation

More entry points for biodiversity proofing to be addressed by Managing Authorities exist in the area of monitoring and evaluation. The ex-ante assessment can take account of the regionally and locally specific indicators of problems in sustainable land management as well as taking account of biodiversity targets where these have been identified. The targets under the EU Biodiversity Strategy should play a particular role. Substantive proofing tools should be used to define the baseline levels of biodiversity by means of relevant indicators and set out the values for result and impact indicators relevant to biodiversity. The use of procedural proofing tools can further strengthen the implementation of biodiversity related CMEF requirements during the policy cycle. This is important as experience shows that the biodiversity related elements of ex ante, mid-term and ex-post evaluations have been side-lined in the past and current programming periods (ADE, 2009a; Poláková et al, 2011). In addition, proofing can ensure that the monitoring systems are set up in a holistic way so that they address all actions under Rural Development that contribute to positive and potential negative effects on biodiversity even if the primary objective of such actions is not biodiversity. This is an essential part of a good proofing of biodiversity related spending. There is a scope for welcome improvements in the CMEF. For example, it will be helpful if Managing Authorities monitor the outcomes of the types of projects that proved a high risk to biodiversity in the past, eg involving afforestation, irrigation and drainage investments. An assessment of the effectiveness of mandatory technical safeguards within the mid-term and ex-post evaluation would be also welcome.

Programme implementation and screening of applications for funding

In this stage there is an important opportunity for Managing Authorities to ensure that required mechanisms are in place to screen applications for funding for potential negative biodiversity impacts (eg EIA, Habitat Directive). Implementing bodies should check that where adverse effects have been identified in applications actions have been proposed, eg changing the route or design of infrastructure, to avoid, mitigate or compensate such effects. Biodiversity proofing can ensure that applications respect mandatory technical safeguards where applicable for example for afforestation and irrigation, or additional safeguards where they were specified, such as for drainage. In addition, applications may be screened against any other biodiversity relevant criteria defined in RDPs. An example may be prioritisation of applications submitted by applicants from Natura 2000 areas.

There are fewer opportunities for biodiversity proofing in the area of monitoring and evaluation of the individual activities funded from Pillar 2 than in other EU funds. Given the small scale of these activities compared to the scale of investments under Cohesion or TEN-T

projects, extensive environmental monitoring of these activities may be too costly and ineffective. A more relevant kind of measurement of environmental quality of spending should be carried out by result and impact indicators within the monitoring and evaluation of the whole RDPs. However, Managing Authorities and implementation bodies should join efforts in the use of biodiversity proofing in the monitoring and evaluation of activities that were risk to biodiversity in the past (for example involving afforestation, irrigation and drainage). This can feed into the monitoring and evaluation of the effectiveness of the safeguards and the evaluation of the whole programme.

5.4 Best Frame of Actions

A holistic and integrated approach between any of the selected instruments is most important. An efficient use of strategic instruments (conditionalities, objectives) sets the framework for biodiversity proofing, and these should be further supported by procedural tools such as ex-ante and ex-post evaluations. At all governance levels, the proofing tools should focus not only on maximising synergies and avoiding conflicts between different measures of RDPs, but also on preparing specific approaches to maximum biodiversity outcomes through biodiversity schemes in intensively farmed areas and extensively farmed areas.

This is not straightforward. Since the Rural Development Managing Authorities do not typically overlap with environmental authorities, internal biodiversity expertise needs improving on the one hand and on the other hand co-operation with environmental authorities needs enhancing. This is very relevant for the coherence and consistency of biodiversity proofing with regard to regulatory procedures such as SEA, the procedures under the Habitats Directive (Articles 3, 6(3) and 6(4)) and to mandatory technical safeguards for afforestation and irrigation. A certain part of biodiversity proofing will inevitably derive from the obligatory consultation process where the environmental authorities are involved together with other relevant actors (eg agencies, NGOs). More emphasis could therefore be put on the engagement of environmental authorities and biodiversity stakeholders in the consultation process and pre-programme approval. This may involve use of networks and working groups involving stakeholders and enhanced co-operation with the environmental authorities in the development of mandatory technical safeguards. Through this co-operation, the Managing Authorities may identify effective additional safeguards against the adverse effects on semi-natural habitats from capital investment projects which are not subject to EIA procedure.

A pro-active approach with regard to strengthening biodiversity expertise and the involvement of environmental authorities is very important. It is worth bearing in mind that programme implementation and screening of applications for funding will be embedded in the policy context developed in the programming stage (ie objectives, priority actions, contents of mandatory technical safeguards, additional technical safeguards, proofing requirements, earmarking of funds). The potential to influence outcomes for biodiversity at the implementation stage will be considerably limited if the proofing tools in the programming stage have not been used appropriately or to their full potential.

In particular, the proofing tools at all levels should be used to set up conditions for the design, implementation and uptake of holistic packages of measures for farmers engaged in biodiversity management in extensive systems and High Nature Value farmland. A strong focus is needed on offering the right packages of measures to provide adequate support to all the needs of farms in these areas, including capital investments to modernise farms, producer group support, advice, training, extension services, diversification and non-

productive investments for rural vitality. Using all available proofing tools in the programming and project selection stages is critical in this respect.

A monitoring committee that understands the different aspects and importance of biodiversity proofing to ensure appropriate implementation is another pre-requisite for successful biodiversity proofing of rural development policy, although it may not be easy to achieve given the need for the monitoring committees to represent the entire rural society and balance stakeholders' interests.

5.5 Challenges and information gaps

The main challenge with respect to biodiversity proofing Pillar 2 is that the policy promotes a range of objectives alongside biodiversity and that the level of information about the cost of action and cost of inaction regarding biodiversity loss has been often insufficient in the past compared to other objectives. It seems important to address these information gaps in the future and biodiversity proofing may start identifying them in specific situations in individual Member States.

The diversity of situations of agricultural biodiversity across the EU is widely acknowledged. Although there is a large body of literature on the variety of ecological issues relating to farmed habitats and associated species, evidence is patchy and comes mostly from some several Member States. In other countries, data are much more fragmented and incomplete. Overall, evidence on the specific impacts of programmes funded under Pillar 2 on biodiversity has large gaps, with particular issues arising in terms of little evidence that would allow to discriminate between policy driven impacts and the impacts caused by exogenous factors outside the control of farmers or policy makers at medium and lower governance levels (eg the prices of commodities and inputs, technological developments, market requirements, environmental regulation, climate change and the impacts of the CAP Pillar 1). This appears to be an important focus for the future research.

For the design of effective schemes focussed on biodiversity management, it is critical to understand the present condition of habitats and the potential of maintaining or enhancing them. Furthermore, it is critical to identify the priority habitats both from the viewpoint of targeted high conservation value and of achieving effects for biodiversity at large landscape scales, as well as determining specific management needed. This will typically require taking into account number of other factors, eg relating to soils, nutrient status, management history etc. In the majority of Member States such information is patchy or accessible at different institutions in the fields of agriculture and environment. Improving access to existing information, consolidating the existing sources and proposing ways to improve the coherence and consistency of these data is a significant challenge.

5.6 Recommendations

To achieve better outcomes for biodiversity through Rural Development Programmes, policy and political commitment to biodiversity goals and targets in relation to agriculture need to be increased at all governance levels. Getting a clear wording and clear requirements for biodiversity proofing into the main CAP Regulations for Pillar 1 and Pillar 2 and subsequently the Delegated and Implementing Acts would ensure a higher level of protection for biodiversity as these provide for the overall legal framework for negotiations with Member States about Partnership Agreements and Rural Development Programmes. It is important particularly in view of the fact that for rural development policy, the regulatory level is critical for specifying the structure of individual measures, their objectives, eligibility criteria,

and mandatory technical safeguards with considerably more detail than in other EU funds where they are frequently set out only at the programming and implementation stage.

The general recommendations on the need to improve the consideration of biodiversity in the course of SEA and EIA procedures are relevant for Rural Development Programmes as well. For example, if these procedures do not identify risks through certain capital investments funded under RDPs, the principle actors in the rural development programming cycle cannot address these risks or require specific standards, conditionalities or monitoring with regard to potential adverse effects. The quality of *ex post* and *ex ante* evaluations with regard to understanding the factors influencing the biodiversity outcomes of the past programming period and the biodiversity risks to be addressed in the design of RDPs will be highly important.

Besides the legislative provisions that will be the outcome of a high-level policy process in the coming months, the effective and consistent use of all available proofing tools, both the strategic and procedural, at the programming and the implementation stages in Member States are critical for the best frame of actions. Increased attention to biodiversity (and other important environmental impacts) is needed during the process of the design and implementation of specific programmes and measures in Member States and regions. There is considerable room for improvement in the ways the measures are designed individually to address concrete priorities and in terms of linkages between them. Holistic approach to the design of RDPs can create better conditions for the implementation of packages of measures by farmers in high nature value areas and farming and Natura2000 sites to ensure stability of incomes and contribute to farm viability and encourage continuation of farming valuable for the management of biodiversity in these areas. Equally important, a more holistic approach to the programme design can help to avoid the potential conflicts between the schemes focussed on biodiversity management and the potential adverse unintended effects on biodiversity caused by capital investments that are funded by programmes. The design of programmes should give more emphasis to advice and support, encourage innovation in fostering sustainable land management and increase in the area over which agricultural biodiversity is delivered. Since it is essential for the development of effective and efficient RDP instruments to build consistent data series on biodiversity impacts of programmes, there could be more focus in programmes and implementation on the dedicated indicators and on ensuring good quality monitoring and evaluation outputs for them.

6 COHESION POLICY

Note that at the time of writing this report aspects of the post 2014 Cohesion Policy proposals were potentially subject to change. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.

6.1 Introduction to the fund

Historically EU Cohesion Policy has dealt with addressing regional disparities and bringing structural change to the economies of less developed European regions. Therefore, Cohesion Policy and its funding instruments has traditionally focused on economic and social objectives. These priorities emphasise job creation and economic growth and, as a result, the allocation of funding towards environmental activities has often been hindered. Consequently, environmental conservation in general, and biodiversity and Natura 2000 in particular, rarely emerges as the leading priority for allocating EU funds. Even if many biodiversity related measures are eligible for funding under Cohesion Policy they receive a relatively small share of the budget.

Over the 2007-2013 period Cohesion Policy is delivered through the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund, with a budget of EUR 347 billion amounting to one-third of the EU's total MFF. The ERDF aims to improve economic and social cohesion by addressing regional development, economic change, enhanced competitiveness and territorial cooperation throughout the EU. Funding priorities include research, innovation, environmental protection and risk prevention, while infrastructure investment remains an important priority, especially in the less developed regions. The ESF sets out to improve employment and job opportunities as well as strengthening human capital. The Cohesion Fund aims to strengthen economic and social cohesion in the poorest Member States, specifically in the fields of environmental and transport infrastructure.

These funds are allocated to Member States based on three objectives: the Convergence objective (ERDF, ESF and Cohesion Fund) covers regions with a GDP per capita lower than 75 per cent and has a budget of EUR 250 billion, the Regional Competitiveness and Employment Objective (ERDF and ESF) supports regions facing structural difficulties and has a budget of EUR 49 billion, and the European Territorial Cooperation objective (only ERDF) is divided into three strands of cross border co-operation, transnational co-operation and inter-regional co-operation and has a budget of EUR 7.5 billion.

The future Cohesion Policy 2014-2020 is closely linked to the Europe 2020 strategy, which sets out the objectives for smart, sustainable and inclusive growth, as well as the related Flagship Initiatives, including the Resource Efficiency Flagship Initiative. It should also be aligned to other EU strategies and commitments, for example the commitment to halting biodiversity loss and investing in restoration/green infrastructure (in the CBD 2010 Aichi Accord and the 2011 EU Biodiversity Strategy). The growing evidence base demonstrating the benefits of addressing environmental concerns – such as climate change (Stern 2006), biodiversity (TEEB 2011), and environmental improvements for health – is changing the underlying paradigm from one where economy and environment are seen as trade-offs to one where synergies and co-benefits with wider economic objectives are increasingly appreciated.

The Commission Communication on the 2014-2020 EU MFF published in June 2011 sets out strategic orientations to govern the development and implementation of future EU funding instruments. The legislative proposal for the funds under shared management includes a General Regulation with common provisions for the five funds under shared management - the ERDF, the ESF, the Cohesion Fund, the European Agricultural Fund for Rural Development (EAFRD), and the European Maritime and Fisheries Fund (EMFF). The five funds are put under the umbrella of a Common Strategic Framework (CSF), which it is envisaged will translate the objectives of the Europe 2020 Strategy into investment priorities under these CSF funds.

The total budget for the 2014-2020 EU Cohesion Policy is EUR 336 billion and consists of the two objectives of Investment in Growth and Jobs and European Territorial Cooperation with the majority of funds concentrated in less developed regions. The regions targeted by the Investment in Growth and Jobs goal are differentiated on the basis of GDP per capita into less developed regions (GDP per capita under 75 per cent), transition regions (GDP per capita between 75-90 per cent) and more developed regions (GDP per capita over 90 per cent).

The draft Common Provisions Regulation establishes the main principles governing all five CSF funds, including partnership; multi-level governance; compliance with EU and national law; equality between men and women; and sustainable development and climate change. The Commission proposals include provisions aimed at strengthening the thematic concentration of funds. A menu of eleven thematic objectives, in line with the Europe 2020 Strategy, is introduced, which includes a separate objective for protecting the environment and promoting resource efficiency.

These objectives are to be delivered through a new programming structure, consisting of Partnership Agreements and Operational Programmes. The Partnership Agreements are to be negotiated between the Commission and Member States and will set out investment priorities, their respective funding allocations, and agreed conditionalities and targets. Operational Programmes are retained from the previous funding period and set out concrete priority axes and sub-priorities in conjunction with the Partnership Agreements.

The integrated financing of biodiversity is foreseen to continue during the EU financing period 2014-2020. The proposed draft Regulations for the ERDF in 2014-2020 (COM/2011/614) include opportunities for protecting the environment and promoting resource efficiency, including conserving biodiversity, soil fertility and promoting ecosystem services (eg providing financing for Natura 2000 and green infrastructure³⁰).

During 2013 the European Parliament and the Council are expected to agree on the regulatory framework for the 2014-2020 Cohesion Policy. The legislation should enter into force on 1 January 2014. At the same time, individual Member States are starting to prepare their programming documents for the next programming period including the Partnership Agreements and the Operational Programmes. Numerous partners, stakeholders and institutions will be involved in this process.

³⁰ The EU defines green infrastructure as a strategically planned and delivered network of high quality green spaces and other environmental features that helps to conserve biodiversity and ecosystem services. Natura 2000 network is considered to form an integral part of the EU green infrastructure.

6.2 Relevance for biodiversity

Cohesion Policy spending has both positive and negative impacts on biodiversity, depending on the concrete project spending. For the 2007-2013 period, the Commission states that EUR 104 billion out of EUR 344 billion will go to environment related spending. The majority of Cohesion Policy spending of relevance to the environment is devoted to water and wastewater treatment; with small amounts of money spent directly on the natural environment (direct natural environment spending amounts to EUR 2.7 billion for the 2007-2013 period).

At the national level, there are clear differences in how Member States use the Cohesion Policy support for biodiversity, and funding for biodiversity appears to be allocated to different priorities and activities across the Member States and regions. It is therefore very difficult to estimate or get an overall picture of funding priorities and the exact amount allocated. However, Kettunen et al (2011) estimate that the current potential spending for biodiversity under the Structural Funds appears to be less than one per cent of the total budget for EU Cohesion Policy. This indicates that there is significant room to increase the level of biodiversity related funding under these funds, especially for projects with a focus on preserving the natural resource base and maintaining valuable ecosystem services.

It is commonly acknowledged that the development of transport networks (eg in the context of the Cohesion Policy) has been one of the main reasons for fragmentation of ecosystems within the EU, leading to negative impacts on habitats and biodiversity and also possibly impacting the functioning of ecosystems and their provision of ecosystem services. The European Environmental Agency (EEA, 2009) examined the effects of implementing Structural and Cohesion Funds in Italy, Spain and Austria. The EEA study identified a number of negative impacts on biodiversity of Cohesion Policy funded projects, such as the Egnatia Highway in the Pindos Mountains in Greece or the Via Baltica in Poland, as well as major water projects, such as dams in Spain, Portugal and Czech Republic. A case study of the 'The Jerez – Los Barrios Motorway' in Spain shows that this project for motorway construction was approved by the European Commission despite the fact that almost 40 km of the motorway was planned directly through Los Alcornocales Natural Park, the most important cork oak forest of the Iberian Peninsula and a Natura 2000 site.

It is also important to ensure that land use changes driven by Cohesion Policy funding, for example as a result of energy and biofuels production, are carried out in a sustainable and biodiversity-friendly manner. Consequently, Cohesion Policy still needs to find ways to better apply and/or improve its environmental assessment tools and how to improve land use (and coastal and marine) planning techniques and biodiversity proofing tools when implementing the funds (Kettunen et al, 2007).

It has been increasingly acknowledged that biodiversity, ecosystems and the resources and services they provide (ie natural capital) underpin socio-economic welfare (ten Brink et al, 2012). Therefore, supporting the protection and sustainable management of biodiversity and ecosystems – also often called “green infrastructure” - brings benefits to broader sustainable socio-economic development and supports the goals of Cohesion Policy. For example, protection and sustainable management of ecosystems' natural ability to retain and purify water supports sustainable environmental development and can also lead to significant cost savings. In the context of Cohesion Policy 2007-2013, a number of priority areas with explicit relevance to biodiversity and ecosystem services are listed, including risk prevention and promotion of natural heritage and assets to support tourism. In this context direct references are provided to investments in enhanced water supply, water and waste

management, wastewater treatment, air quality, prevention of desertification, and aid to mitigate the effects of climate change. In particular, support is foreseen for transnational cooperation with the aim of protecting and managing river basins, coastal zones, marine resources, water services and wetlands. Similarly, financial support for cooperation between Member States to mitigate risks of fire and drought, improve flood prevention and enhance natural heritage in support of socio-economic development and sustainable tourism is encouraged. If taken up appropriately (ie utilising synergies with biodiversity conservation) these EU-level priorities provide a number of possibilities for funding actions that aim to maintain or restore wider ecosystems and their capacity to maintain ecosystem services.

With regard to the Commission proposals on the 2014-2020 Cohesion Policy, biodiversity and green infrastructure are not included in the list of thematic objectives of the proposed Common Provisions Regulation, but are included as priority actions for the ERDF and the Cohesion Fund under the thematic objective for “protecting the environment and promoting resource efficiency”. This means that they can be financed but are unlikely to receive a high share of the funding allocations. Also, there is no earmarking for biodiversity measures, in contrast to low carbon measures. The draft Regulation also requires Member States to track biodiversity-related expenditure based on the proposed reporting arrangements. However, there is no detail on the methodology how this tracking of biodiversity expenditure ought to be done.

Overall, it is likely that more funds in the developed regions will be shifted away from basic infrastructure projects whereas in the less developed regions this is not necessarily the case. This might create a situation where in the developed regions there is increasing potential to invest in biodiversity/ecosystem services whereas in the less developed regions the focus of biodiversity proofing efforts would need to be more on mitigating the negative impacts on biodiversity. Commission proposals reinforce a system of conditionalities and compliance with EU legislation including preparation of national plans on energy efficiency, renewables, risk prevention, waste management and wastewater treatment, sustainable transport and railway development on the one hand and compliance with EU nature protection legislation (including the Birds and habitat Directives), which could create ex-ante incentives for Member States to better align future expenditure programmes to the objectives and requirements of EU nature protection legislation

Hence the new Cohesion Policy proposals provide some useful steps into the right direction, including biodiversity as an investment action. However, in terms of overall allocations, Cohesion Policy remains geared toward growth and infrastructure, with potential detrimental impacts on biodiversity. Enhanced funding for renewable energies also needs to be underpinned by a sound environmental assessment process to avoid negative trade-offs.

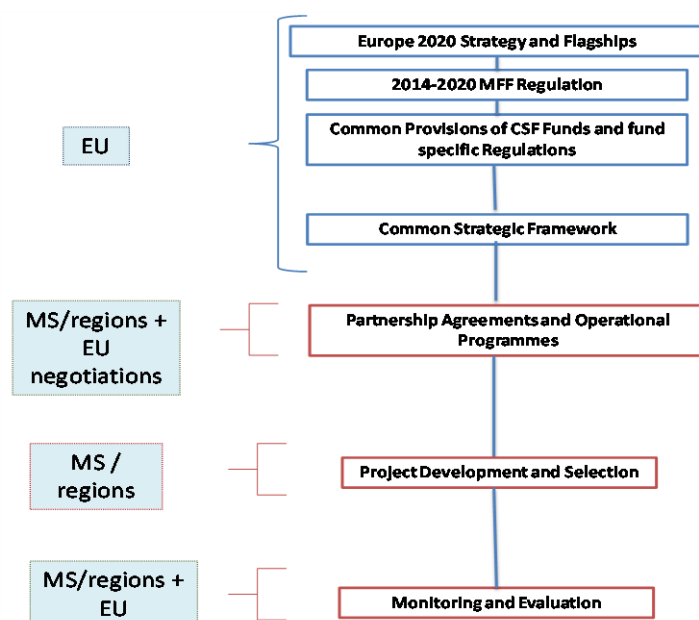
Finally, the Biodiversity Strategy recognises the importance of ensuring that priorities for spending under the next EU budget period (2014-2020) do not constrain the EU’s general ability to reach its biodiversity policy objectives. In fact the need for minimising potential conflicts between biodiversity conservation objectives and other priorities for EU funding and their implementation, and increasing beneficial synergies (eg with respect to ecosystem-based climate change adaptation) has been debated for quite some time. However, little progress has been made to improve the overall “biodiversity friendliness” of the EU budget. To address this the Biodiversity Strategy includes action 7a, which states that “In collaboration with the Member States, the Commission will develop a methodology for assessing the impact of EU funded projects, plans and programmes on biodiversity by 2014”.

This will contribute the achievement of Action 7, which is to ensure no net loss of biodiversity and ecosystem services, in support of Target 2³¹.

6.3 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing

In summary, Cohesion Policy is made up of a hierarchy of thematic objectives (Common Provisions Regulation) accompanied by indicative actions (CSF) and investment priorities (fund-specific Regulations). Potential opportunities to biodiversity proof these Proposals at each of these levels are determined by the political negotiation and legislative process within the EU. Therefore the focus for biodiversity proofing will be more towards those stages of the Cohesion Policy cycle where Member States play a stronger role, for example programming, implementation, monitoring and evaluation. Figure 6-1 provides a schematic overview of the different stages of the proposed Cohesion Policy programming for 2014-2020.

Figure 6-1 Overview of the different stages of the Cohesion Policy cycle



The aim of the **Common Strategic Framework (CSF)** is to provide a source of strategic direction to be translated by Member States and regions into the programming of the CSF Funds in the context of their specific needs, opportunities and challenges. Once adopted, national and regional authorities will be guided by the CSF in drafting their Partnership Agreements and Operational Programmes. These translate the CSF into national contexts and define the key objectives and actions. The drafting is a responsibility of the regions and Member States with the drafts then negotiated with the Commission. Once the CSF has been adopted, the Commission anticipate that Member States will submit Partnership Agreements and Operational Programmes within three months. These documents lay the

³¹ "By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems."

ground for funding over the next seven years and it is therefore critical that they incorporate biodiversity considerations.

The **Partnership Agreements** essentially set out a Member State's plans for using the CSF Funds in a way that is consistent with the EU 2020 Strategy for smart sustainable and inclusive growth. Unlike the National Strategic Reference Frameworks used during the current (2007-2013) period, the Partnership Agreement will covers all five funds under shared management and be approved by the Commission by means of an implementing act within six months of its submission by the Member State. This is important, because it means that the Partnership Agreements can be seen as documents that establish obligations on the part of the Member State. It is therefore a good opportunity to ensure that consideration of biodiversity across all programmes and projects is clearly stated up front. For the Partnership Agreement and each programme respectively, a Member State is required to organise partnerships with representatives of competent regional, local, urban and other public authorities, economic and social partners, and bodies representing civil society, including environmental partners, non-governmental organisations, and bodies responsible for promoting equality and non-discrimination. Hence organisations with an interest in biodiversity will have an opportunity to contribute to the development of the Partnership Agreements.

The **Operational Programmes** are the key planning tool for Cohesion Policy expenditure. They contain, at a minimum, a development strategy for the funding covered by the programme; funding priorities and specific objectives and measures; financial appropriations; indicators; and a review of horizontal principles.

The Member States have to designate, for each Operational Programme, a national, regional or local public authority or body as the **Managing Authority**. The Managing Authority bears the main responsibility for the effective and efficient implementation of the Funds and thus fulfils a substantial number of functions related to programme management and monitoring, financial management and controls as well as project selection. In order to review the implementation of the Operational Programmes and progress towards achieving its objectives Member States have to set up a **Monitoring Committee**. The monitoring committee has to comprise representatives of the Managing Authority and intermediate bodies and partners. The Commission participates in the work of the Monitoring Committee in an advisory capacity.

To which extent biodiversity concerns will be reflected in the Partnership Agreements and the Operational Programmes is dependent on the overall level of detail of provisions in the legislative framework, the willingness and preparedness of Managing Authorities to integrate biodiversity priorities and safeguards in the respective programming documents and also on the negotiation mandate of the Commission for concluding discussions with the respective Member State.

At the implementation stage, the use of **selection criteria in the project application process** is also important, as these could be used to reject projects that do not adequately address the environment. If the project does not sufficiently address or take account of the underlying environmental principles, such as those for biodiversity, the onus should be on the project to justify why it has chosen this approach.

Monitoring and evaluation is the process of evaluating projects and programmes against established indicators and targets. This process has the potential to influence project

implementation but also provide feedback and inform all previous stages of the programme cycle. Programme monitors will require support and technical information on biodiversity issues relevant to the programmes in order to assess the impacts effectively.

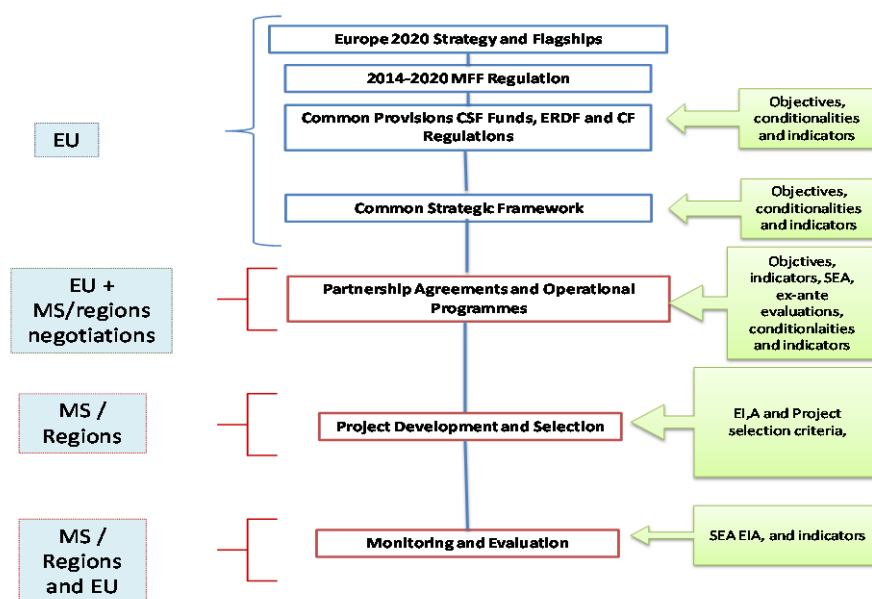
The proposed General Regulation requires the authority responsible for the preparation of the programme to draw up an evaluation plan. During the programming period managing authorities have to carry out evaluations to assess the effectiveness and impact of a programme. The Commission, in cooperation with the Member States, carries out the ex post evaluation for the Funds to obtain information at the appropriate level on the results and impact of interventions financed. This information is also relevant for the annual and final implementation reports to be submitted by the Member States.

These stages are also covered by procedural instruments, such as SEA, EIA and ex-ante evaluations. Their use and how biodiversity proofing can be best achieved is discussed in the next section.

6.4 Best Frame of Action

This section proposes the best frame of action for biodiversity proofing throughout the different stages in the Cohesion Policy cycle. An overview of this is shown in Figure 6-2.

Figure 6-2 Best Frame of Action for biodiversity proofing Cohesion Policy



The principles and priorities under the Commission proposal for the 2014-2020 Cohesion Policy set an important emphasis on appropriate implementation of the environmental *acquis*, including the Birds and Habitats Directives and the Water Framework Directive. The proposed legislative package incorporates the requirement that Cohesion Policy measures have to be in compliance with EU legislation, which includes the Birds and Habitats Directives. Currently, there is no procedure in place to track the compliance of EU spending with EU biodiversity and nature legislation. **Compliance checklists** are used by the Commission in relation to major projects in the field of water and waste and check their compliance with the respective EU Directives in this field. A similar approach at the level of

the Commission could be extended to other major projects to ensure compliance with the relevant biodiversity and nature conservation policies and legislation.

Environmental objectives for biodiversity are important in setting up appropriate platform for biodiversity proofing in the Partnership Agreements and Operational Programmes. Setting out biodiversity objectives/priorities in line with the Thematic Objective for 'protecting the environment and promoting resource efficiency' in these is critical as they become an important point of reference for future investments. It is a way of vertically integrating biodiversity concerns in Partnership Agreements and Operational Programmes.

Sustainable development is a **cross-cutting principle** which aims to ensure horizontal integration of environmental concerns across the different Programmes. It can be understood to also include biodiversity principles and objectives that need to be horizontally integrated across Partnership Agreements and the Operational Programmes. Horizontally integrating biodiversity principles and objectives is critical for biodiversity proofing efforts as its purpose is to set implementation principles and to ensure that mainstream investments (eg infrastructure) do not go against these principles and objectives.

Partnership Agreements and Operational Programmes are subjected to the requirements of an **ex-ante evaluation** for overall consistency and accuracy and also a **Strategic Environmental Assessment**. The ex-ante evaluation should summarise the SEA process and outline how it was taken into account in the programme design (European Commission, 2012a). Overall, the ex-ante evaluation examines consistency of the programme strategy with funding priorities and the regional situation. It is therefore a chance for a re-appraisal of the treatment of biodiversity in funding priorities and horizontal principles, particularly if opportunities were missed during the early programming stages. Here SEA can also be used in a holistic, comprehensive and co-ordinated manner, as the SEA can contribute to the development of indicators, project selection criteria, EIAs/other project assessments as well as contributing to the ex-post evaluations of the Operational Programmes, through mandatory SEA monitoring. There is also scope to use SEA to ecosystem service impacts, as well as those on biodiversity.

Environmental Impact Assessment (EIA) will apply in accordance with the EU Directive to all projects that can be expected to have a significant impact on the environment. The appropriate use of EIA is a key instrument in biodiversity proofing during the project selection phase. There is also scope to further develop EIA/other project assessments in relation to the SEA, including the selection of indicators and monitoring, that would contribute to the ex-post evaluation of programmes, as has been done in the Operational Programmes for Southern Finland and Piemonte in Italy (Hjerp et al, 2011a).

The requirement for an **Appropriate Assessment** under Article 6(3) of the Habitats Directive applies to any "plan or project" likely to have a significant effect on a Natura 2000 site (see Box 1.3). Member States may not allow a plan or project to go ahead if the Appropriate Assessment reveals that the project is likely to have adverse impacts on the integrity of a Natura 2000 site, unless there are imperative reasons of overriding public interest and no alternatives. This instrument therefore provides very strong legally binding biodiversity proofing obligations for species and habitats of Community interest Natura 2000 sites. However, measures to protect biodiversity outside Natura sites and other species and habitats are weak.

It is therefore important to note that, in contrast with the Habitats Directive, the SEA and EIA Directives do not guarantee biodiversity proofing. This is because they primarily aim to ensure that environmental considerations are taken into account in the decision-making process regarding Plans/Programmes/Projects. They define the procedures that should be followed, but do not include legal obligations to protect biodiversity or meet other defined environmental standards. Consequently, although the SEA and EIA processes may lead to reduced impacts through mitigation and compensation measures, a project may still be allowed to go ahead if there are residual impacts.

Nevertheless, SEA and EIA are important biodiversity proofing tools in terms of supporting and complementing the Habitats Directive. Given that SEAs also apply to relevant plans and that EIAs apply to relevant projects, there is a clear link between these three instruments. SEA should be able to help screen whether the plan or programme is likely to have significant adverse effects on a Natura 2000 site, by helping to identify the probability or risk of such effects, and whether an Appropriate Assessment is therefore also required. Similarly EIAs may trigger or inform Appropriate Assessments and vice versa. However, the most important roles that SEA and EIA play are with respect to extending the consideration of potential biodiversity impacts beyond the Natura 2000 network.

There is scope for improving the treatment of biodiversity within EIA and SEA, and there are opportunities and intentions to do this through the development of guidance. Furthermore, the EIA Directive is undergoing a review process and the recently published proposals by the Commission³² include many improvements that, if approved, will strengthen their treatment of biodiversity and enhance their role in biodiversity proofing. These are discussed further in the context of the conclusions in chapter 12.

The establishment of explicit environmental criteria in project selection and the assignment of sufficient weight to them could be seen as a straightforward way to select biodiversity-friendly projects. Such approaches could include some informative instruments, for example formulating the calls for proposals in a way that they steer a positive approach to taking biodiversity consideration into account. Investment affecting biodiversity would need to demonstrate compliance with biodiversity regulations and be transparent as regards residual impacts. For instance under the Cohesion Policy period 2007-2013, the higher weighting of environmental criteria of the Southern Finland Operational Programme has also led to a higher percentage of environmentally positive projects compared to the other Finnish Operational Programmes (Hjerp et al, 2011a).

An interesting example of the broader use of SEA in relation to project selection criteria can be found in the Operational Programme for the Central Baltic Interreg IVA Programme, which includes an annex on how the SEA has been taken into consideration in the decision-making/development of the programme. Normally this tends to be a broad general statement by those taking the decision but in this case it is a detailed table on how mitigation measures have, or have not, been incorporated into the programme. The SEA recognises that due to the general character of the programme the potential environmental impacts could only be described very generally and that how environmental considerations were integrated in the programme will become relevant mainly during the stage when projects will be approved and monitored. To reflect this, the SEA came up with guidelines on project selection criteria and the earlier mentioned table in the annex shows how these

³² http://ec.europa.eu/environment/eia/pdf/com_628/1_EN_ACT_part1_v7.pdf

project selection criteria have been taken into consideration in the Operational Programme (Hjerp et al, 2011b).

Systematically measuring biodiversity impacts through the use of a given set of indicators in these delivery mechanisms would result in increasing the opportunities for a better consideration of biodiversity pressures and impacts. It is important that these opportunities are not missed and biodiversity indicators will be better used during the ex-ante stages of the policy process in order to increase a region's/Member State's awareness of its natural assets and the impacts of their proposed programmes and projects. Setting out indicators early in the programming process is an important pre-condition that monitoring and reporting will take place during the implementation and evaluation stages of the policy cycle and will be consistent with already pre-established objectives, targets and conditionality. This can be done in the scope of performance frameworks which need to include objectives, targets, milestones and indicators in the Operational Programmes. The proposed regulations for 2014-2020 also place greater emphasis on the use of outcomes and results indicators across the Member States. Biodiversity indicators can be explicitly stipulated in the Partnership Agreements and Operational Programmes. Note also that the ERDF and Cohesion Fund Proposals for nature and biodiversity expenditure includes the indicator "habitats in better conservation status", based on the unit of hectares.

6.5 Recommendations

To be effective the integration of all selected biodiversity proofing instruments is essential. Ideally the more strategic instruments should set the framework for biodiversity proofing (eg conditionalities, objectives and implementation principles) supported by procedural tools at different administrative levels (EIA, SEA and ex-ante evaluations). This in turn can also help with setting project selection criteria and monitoring, which may be supported by a uniform approach to indicators at different levels. This integrated approach to biodiversity proofing in Cohesion Policy would be supported by a monitoring committee that understands the different aspects and importance of biodiversity proofing and ensures appropriate implementation.

There is a need to move towards improved monitoring and evaluation of Cohesion Policy and indicators have a major role in supporting this. The proposed regulations for 2014-2020 already place greater emphasis on the use of outcome indicators across the Member States, and on monitoring for results. Biodiversity indicators can be explicitly stipulated in the Partnership Agreements, which will be negotiated between Member States and the European Commission.

Systematically measuring biodiversity impacts through the use of a given set of indicators in delivery mechanisms would result in increasing the opportunities for a better consideration of biodiversity pressures and impacts. It is important that these opportunities are not missed and biodiversity indicators will be better used during the ex-ante stages of the policy process in order to increase a region's/Member State's awareness of its natural assets and the impacts of their proposed programmes and projects. Setting out indicators early in the programming process is an important pre-condition that monitoring and reporting will take place during the implementation and evaluation stages of the policy cycle and will be consistent with already pre-established objectives, targets and conditionality. A well-developed indicator hierarchy would also need to be supported by a corresponding database. This would not only help the development of biodiversity proofing but would also reduce the administrative burden of monitoring EIA and SEAs through the availability of

uniform baseline data. It would also help in the evaluation of Cohesion Policy outputs and outcomes.

The inappropriate application of EIA for projects or SEA resulting in negative impacts on biodiversity was mentioned above and hence there is a need for an improved application of these instruments. There is also a case for more integrated use of the SEA and EIA Directives to provide a framework for determining the likely biodiversity impacts of plans, programmes and projects and hence improve policy coherence. SEA can also be used in a more holistic, comprehensive and co-ordinated manner based on the findings from the case studies, as the SEA can contribute to the development of indicators, project selection criteria, EIAs/other project assessments as well as contributing to the ex-post evaluations of the Operational Programmes, through mandatory SEA monitoring. There is also scope to use SEA and EIA to address the positive contributions that plans, programmes and projects can have through ecosystem services and not only focus on negative impacts on biodiversity. To reflect this, and the gaps identified above, there is an urgent need for the Commission to develop guidance on how to undertake SEAs and EIAs, with improved consideration of biodiversity issues and adapted to the stages of the Cohesion Policy cycle.

Regional development should not look exclusively at technological solutions for environmental problems, such as water supply and purification, but also at the alternative or complementary application of using green infrastructure and natural systems. Forests, grasslands, agricultural lands and wetlands have been shown to offer water provisioning services or water purification regulating services where there is a suitable relationship between the natural asset and the urban beneficiaries. This can lead to lower costs to municipalities for providing clean water (TEEB 2011, TEEB 2010b). Natural assets can complement wastewater treatment and improve water quality by allowing freshwater to reach bathing water quality standards. Cohesion Policy could support the mapping and identification of where natural assets offer (or have the potential to offer through restoration or investment) economic benefits to urban and rural areas.

Finally, an improved integration of biodiversity into the implementation of Cohesion Policy and/or national policies requires further information, awareness raising and capacity building, both among stakeholders and administrative bodies that contribute to the design and implementation of Cohesion Policy. These types of capacity building activities are also eligible for dedicated support from the Cohesion Policy funds.

7 CONNECTING EUROPE FACILITY – ENERGY

Note that at the time of writing this report aspects of the post 2014 CEF – Energy policy proposals were potentially subject to change. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.

7.1 Introduction to the fund

At present the TEN-E regime is regulated by guidelines set out in Decision no 1364/2006/EC with calls issued on a yearly basis for projects in line with the priorities set out therein. For the 2007 to 2013 period a budget of €155 million was set aside for activities under the TEN-E, aimed at facilitating the development of energy infrastructure by funding feasibility studies. The goal was to help complete the European single market in energy and help fully integrate the newly acceded EU 10.

Programme reviews completed in 2010 deemed the current format for the support of energy infrastructure insufficient to meet both the needs of the single market for energy, and the targets adopted for a shift to a low carbon economy envisaged by the 2020 targets for GHG mitigation, adoption of renewable energy and energy efficiency. For this reason, funding for European energy infrastructure in the post 2013 period is set to change substantially in scale and form. For the 2014 to 2020 period, €9.1 billion has been allocated to aid the construction of energy infrastructure through the co-financing of Projects in the Common Interest (PoCIs).

7.2 Relevance for biodiversity

As outlined in the proposed TEN-E guidelines, priority corridors and areas for the development of energy infrastructure have been identified and are linked to electricity, gas, oil and carbon dioxide storage and transport. This combination of project types has the potential to impact virtually all types of habitats, including those in the marine environment. Indeed, the possibility that grids will be expanded to cover marine areas such as the North Sea, suggests that Marine Protected Areas may be at risk from energy infrastructure development.

Nevertheless, the precise extent of impacts, in particular the consequences for the Natura 2000 network, will not be clear until the PoCIs have been determined. Based on the proposed policy and legislation, PoCIs could be considered to override public interest under the Habitats and Water Framework Directives. That means that PoCIs could obtain planning permits despite potentially detrimental impacts on Natura 2000 sites or water bodies. Where Natura sites will be impacted, compensatory measures would need to be put in place, although it should be noted that not all impacts can easily be compensated for, meaning that some actions should be avoided or significant impacts could occur to habitats that would not be easily restored. The collective impact of the proposed infrastructure, as well as the impact of individual projects, will be key to determining the biodiversity impact of the overall funding stream. Until all the PoCIs have been determined, the total sum of impacts will be impossible to determine.

7.3 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing

To facilitate the development of energy infrastructure, the permitting process for PoCIs will be streamlined. The Commission set out priorities for infrastructure development and financing rules in the proposed regulation for the TEN-E³³, part of the Connecting Europe Facility (CEF) funding initiative, and the Blueprint for an integrated European energy network³⁴.

As stated above, the main approach to implementing energy infrastructure funding through the EU is likely to significantly change following the adoption of the proposals in their current format. As of 2013, the fund would be managed centrally by an Executive Agency – the Agency for the Cooperation of Energy Regulators (ACER), which would overlook 12 trans-European priority corridors or areas covering electricity and gas networks as well as oil and CO2 transport infrastructure. Based on these priority corridors Regional Groups would be brought together to identify Projects of Community Interest (PoCIs). Regional groups would determine PoCIs, following the adoption of the Proposed Regulation.

PoCI approval Process:

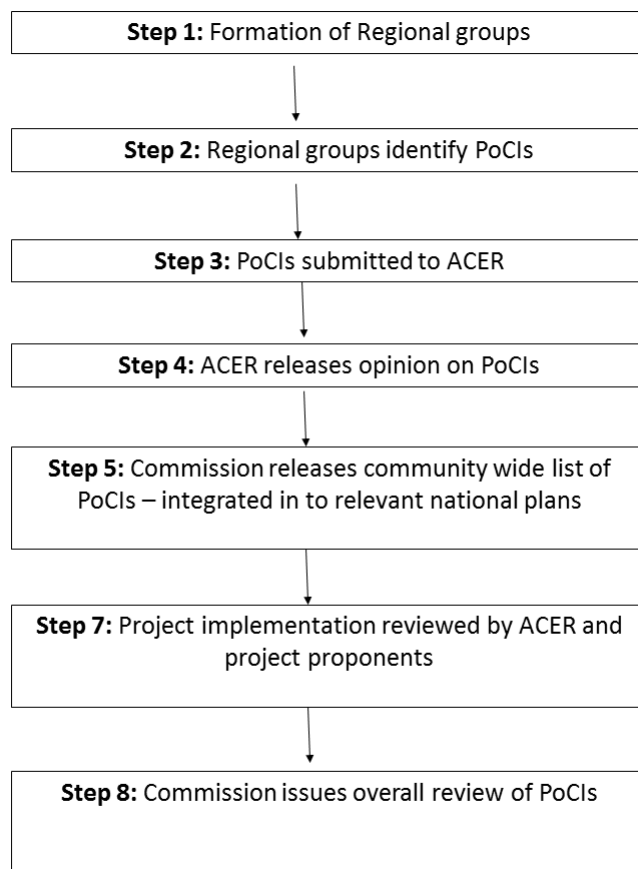
The Regional Groups would be responsible for the initial identification of the PoCIs. These 'Groups' would be composed of representatives of the Member States, national regulatory authorities, transmission system operators, project promoters, representatives of the Agency and the Commission. This group would then submit its list of proposed PoCIs to the Agency for gas and electricity related activities, and to the Commission for oil and carbon dioxide related infrastructure. In relation to the former, the Agency would then issue an opinion on the proposed lists of PoCIs considering their appropriateness in line with the criteria for selection of PoCIs as set out in Article 4 of the proposed Regulation. The Commission would then adopt a Community wide list of PoCIs which would then be integrated into national infrastructure plans and regional investment plans. The Agency and Regional groups would be required to assess the implementation of relevant PoCIs with project promoters, who would be required to report annually on progress regarding project implementation. The Commission would be required to issue a report on the implementation of PoCIs no later than 2017.

At a higher level programme level, the entry points for biodiversity proofing involve this implementation chain made up of eight steps. This is further outlined in Figure 7-1 below.

³³ European Commission (2011) Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC. COM(2011)658. Brussels, 19.10.2011.

³⁴ European Commission (2010) COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network. COM(2010) 677 final. Brussels, 17.11.2010.

Figure 7-1 Entry Points for Biodiversity Proofing



This would be in addition to the potential to influence project approval as part of Strategic Environmental Assessments. At the project level, there would be a more detailed assessment of projects undertaken as part of standard environmental impact assessments.

Other tools available to biodiversity proof CEF - E expenditure are:

- proposed legal requirements as part of the TEN-E guidelines, and the need to determine the “environmental viability” of projects despite the lack of a formal definition for this term; and
- the need for project applicants to demonstrate compliance with EU environmental law, which is supported by the Member States’ relevant authorities.

The proposed Regulation states that a PoCI must demonstrate environmental viability, alongside economic and social viability of projects. The exact definition and application process for environmental viability and the weighting it will be given by the different regional groups defining PoCIs, remains unclear. This issue needs to be resolved in order to secure effective consideration of the environment, and more specifically biodiversity. Moreover, the regional groups have yet to be specified. At the current time, there is the risk that regional groups may interpret “environmental liability” in different ways, possibly downplaying the importance of biodiversity considerations in the context of regional energy infrastructure needs.

The proposed regulation further states that a process for the environmental assessment of PoCIs will be developed, which would comply with EU law. Each Member State would be required under the proposal to set out a competent authority to deal with development and hence related environmental assessment issues. However, given that the CEF-E is still under development, it remains to be seen whether assessment will in fact be dealt with by the competent national authorities, a centralised planning authority or an energy regulator per se. Finally there is no explicit reference to the completion of an SEA analysis of the collective impacts of the individual PoCIs. This would be important for determining compliance with the SEA Directive and in order to gain an understanding of the cumulative impacts of the PoCIs. The latter is likely to be of significant importance from a biodiversity perspective particularly given the importance of habitat connectivity in the EU.

7.4 Best Frame of Actions

The best frame of actions for biodiversity proofing in the energy sector consists of substantive, procedural and organisational initiatives. These are outlined below.

1) Substantive Initiatives

The European Council and European Parliament should ensure that a strong statement with respect to biodiversity is included within the Regulations for the TEN-E Guidelines and the CEF. As this process is on-going, and there will be other considerations at play, it remains to be seen whether the relevant articles will be strengthened (or weakened) compared to those proposed by the Commission. At a programmatic level, DG ENER and Member States should agree to include biodiversity-related requirements in their respective Work Programmes. It will however be difficult to integrate biodiversity in to the development of energy infrastructure if the legislation is not legally binding. At the project level, project proponents should undertake the required environmental assessments in a way that protects biodiversity. Again, this depends on the strength of the legislation itself, and the enforcement of said legislation at the Member State level.

2) Procedural initiatives

Financial assistance provided by the EU for energy infrastructure could be conditional. Funding available through the CEF (and JASPERS) could be provided only to projects that effectively protect biodiversity and that avoid, mitigate or compensate negative environmental impacts. At the programme level, certain programmes might be identified, or targeted, on the basis of an assessment of their potential risk to biodiversity based on an ex-ante evaluation. The actual impacts should be assessed (as far as is possible in a meaningful manner) in mid-term and ex post programme evaluations as part of any funding decisions.

3) Organisational initiatives

Ideally, the Commission should be involved in the evaluation of all projects and programmes that have potential impacts on biodiversity. DG ENER should contribute to the evaluation of projects that have been identified as having the greatest potential for adverse impacts on biodiversity irrespective of their budget, or their contribution to energy generation or distribution.

Stakeholders should be involved in national monitoring networks in order to monitor and report on any apparent breaches of legislation to the Commission. Again, this could be undertaken in a targeted manner, for individual projects and programmes outlined under procedural initiatives above.

7.5 Challenges and information gaps

Determining the extent to which energy infrastructure projects impact biodiversity, is largely a question of context. Regardless, the need to enhance existing energy infrastructure in the EU, in response to increasing demands for a diversified energy mix, will place increasing strain on EU biodiversity. The precise impact of enhanced capacity on biodiversity will vary largely based on the location of energy corridors, the scale of installed capacity, and the type of generation technology. The expansion of offshore wind, tidal and wave energy for example, will place particular strain on the marine environment.

Unlike transport however, where the expansion of infrastructure may be negatively perceived due to the range of environmental impacts, the expansion of renewable energy is an integral part of the EU's transition to a low carbon economy and the overall reduction of greenhouse gases. Again, similar to transport, it will be crucial to determine the precise impacts of "Projects of Community Interest" (PoCIs) once specific sites have been determined. At this stage, the trade-offs between greenhouse gas mitigation and biodiversity impacts will need to be evaluated in greater detail. The potential to mitigate adverse impacts however, may be impacted by the trans-boundary nature of corridors, and the EU's realpolitik. The conflict between climate and biodiversity may be further complicated by the complexity of the EU-Russia Energy Dialogue for example, focussing on the distribution network for oil and natural gas coming from Russia.

The largest information gap could be attributed to the lack of clear detail in existing legislation. As stated above, a precise definition for environmental viability has not yet been outlined. This issue needs to be resolved in order to secure effective consideration of the environment, and more specifically biodiversity. The conflict between development of the energy infrastructure and the need to halt biodiversity loss will present numerous other policy challenges, and what is most concerning, is the notion that compensatory measures for biodiversity loss may not be required for PoCIs. Ideally, biodiversity proofing should be implemented for all eight stages of the policy process outlined in Figure 7-1 to avoid approving projects that have impacts on habitats that cannot easily be restored.

7.6 Recommendations

Biodiversity is likely to be more directly assessed through the completion of project level environmental impact assessments. Undertaking strategic environmental assessments at the EU level will be equally important given the trans-boundary nature of energy transmission corridors. Given that biodiversity does not figure prominently in the text for proposed new transmission infrastructure or for the Energy Blueprint, it would be advisable to enhance consideration of biodiversity as part of EIA and SEA guidance for both project developers and national authorities respectively. Otherwise it risks being overlooked particularly given the perceived overriding importance of renewable energy and greenhouse gas mitigation. As indicated for TEN-T, the regulation pertaining to TEN-E should also be enhanced to consider biodiversity.

In addition to the points of intervention outlined in Figure 7-1, there are two other key points of intervention for the biodiversity proofing of TEN-E: the initial selection of energy corridors themselves (Projects of Common Interest), and the on-going monitoring of them. Initial selection of corridors should consider a number of different criteria. The costs and benefits of proposed transmission corridors, and their potential to incentivize increased generation capacity, should be considered in light of potential biodiversity trade-offs. In some cases, it's possible that the magnitude of generation may not outweigh the costs of

adverse impacts on biodiversity. Other priorities may need to be considered such as the underlying potential for ecosystem adaptation, and greenhouse gas sequestration potential. As such, it will be crucial to weigh the costs and benefits of enhanced energy capacity, against the benefits of biodiversity conservation.

A biodiversity principle, such as that of “no net loss”, or eligibility and selection criteria that reflect the need to avoid, or at least mitigate or compensate for adverse environmental impacts, could be included by the Commission in draft Work Programmes which would subsequently be approved by a qualified majority of Member States. It is worth noting, that the potential for biodiversity varies considerably for programmes as opposed to projects. There are more opportunities for proofing at the programme level, particularly in the earlier stages of project selection. In addition, programmes are likely to be developed more by public sector officials and projects by the private sector the latter being driven more by their project development agenda and less by the need to protect biodiversity.

Steps 1-5 in Figure 7-1 offer the most significant opportunities to influence the selection of projects with the fewest impacts on biodiversity. Once projects are approved, it will be difficult to overturn decisions. For this reason, it is essential that the proposed regulations for TEN-E be amended to consider the mitigation of impacts on biodiversity, while also outlining the necessary measures for compensation. Although the EIA process offers the opportunity for public consultation, there are no legal ramifications for failing to consider input from dissenting stakeholders or relevant experts. Apart from strengthening the language in the existing proposal, the lack of an enforceable legal instrument will make it difficult to motivate project proponents in the private sector. Again, this would entail providing stricter guidance around the weighting of biodiversity concerns as part of project selection. It is possible that awarding projects based on a 15 per cent weighting may not be enough in cases where species are at risk for example, or for projects with greater impacts on biodiversity. For more background on elements of the legislation, including the proposed weighting for project selection, refer to the General Information in Annex 3.

8 CONNECTING EUROPE FACILITY – TRANSPORT

Note that at the time of writing this report aspects of the post 2014 CEF –Transport policy proposals were potentially subject to change. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.

8.1 Introduction to the fund

The proposed Connecting Europe Facility (CEF) would essentially be an infrastructure development fund within the 2014-2020 MFF that would aim to ensure that transport, energy and telecommunications infrastructure of EU importance is developed. The infrastructure that the CEF-Transport aims to develop is the part of the EU transport network that makes up the trans-European transport networks (TEN-T), which would be defined by the revised TEN-T Guidelines. The CEF would be a new fund for the 2014-2020 programming period; from the perspective of transport, it would replace the TEN-T budget.

The CEF and TEN-T Guidelines would both be defined, from the legislative perspective, in Regulations, the drafts of which were published by the Commission on 19 October 2011. At the time of writing, these Regulations are both still in their draft format as they are still being discussed by both the Council and the European Parliament. The analysis within this section is based on the proposals as they were published by the European Commission, ie:

- proposal for a Regulation establishing the Connecting Europe Facility (COM(2011) 665/3)³⁵, which would effectively replace Regulation (EC) No 680/2007³⁶; and
- proposal for a Regulation on Union guidelines for the development of the trans-European transport network (COM(2011) 650/2)³⁷, which would replace Decision 661/2010/EU³⁸.

The proposed CEF Regulation would define the “conditions, methods and procedures” for the granting of financial aid from the CEF, while the proposed TEN-T guidelines would establish a framework for the development of the TEN-T network within which projects of common interest and of mutual interest are identified. The latter would also set out the requirements to be respected by those managing the infrastructure in the network, the priorities for the development of the network and measures for the implementation of the TEN-T. Hence, these two pieces of legislation are fundamentally important to the way in which investment in the context of the CEF-Transport/TEN-T is undertaken in the 2014-2020 programming period (see Figure 8-1 below). An important difference between the proposed TEN-T Guidelines and their predecessor is that the former would take the form of a Regulation, rather than a Decision, hence they are stronger as they would be directly binding on those involved.

Currently, the European Commission (DG MOVE) sets the policy framework for the implementation of the TEN-T, while the TEN-T Executive Agency (TEN-TEA), which is also

³⁵ European Commission (2011) Proposal for a Regulation establishing the Connecting Europe Facility. COM(2011) 665/3, Brussels.

³⁶ European Parliament and Council (2007) Regulation (EC) No 680/2007 laying down general rules for the granting of Community financial aid in the field of the trans-European transport and energy networks. OJL 162/1, 22.6.2007, Brussels.

³⁷ European Commission (2011) Proposal for a Regulation on Union guidelines for the development of the trans-European transport network. COM(2011) 650/2, Brussels.

³⁸ European Parliament and Council (2010) Decision No 661/2010/EU on Union guidelines for the development of the trans-European transport network. OJL 204/1, 5.8.2010, Brussels.

technically part of the Commission, is responsible for the day-to-day management of the budget. The TEN-TEA issues regular calls for funding to which applicants, which can be central government departments, relevant agencies, or other project promoters, apply for resources to co-finance studies or works linked to the TEN-T. Under the proposed CEF, the management structure would remain similar to the existing framework, but a larger budget would be managed centrally. The new proposal would allocate €31.7 billion to transport, which includes the €10 billion from the Cohesion Fund that has been earmarked for transport, which is around four times the 2007-2013 TEN-T budget. The CEF would focus on core, multi-modal core network corridors, particularly links of European added value, while the €10 billion from the Cohesion Funds would primarily fund the development of transport infrastructure in the new Member States.

In the 2007-2013 programming period, there has been a funding gap that has meant that the legislative framework governing the TEN-T has not delivered the level of investment, and therefore the infrastructure of EU-added value, that had been intended. In order to attract more investment, particularly from the private sector, instruments such as the Loan Guarantee Instrument for Trans-European Transport Network Projects (LGTT) and EU project bonds are being piloted in the current programming period and will be extended for 2014-2020. The CEF, combined with the proposed TEN-T Guidelines, aims to accelerate the development and completion of the TEN-T network with a focus on completing missing links and cross-border sections. It is proposed that the LGTT would be merged with EU project bonds from 2014, in order to further stimulate the involvement of the private sector in financing the TEN-T³⁹. Hence, within the 2014-2020 programming period, it is likely that there will be more investment in the EU's transport infrastructure and the resulting increase in construction will be accompanied by the associated risks for the EU's biodiversity.

Within the current policy framework (ie Regulation 680/2007 and Decision 661/2010), there is no explicit mention of biodiversity, although the relevant environmental assessments (ie those stipulated by the SEA, EIA, Habitats and Water Framework Directives), have to be undertaken at the relevant stages in the development of the project. Additionally, the TEN-T network must have regard for the environment and environmental concerns should be integrated into the design and implementation of the network (see Annex 4 for more details). The proposed policy framework strengthens the wording in relation to the environment, generally, and to biodiversity in particular.

The draft CEF Regulation notes that the fund should “contribute to smart, sustainable and inclusive growth” and should aim to ensure “sustainable and efficient transport in the long run”. This echoes Europe 2020 strategy, which defines sustainable growth in terms that deliver an economy that *inter alia* prevents biodiversity loss⁴⁰. The proposed TEN-T guidelines would also require stronger consideration of the environment in general and explicitly mentions the need to protect biodiversity. In particular, project promoters should undertake environmental assessments of plans and projects in line with the EIA, Habitats, Birds and Water Framework Directives “to avoid or, when not possible, mitigate or compensate for negative impacts on the environment, such as landscape fragmentation ... and to effectively protect biodiversity” (see Annex 4 for more details). Hence, the draft CEF

³⁹ van Essen, H., Brinke, L., Bain, R., Smith, N. and I. Skinner (2012) *Financing instruments for the EU's transport infrastructure* Report IP/B/TRAN/FWC/2010-006/LOT4/C2/SC1 for the European Parliament's Transport and Tourism Committee.

⁴⁰ European Commission (2010) *Europe 2020: A Strategy for smart, sustainable and inclusive growth*, Communication from the Commission, COM(2010) 2020, 3.3.2010, Brussels; quotes are from page 12 and the box on page 14.

and TEN-T Regulations contain sufficient references to biodiversity that are in line with achieving the EU's biodiversity objectives, which should enable stronger consideration to be given to biodiversity in the projects funded by the CEF.

An important point of note is that it has already been confirmed that the TEN-T is in compliance with the SEA Directive. Each Member State has had to provide documentation to the Commission to either i) confirm that it is not obliged to carry out an SEA on the plans and programmes that contain the comprehensive TEN-T network on their territory, eg as these plans pre-date the requirement for an SEA; ii) if an SEA has been undertaken, provide a summary of the procedure, including alternatives considered, consultations undertaken and results; or iii) if an SEA is on-going or yet to be undertaken, provide an explanation of how the application of SEA will be ensured. The submissions have been evaluated by the Commission, including DG Environment⁴¹. Hence no subsequent action needs to be taken to demonstrate that projects that deliver part of the TEN-T network are in compliance with the SEA Directive.

8.2 Relevance for biodiversity

For the 2007-2013 programming period, the impacts on biodiversity have not been assessed or reported upon in a consistent manner. For example, the potential impacts on biodiversity have not been considered, even in a qualitative manner, in the evaluations for the Commission of the current TEN-T programme^{42,43}. However, there are clearly potential impacts arising from the provision of transport infrastructure on biodiversity, as the provision of infrastructure takes land that could be of environmental importance. This applies both to rural areas, where land might have an economic value (in terms of its relevance to agriculture or tourism) or a conservation or ecological value, and to urban areas where the availability of open or green spaces can contribute to a good quality of life and deliver wildlife benefits. Infrastructure also adversely affects wildlife through its provision, use and proximity to areas of conservation importance. This applies to infrastructure for all modes, although the type of impact will clearly vary between modes. Factors such as the speed and frequency of use of the infrastructure would also influence the scale of the potential effect on biodiversity and wildlife. Studies by NGOs have suggested that the existing TEN-T programme affects Natura 2000 sites^{44,45}. Additionally, pollution from transport can contribute to the eutrophication of natural habitats, while transport can also cause significant disturbance of some species and facilitate the transport of invasive alien species, as well as having a number of potential indirect effects (see Table 3-1).

If the changes to the Guidelines and the funding of the TEN-T described in Section 0 are successful, then the CEF should fund more transport infrastructure in the 2014-2020

⁴¹ See Annex IV of European Commission (2011) Impact Assessment accompanying the Proposal for a Regulation on Union Guidelines for the development of the trans-European transport network, Commission Staff Working Paper, SEC(2011) 1212/2, 19.12.2011 (revised version; original from 19.10.2011 replaced), Brussels.

⁴² Ecorys (2007) *Ex ante evaluation of the TEN-T Programme (2007-2013)* Report for the European Commission, DG MOVE

⁴³ SDG (2011) *Mid-term evaluation of the TEN-T Multi Annual Programme 2007-2013* Report for the European Commission, DG TREN

⁴⁴ RSPB, Birdlife International, T&E, EEB and Bankwatch (2008) *TEN-T and Natura 2000: The way forward – An assessment of the potential impact of the TEN-T priority projects on Natura 2000*; see http://www.birdlife.org/eu/pdfs/TEN_T_report2008_final.pdf

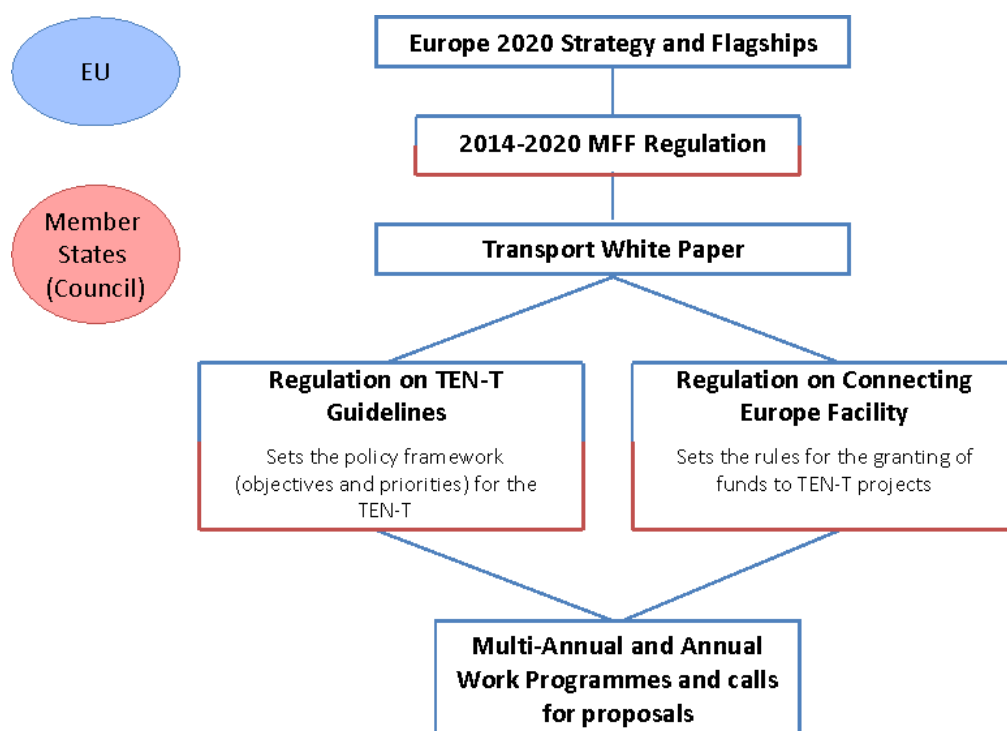
⁴⁵ Bankwatch (2012) *EU Funds in Central and Eastern Europe: Roadmap to sustainability or dead end investments*; see <http://bankwatch.org/billions/type/detail/roads> (accessed 26 July 2012)

programming period. If these investments are not undertaken in an appropriately environmentally-sensitive manner, then there is clearly a risk of adverse impacts on biodiversity.

8.3 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing

The TEN-T policy cycle (ie the policy stages that are important to how the funds are spent), can be usefully split into two separate periods. The first, represented by Figure 8-1, relates to the strategic level and covers the main elements that set the policy framework for the CEF-Transport/TEN-T. The main stages of this period are one-off Regulations or Communications that are usually proposed by the Commission and then need to be agreed by the Council and the European Parliament. At the time of writing, many of the relevant documents are still in preparation, having been published in draft formats by the Commission that are currently being debated in the Council and the Parliament.

Figure 8-1 Strategic stages of the policy cycle for CEF for transport

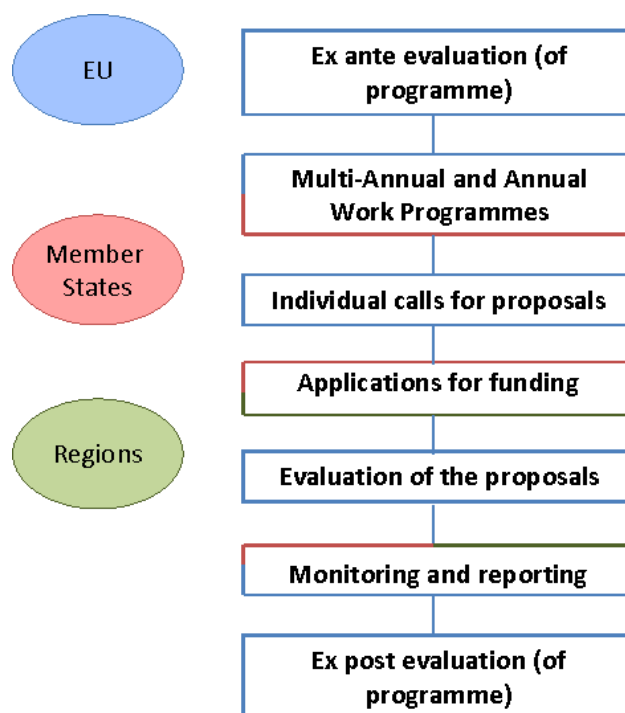


Of particular relevance to the CEF-Transport/TEN-T are the respective Regulations, which are still being debated by Council and Parliament. These two Regulations need to be in place by the end of 2013 at the latest, as they will apply from 2014, but ideally much sooner than this in order to enable the subsequent implementing framework to be developed and fully functional by 2014. As noted above, the Regulations as proposed by the Commission contain relatively strong provisions relating to biodiversity. The final wording of these two Regulations with respect to biodiversity, as agreed by the EU institutions, will be fundamentally important as these Regulations will set the framework for the annual and multi-annual Work Programmes that are to be developed by the Commission. These Work Programmes will set out the budget, objectives and priorities, as well as the eligibility, award and selection criteria, for individual calls for projects under the CEF-Transport. They have to be fully consistent with the respective Work Programme, so it would be very difficult, if not

impossible, to include provisions or requirements in these calls that are not explicitly mentioned in the final Regulations.

The second period of importance in the policy cycle occurs on at least an annual basis, which is represented in Figure 8-2, begins with the development of the respective *Work Programmes*. These Work Programmes are fundamentally important for the remainder of the policy cycle, as they set out the budget, objectives and priorities, as well as the eligibility, award and selection criteria, for all of the calls to be issued and projects to be funded under each Work Programme. Subsequent calls for project proposals and evaluations of these proposals need to be undertaken in a manner that is fully consistent with the respective Work Programme; the project calls are effectively designed to implement each Work Programme. DG MOVE, with the assistance of the TEN-TEA, is responsible for developing annual and multi-annual Work Programmes in line with the Regulations, a process that is anticipated to continue in the 2014-2020 programming period. Drafts of each Work Programme are discussed with the Member States in the TEN-T Financial Assistance Committee in which Member States have to approve each Work Programme on the basis of a qualified majority vote. Once approved, the Work Programme will be adopted by a Commission Decision. From the perspective of biodiversity considerations, the Commission could propose to include biodiversity-related provisions in all Work Programmes, such as the application of the “no net loss” objective and other biodiversity objectives and criteria.

Each Work Programme guides the work of the TEN-TEA for the respective time period. The TEN-TEA publishes ***calls for proposals*** on its website that aim to deliver, and have to be fully consistent with, the respective Work Programme. Generally one call a year is issued under any multi-annual or annual programmes. There is no flexibility to include conditions not contained in the Work Programme. Hence, it is the **detail of the Work Programme that is important** in determining how biodiversity considerations are treated in each call.

Figure 8-2 Regular/annual stages of the policy cycle for CEF for transport

Subsequent ***applications for funding*** from project promoters, which could be Member States or other actors, have to be consistent with the call and demonstrate that all of the relevant conditions have been met. In this respect, proposals have to be compliant with *inter alia* EU environmental law, including the EIA, Habitats, Birds and Water Framework Directives, and have to present the findings of the respective assessments. The TEN-TEA provides technical support to project promoters; under the CEF, it will be possible to assist applicants with the preparation of projects, including the necessary compliance with EU environmental legislation, as well as addressing any biodiversity-related requirements.

The ***evaluation of the proposals*** passes through a number of stages, including an evaluation by external experts, as well as an internal evaluation within the Commission that checks *inter alia* the eligibility of proposals, which includes their compliance with EU environmental legislation. DG MOVE also consults other DGs, as well as the European Parliament and Member States via the TEN-T Financial Assistance Committee. All project proposals are shared with DG Environment prior to the external evaluation.

Once the projects to be funded have been selected, the Commission negotiates with the project's promoter on the details of the funding, including the milestones that need to be met. These details are then included in a Commission Decision for each project selected. Projects promoters are required to ***report*** on their progress with respect to meeting the milestones contained within the respective Decision. The implementation of the respective projects is the responsibility of the project promoter and the Commission does not ***monitor*** in detail the implementation of each project. In order to monitor projects, the Commission is reliant on the information passed on to it by the project promoter and potentially other stakeholders. If a breach of EU environmental legislation was brought to the Commission's attention, which would in any case be a breach of the project's eligibility requirements, the Commission would investigate. No systematic ***evaluation*** of each project is undertaken.

Instead, evaluations are undertaken at the programme level, eg ex-ante and ex-post evaluations, and at the level of the TEN-TEA. Additionally spot checks are undertaken on selected projects.

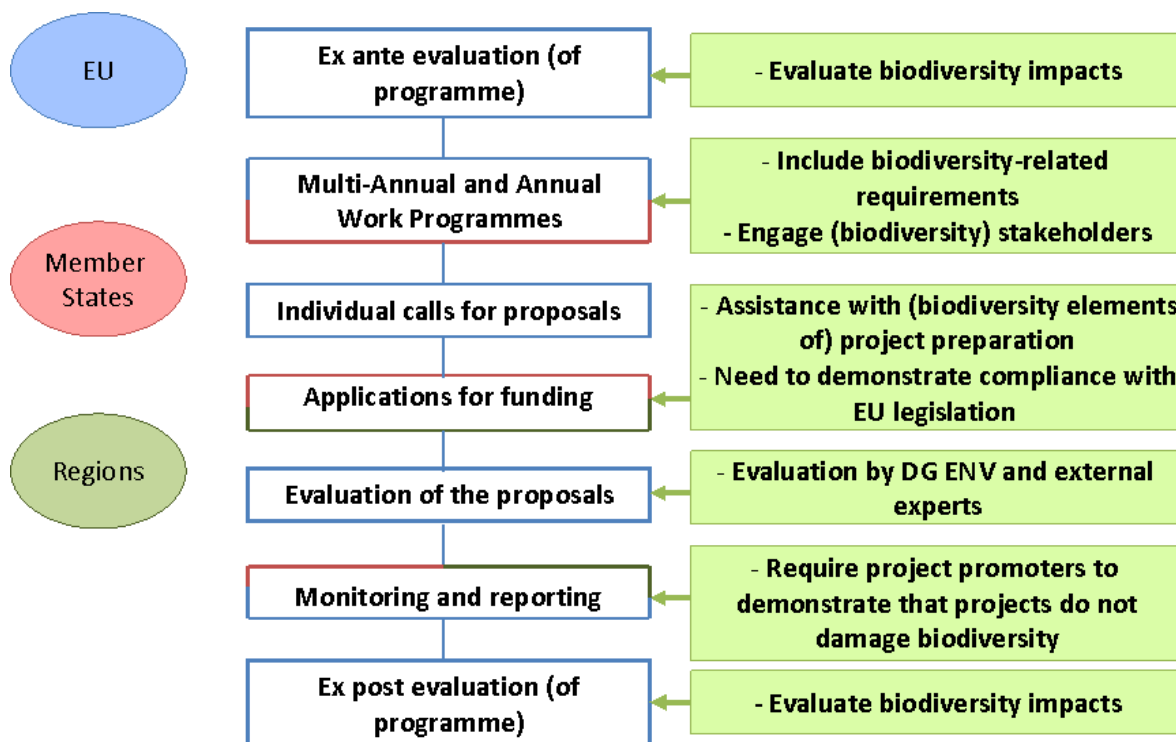
8.4 Best Frame of Actions

On the basis of the discussion of the previous section, a possible “Best Frame of Action” for biodiversity-proofing the CEF-Transport/TEN-T had been identified. The elements of this frame of action are presented in Figure 8-3; a more detailed assessment of their respective strengths, weaknesses, threats and opportunities can be found in Annex 4.

As noted above, the wording in relation to the environment in general, and to biodiversity in particular, that is contained within the eventual CEF and TEN-T Guidelines **Regulations** is fundamentally important. These are still under development, so their eventual references to biodiversity are not yet certain. However, the proposed CEF Regulation states that the fund should contribute to sustainable growth, which echoes the Europe 2020 strategy that defines sustainable growth in terms of growth that delivers an economy that *inter alia* enables the EU to meet its biodiversity targets. The reference to “sustainable growth” in the draft CEF proposal is not supported by a further definition, such as the one contained in the Europe 2020 strategy, which explicitly links sustainable growth to the protection of biodiversity. If such a reference were included in the final CEF Regulation, then the link between sustainable growth and biodiversity protection would be clearer.

In the proposed Regulation on the future TEN-T Guidelines, there are references to the need to protect the environment and to improve the environmental performance of transport, which go beyond current requirements. Additionally, the draft Regulation states that project promoters (including Member States) should undertake environmental assessments “to avoid, or when not possible, mitigate or compensate” for adverse environmental impacts “... to effectively protect biodiversity”⁴⁶. Retaining such wording in the Regulation is crucial for influencing the objectives, priorities and award criteria and selection criteria of the TEN-T programme.

⁴⁶ Article 52 of COM(2011) 650/2

Figure 8-3 Best Frame of Actions for biodiversity-proofing the CEF - transport

Evaluations of the programme as a whole are undertaken, as is one of the TEN-TEA itself, but recent evaluations of the TEN-T programme⁴⁷ did not even consider biodiversity in a qualitative manner. This is clearly a missed opportunity to identify, and therefore potentially avoid, the impact of a significant expenditure programme (ie the CEF/TEN-T) on an important environmental issue, such as biodiversity, for which the EU is missing its targets, and on which there is clearly the potential for a significant impact. However, the stronger wording on environment and biodiversity in the draft Regulation on the TEN-T Guidelines suggests that the Commission should ensure that these impacts be evaluated as part of any evaluation of the Programme.

Clearly with an evaluation of any programme (ex-ante, mid-term or ex-post) it would not be possible to access comprehensively the impact on a specific environmental issue. However, the ex-ante evaluation should focus on identifying potential core network corridors and projects for which there is a risk of significant adverse impacts on biodiversity (and other environmental areas). This would help to identify projects that could be targeted for assistance in their development and for individual evaluation and monitoring (see below). Mid-term and ex post evaluations should then focus on the impact in the core network corridors and projects for which a risk of significant damage to biodiversity had been identified, which should also include engagement with relevant (biodiversity) stakeholders to ensure that impacts have been identified. Including biodiversity impacts in this way in the programme evaluations would also act as an important information and awareness raising tool.

⁴⁷ Such as those by Ecorys (2007) and SDG (2011)

The inclusion of requirements in relation to biodiversity in a **Work Programme** would need to be initiated by the Commission (DG MOVE, with assistance from the TEN-TEA), but could not become a part of the approved Work Programme without the support of Member States. The Commission could propose the inclusion of an overarching biodiversity principle, such as that of “no net loss” and/or set eligibility and/or award criteria based on a project’s impacts on biodiversity. For example, one of the four award criteria used in the 2011 call for proposals was “impact”, which includes impact on the environment⁴⁸. Additionally, there is stronger wording in the proposed Regulation on the future TEN-T Guidelines in relation to the environment and biodiversity (see above). These statements could be translated into relatively strong requirements with respect to biodiversity in the respective Work Programmes.

While the inclusion of biodiversity requirements in a Work Programme would need to be initiated by the Commission, these could not become a part of the approved Work Programme without the support of (a qualified majority of) Member States in the TEN-T Financial Assistance Committee. Consequently, if biodiversity requirements were included in a draft Work Programme, the Commission would have to make a strong case to Member States in order to ensure that such requirements are maintained in the approved Programme. However, it is worth noting at this point that the “no net loss” objective is included in the Biodiversity Strategy, which has the political backing of the Council. Hence, even though the principle is not legally binding, it does have the endorsement of the Member States. If such requirements were included in a Work Programme, a challenge would be to operationalise these in a way that could be undertaken in a clear and consistent manner across all of the Member States. In this respect, including biodiversity requirements that are not otherwise a legal requirement – particularly a principle of no net loss – could prove to be a challenge. However, it is worth noting that work is ongoing on the application of such principles, which might inform how they might be operationalised.

An opportunity might be to test the application of the principle of “no net loss” – or other relevant biodiversity requirements – under a particular annual call or priority. Additionally, given that in many Member States, information on biodiversity is inadequate to estimate reliably the likely impacts, a particular call could fund studies that fill these biodiversity knowledge gaps, thus ensuring that the future development of TEN-T infrastructure does not adversely impact on biodiversity. However, as with any other biodiversity-related requirements in the Work Programme, whether this proves to be possible will depend on the final wording of the Regulations and the wording, as approved by Member States, of any relevant Work Programme.

Finally, a means of ensuring that Work Programmes take more account of biodiversity might be to include a wider group of stakeholders in the course of the development and approval of the respective Work Programmes. As noted above, at the moment approval of each Work Programme has to be given by Member States in the TEN-T Financial Assistance Committee. If other actors, including those with biodiversity expertise, were also involved in the approval of the respective Work Programmes, it might be possible to increase the priority given to biodiversity to ensure that the TEN-T avoids, or at least mitigates, or at worst compensates for, any adverse impact on biodiversity.

⁴⁸ TEN-TEA (2011) Guidance for applicants: Annual call for proposals for the granting of EU financial aid in the field of the trans-European transport network; see http://tentea.ec.europa.eu/download/calls2011/annual/guide_for_applicants_2011_annual_modif_0_1_feb_2012_track.pdf

When preparing their project applications, the onus is on the project applicant to demonstrate **compliance with EU environmental legislation**. This is clearly both a strength and a weakness as the applicant will know the project the best, whereas the applicant is attempting to gain financial support for the project. There is also an important role for the authorities in the respective Member State, as they need to support the application and in some cases confirm that there will be no adverse impact. This relies on these authorities having sufficient resources available to perform this role. It also relies indirectly on the Commission – particularly DG Environment – to ensure that the Member States have properly implemented and are properly enforcing the respective environmental legislation. In this respect, the strengths – and weaknesses – of the respective pieces of EU environmental legislation, such as the EIA Directive and Article 6 of the Habitats Directive, are important to address, as this will bring benefits to the way in which the TEN-T projects are implemented (see Section 1.2.2).

Under the current programme, the TEN-TEA provides technical support and guidance to project promoters for specific calls, which could include, for example, compliance with EU legislation; under the CEF it will be possible to **assist applicants with the preparation of projects**. Such assistance with project preparation is already available under Cohesion Policy: Joint Assistance to Support Projects in the European Regions (JASPERS) provides targeted specialist technical support to assist with the preparation of projects in the EU-12⁴⁹. Hence, the projects funded by the €10 billion of Cohesion Funds that will be earmarked for the TEN-T (and managed by the TEN-TEA) would be eligible for such support.

Hence, within the 2014-2020 period there appears to be a greater opportunity to support applicants with the preparation of their project applications whether under the CEF or through JASPERS. However, while such support could include compliance with EU environmental legislation, the focus of such assistance is more likely to be on increasing the absorption of funds (ie making sure that the funds are used, rather than on improving their environmental performance). An additional challenge in this respect is that the approach is self-selecting in that project promoters will seek support, rather than support being given to all projects, which it is clearly not possible to do. Hence, an approach would have to be focused on encouraging those applicants who would benefit most from such support in relation to biodiversity to seek it. This could be undertaken at the European level, eg Commission events and targeted publicity, and at the national level, eg from the biodiversity perspective ensuring that relevant national actors are aware of the potential support. The important element for the Commission in this respect would be to ensure that as many of the projects that would benefit from assistance (from the perspective of compliance with EU environmental legislation) with the development of their respective applications receive such assistance. Evaluating the potential and actual impact on biodiversity as part of the ex-ante and ex post programme evaluations (see above) could help to identify those core network corridors in which projects could put biodiversity most at risk; once identified, these projects could be targeted and encouraged, as far as is possible, to obtain assistance with project development with respect to biodiversity. As with many of the actions in the “Best frame of actions”, having people with the necessary biodiversity expertise to provide assistance with the development of the biodiversity elements of projects would be fundamentally important.

⁴⁹ van Essen *et al*, 2012

Under the current programme, DG Environment is consulted on every TEN-T co-financed project and external experts are used to evaluate the proposals. The extent to which DG Environment can engage with the **evaluation of proposals** is dependent on their resources, as well as on their knowledge of the situation in the respective Member State. The latter applies with respect to both the knowledge of the implementation with respect to the range of environmental legislation, and local knowledge about the area in which the project is taking place. Particularly with respect to the latter, it is not likely that DG Environment would have sufficient knowledge to know whether there might be particular issues in relation to a specific proposed project. In order to address this, the development of more dedicated resources to the monitoring of projects on the ground might be considered (see below). An alternative, or even complementary, approach might be the development of a more targeted approach to the engagement of DG Environment in the evaluation of individual project proposals. For example, if the ex-ante evaluation of the programme (or a separate report for DG Environment if the ex-ante evaluation were not sufficient) were to identify the TEN-T developments that potentially have an adverse impact on biodiversity (or the environment more generally; see above), relevant projects could be subject to more in depth evaluation by DG Environment. Alternatively, external experts with knowledge of the potential biodiversity impacts of transport infrastructure could be used as part of the evaluation of project proposals. If biodiversity requirements were included as part of the respective Work Programmes, as proposed above, then the use of such experts as part of the evaluation would be even more important in order to assess whether the appropriate mitigation measures have been taken where it was not possible to avoid biodiversity impacts, or, as a last result, the compensatory measures taken.

Once it has received assurances from Member States that the projects have been developed and will be implemented in accordance with EU law, the Commission does not currently undertake any further **monitoring of projects**, as long as their reporting against the milestones set out within the respective project Decision is satisfactory. Currently, the Commission relies on national actors to inform it of any issues that need to be investigated. However, given that each of the potential TEN-T projects will mobilise a significant amount of financial resources, much of which might come from the private sector if the revised policy framework works as is hoped, there is an argument that some of these resources should be dedicated to ensuring that the TEN-T infrastructure being constructed does not increase the risk that the EU fails to meet its biodiversity targets. If the burden of proof that damage to biodiversity had been avoided, or if not mitigated or at worst compensated, lay with project promoters, the monitoring of potential biodiversity impacts would be integrated into the project from the start. Indeed, if an EIA has been undertaken properly and if this EIA had identified potential impacts on biodiversity, appropriate ex post monitoring should be put in place as a matter of course. Hence, there should be no additional requirements on project promoters behind that which should be undertaken anyway in the event of there being a potential risk to biodiversity.

Such increased monitoring requirements for projects need not be applied to all TEN-T projects. For example, the identification of those corridors and potential projects that risk damaging biodiversity, as proposed above to be undertaken as part of the ex-ante assessment, could also be used to identify the projects that should be subject to stricter monitoring requirements from the perspective of biodiversity.

8.5 Challenges and information gaps

The main challenge with respect to biodiversity proofing the CEF-Transport/TEN-T is simply that it is an **infrastructure development policy**. Consequently, it would be easy to see the introduction and operationalisation of more requirements to biodiversity-proof expenditure as a barrier to the achievement of the overall policy objectives. On the other hand, the EU is not delivering on its biodiversity objectives, and the provision of more infrastructure increases the risk of further undermining the achievement of these targets if the funding is not sufficiently biodiversity-proofed. Having said this, the draft CEF and TEN-T Regulations, as proposed by the Commission, contain sufficient provisions in relation to biodiversity that should enable the CEF/TEN-T to provide sufficient protection to biodiversity. The first challenge, therefore, is to ensure that Member States (in their discussions in the Council) and the European Parliament retain the necessary provisions in the final versions of the Regulations.

If these relatively strong biodiversity provisions are retained, the next challenge would be **translating these into sufficiently strong provisions in the remainder of the policy cycle** (ie those stages presented in

Figure 8-2). The first stage would be to ensure that these provisions are reflected in the respective Work Programmes. The challenge here would be how to word the provisions of the respective Regulations in the Work Programmes and how to convince Member States in the TEN-T Financial Assistance Committee to retain the provisions in the agreed versions of the Work Programmes. As noted above, the principle of “no net less” has the political support of the Council and, if the current provisions relating to biodiversity are retained, there would also be support from the Council to ensure that TEN-T is delivered in a way that “effectively protects biodiversity”. Hence, a case could and should be made for including provisions in the Work Programmes that effectively biodiversity-proof expenditure; the challenge would be to ensure that Member State representatives present when the draft Work Programmes are discussed also accept the inclusion of such provisions.

The next challenge is to ensure that projects funded by the CEF avoid, or where this is not possible mitigate, or in the worst case compensate for, any adverse impacts on biodiversity. This is currently a challenge due to a number of knowledge gaps. First, in many Member States information on the existing state of biodiversity is often inadequate to estimate reliably the likely impacts of any development on biodiversity. Second, the core network corridors in which biodiversity are potentially at risk from TEN-T projects are not known. Third, the impact on biodiversity of any particular transport project depends on the details of the location, design and use of the respective infrastructure, which is not known until a project is proposed. Where infrastructure is developed along existing transport networks, which is one of the objectives of the draft TEN-T Guidelines, clearly there is a reduced risk of **additional** adverse impacts on biodiversity resulting from additional infrastructure. Even so, additional infrastructure has the potential for additional adverse impacts, as it takes up more land, and so could be closer to a protected area, and would result in higher levels of use, which could lead to more air and noise pollution, which could result in an (increased) adverse impact on biodiversity.

In order to address the first knowledge gap, it might be possible to fund studies from the CEF, eg under a particular call, that aim to fill these biodiversity knowledge gaps, thus ensuring that the future development of TEN-T infrastructure does not adversely impact on biodiversity. Otherwise, such knowledge gaps would need to be completed by national or regional authorities, which would also likely to be a challenge in the current economic situation. Addressing the second knowledge gap might be easier. The draft TEN-T Guidelines are accompanied by maps of the proposed core and comprehensive networks. Therefore, it should be possible to use these maps to identify where the development of the core and comprehensive network has the highest potential to adversely affect biodiversity by mapping these networks against Natura 2000 sites, for example. (The same could be undertaken for other environmental issues, such as climate change adaptation and air pollution.) Once the corridors/projects that have a high risk of adverse impacts on biodiversity have been identified, these could be targeted for increased support in terms of project preparation, or for more in depth evaluation and monitoring (as discussed in Section 8.4). The third knowledge gap requires that the project promoter is sufficiently aware of the risks to biodiversity of their project and that they have sufficient awareness of the means of avoiding, or if this is not possible mitigating, or in the worst case compensating for, adverse impacts on biodiversity. It also requires that similar expertise and knowledge is present in national and regional authorities that have to be consulted under the various environmental assessments. This highlights the importance of the proper implementation, application and enforcement of the respective EU environmental legislation in the national and regional context.

Other challenges for the 2014-2020 programming period, as with previous programming periods, are likely to relate to the **availability of resources** and **capacity**, particularly in relation to biodiversity considerations. Many of the proposals in the “Best Frame of Action” (Figure 8-3) would help to address, although probably not fully resolve, these challenges. For example, a targeted approach to identifying the TEN-T projects that are at most risk of adversely affecting biodiversity would help to target limited evaluation and monitoring resources more efficiently, as would ensuring that project promoters shoulder the burden for monitoring the impacts of their project on biodiversity, as is required by the EIA Directive. Involving more stakeholders and experts with biodiversity knowledge at various stages of the policy cycle would help to increase capacity. Such expertise would be particularly important in assessing whether any mitigation or compensatory actions are appropriate in cases where it was not possible to avoid adverse impacts on biodiversity.

8.6 Recommendations

With respect to the **CEF-Transport**, the recommendations elsewhere in relation to the need to improve the consideration of biodiversity in the course of the respective SEAs and EIAs apply equally to transport projects funded under the CEF. Hence, while such amendments would be important from the perspective of biodiversity proofing transport projects under the CEF, these changes are not included in the best frame of action for such projects, as these changes are outside of the responsibility of the principle actors involved with the CEF-Transport (also see further EIA discussion in Chapter 12).

The best frame of actions with respect to transport projects funded by the CEF consists of a number of different stages. First, it is important that the relevant Regulations – ie those setting up the Connecting Europe Facility and the TEN-T Guidelines – are strong from the perspective of biodiversity. The wording in the draft Regulations is stronger than that in the comparative Regulations governing the 2007-2013 programming period; this should be retained (or even strengthened) in order to ensure that there is a strong basis for protecting biodiversity when developing the core and comprehensive TEN-T network.

Given the strong statement with respect to the need to avoid, or at least mitigate or at worst compensate for, adverse impacts on the environment in the draft Regulations, as well as the need to effectively protect biodiversity, the potential impacts on biodiversity (and other key environmental issues) of the TEN-T programme should be evaluated in the course of the **ex-ante evaluation**. The ex-ante evaluation should identify the core network corridors, and therefore potential TEN-T projects, where there is a risk that the development of additional infrastructure would have an adverse impact on biodiversity. In the event that the ex-ante evaluation does not identify potential projects that are at risk of damaging biodiversity, a separate report might be commissioned, eg by DG Environment, to identify these.

Increased attention to biodiversity (and other important environmental impacts) should be included in the respect annual and multi-annual **Work Programmes** that will govern the calls for projects under the CEF-Transport. Whilst it is recognised that these calls aim to develop infrastructure, it is also important that the requirements in the draft TEN-T Guidelines that biodiversity should be effectively protected are also reflected in the projects that the CEF-Transport funds. In this respect, a biodiversity principle, such as that of “no net loss”, or eligibility and selection criteria that reflect the need to avoid, or at least mitigate or compensate for adverse environmental impacts, should be included by the Commission in draft Work Programmes. Member States in the TEN-T Financial Assistance Committee should approve the inclusion of strong biodiversity principles and criteria in the respective Work

Programmes. Rather than been seen as a barrier to the development of TEN-T infrastructure, biodiversity-proofing considerations should be seen in the context of ensuring the coherence between the objectives of different strands of EU policy. Work is on-going in relation to the application of the “no net less” principle with respect to biodiversity; this should be taken account of in the CEF-Transport/TEN-T programme, as appropriate.

The ex-ante identification of corridors and projects that have a high risk of damaging biodiversity would be important, as it would enable the Commission and other stakeholders to focus more attention on those TEN-T projects with the highest risk of adverse effects. Such projects should then be targeted, eg for **assistance with project preparation** and for increased **evaluation** and **monitoring** in order to ensure that damage to biodiversity is avoided, or at least mitigated or at worst compensated for. This stage might require additional resources, but, if the corridors and projects that put biodiversity most at risk have been identified (as recommended), then these resources should be applied in an effective and efficient manner to deliver TEN-T infrastructure while at the same time protecting biodiversity.

9 THE EUROPEAN MARITIME AND FISHERIES FUND

Note that at the time of writing this report aspects of the post 2014 maritime and fisheries policy proposals were potentially subject to change. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.

9.1 Introduction to the fund

The main framework for managing the fisheries sector is provided by the Common Fisheries Policy (CFP) which covers most aspects of the fish production chain, from capture/farming through to landing, processing and marketing, structured into four 'pillars': conservation policy, structural policy, market policy and external policy. The objective of the CFP is to 'ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions' (Article 2, Regulation (EC) No 2371/2002). The European Fisheries Fund (EFF) (Regulation (EC) No 1198/2006) supports the CFP setting the framework for the provision of public financial aid to the fisheries sector over the 2007–2013 programming period. The Regulation defines what Member States may provide aid for and the levels of co-funding that may be provided. The measures include restructuring support to the fishing industry, the processing and marketing of fish products, training activities and fisheries management initiatives.

Since the EFF is the financial instrument of the CFP, it aims to contribute to attaining the objectives of the CFP. More specifically, assistance under the EFF should:

- promote a sustainable balance between fish stocks and the Community fishing fleet;
- promote sustainable development of inland fishing;
- strengthen the competitiveness of the fisheries sector;
- foster the protection and the enhancement of the environment and natural resources where related to the fisheries sector;
- encourage sustainable development and the improvement of the quality of life in areas with fisheries activities; and
- promote equality between men and women in the fisheries sector and areas.

The EFF is structured into the following five axes, with total funds allocated across all five Axes amounting to k€4,304,787.

1. Measures for the adaptation of the Community fishing fleet (k€1,215,945 28%).
2. Aquaculture, inland fishing, processing and marketing of fishery and aquaculture products (k€1,237,354 29%).
3. Measures of common interest (k€1,133,285, 26%).
4. Sustainable development of fisheries areas (k€572,607, 13%).
5. Technical assistance (k€145,595, 3%).

However, it is widely accepted that the EFF has so far failed to achieve the objective of the CFP of sustainable exploitation of fish stocks, and its specific biodiversity related objective of 'promoting a sustainable balance between fish stocks and the Community fishing fleet' (European Commission, 2012c; European Court of Auditors, 2011c). EU fleet overcapacity has been a problem for many years, undermining the sustainability of fish stocks and the long-term viability of the fishing sector. This is due to weaknesses in the framework for measures to bring fleet capacity in line with available resources and numerous flaws in the design and implementation of fleet reduction measures (European Court of Auditors, 2011c). Since the EFF covers the 2007-2013 programming period, it is up for reform,

providing an opportunity for the EU to address the many failures and issues with the fund, including those relating to biodiversity.

The European Maritime and Fisheries Fund (EMFF) (COM (2011)804), proposed by the Commission on 2 December 2011, will replace the existing EFF and a number of other instruments, and establish a new financial framework for the CFP and the Integrated Maritime Policy (IMP) for the period 2014 to 2020. The EMFF aims to contribute to the achievement of the strategic objectives of the CFP and the IMP, and more specifically: promote sustainable and competitive fisheries and aquaculture; foster the development and implementation of the IMP, in a complementary manner to cohesion policy and to the CFP; promote balanced and inclusive territorial development of fisheries areas (including aquaculture and inland fisheries); and contribute to the implementation of the CFP. The proposal streamlined existing EFF measures, restructuring them into more logical pathways, or pillars, and reviewed existing measures to ensure they have a strong link to environmental sustainability.

Thus the proposed EMFF is structured into the following four pillars.

- **Smart, Green Fisheries:** to foster the transition to sustainable fishing which is more selective, produces fewer discards, and does less damage to marine ecosystems; and to provide support for innovation and added value, to help the industry remain competitive with third countries.
- **Smart, Green Aquaculture:** to achieve economically viable, competitive and green aquaculture, capable of facing global competition and providing EU consumers with healthy and high nutrition value products.
- **Sustainable and Inclusive Territorial Development:** to reverse the decline of many coastal and inland communities dependent on fishing, through adding more value to fishing and fishing related activities and through diversification to other sectors of the maritime economy.
- **Integrated Maritime Policy:** to support those cross cutting priorities which generate savings and growth but which Member States will not take forward themselves (eg marine knowledge, maritime spatial planning, integrated coastal zone management and integrated coastal surveillance, protection of the marine environment, and adaptation of coastal areas to climate change).

The funding will be allocated using multi-annual national Operational Programmes, structured around these priorities, setting the framework for expenditure. These Operational Programmes should demonstrate the approach that will be taken towards meeting the EMFF objectives, laying out which measures will be funded and by how much.

The Parliament and Council have been debating the EMFF since the release of the Proposal in December 2011, aiming to adopt the legislative acts by the end of 2013, for the Regulation to be in force by January 2014.

9.2 Relevance for biodiversity

The EMFF is obviously particularly relevant to biodiversity, through its direct influence on the fisheries and aquaculture industries, and their direct influence on marine ecosystems and biodiversity. The specific influence of the EMFF can be best illustrated by looking at the

experience of the EFF, under which the measures which are relevant to the EU biodiversity targets can be sorted into the following two pools.

- Measures that are environmentally beneficial, principally the measures under Axis 4 of the fund and those under Axis 3 intended to protect and develop aquatic flora and fauna, and also certain measures to increase energy efficiency and gear selectivity.
- Measures that have social or economic objectives, but which may inadvertently cause negative impacts on the natural environment. They may include such measures as modernisation of fishing vessels (both marine and inland); support for young fishers wishing to enter the industry; support for increases in and modernisation of fish processing and port facilities; increases in and modernisation of aquaculture facilities; increases in and modernisation of marketing capacity; and vessel decommissioning schemes.

Although the latter measures are not intended to harm biodiversity, because of unintended consequences and loopholes in their design they may create perverse incentives, and either fail to reduce the capacity of the fleet or increase it, and thereby maintain fishing effort at unsustainable levels. For example, although the EFF Regulation only provides subsidies for improvements on board fishing vessels provided that they “do not increase the ability of the vessels to catch fish”, investments which increase fishing ability are not clearly defined and can vary depending on the language version of the Regulation (European Court of Auditors, 2011c). In practice some eligible investments on board a vessel could increase its ability to catch fish. One modernisation project audited by the European Court of Auditors in the United Kingdom, for example, concerned the replacement of the normal propeller by a nozzle propulsion system, resulting in an increase in the speed of the vessel, which, according to the skipper, resulted in higher fish catches (European Court of Auditors, 2011c). The scientific theory concerning the impacts of overexploitation of fisheries resources is well established; however the precise impacts of certain levels of exploitation on particular fish stocks - or marine ecosystems generally - are very difficult to estimate. For many fish stocks exploited by EU fleets, particularly in the Mediterranean and the deep sea, information is lacking, and wider ecosystem effects of exploitation even more so. To illustrate this point, in the North East Atlantic in 2011, 63 per cent of fish stocks were classified as overfished (Personal communication: Manuela Azevedo, ICES, ‘State of European Fish Stocks in 2011’), and in the Mediterranean 87 per cent were overexploited (Personal communication: Max Cardinale, STECF, ‘State of European Fish Stocks in 2011’). Furthermore, scientists agree that continued unsustainable exploitation rates will result in the removal of many species from the marine ecosystem, starting with the larger fish species (termed ‘fishing down the marine food web’, see Pauly et al, 1998).

The EMFF proposal is currently under discussion and the details remain undecided. Even if it were in its final stage, the future impacts of the Regulation on biodiversity would be uncertain due to the numerous other factors which play a role (ie implementation of the text, details and implementation of the other aspects of the CFP reform package, etc). However, based on the changes made, the measures proposed and the restraints to the EU budget that are planned under the current economic climate, the implications for biodiversity are likely to be positive compared to the EFF. This is because some of the measures within the EFF that have been the most perverse have been either scrapped or given greater conditionality. In addition, under the new pillar structure rules and procedures are streamlined, which is expected to reduce administrative burden, and is thereby likely to assist local actors in accessing funds. It has also meant that ‘environment’ plays a much

more prominent role across all priorities. However, the EMFF also puts a greater emphasis on aquaculture, which mirrors the greater emphasis placed on aquaculture within the CFP reform proposal, which might have negative or positive consequences for biodiversity.

More specifically, the EMFF proposal removes the support for scrapping vessels that was in the EFF and which failed to reduce overcapacity. It provides support for member States to implement systems of transferable fishing concessions (a measure under the CFP designed to bring fishing capacity in line with resources). With respect to aquaculture, the EMFF aims to provide support for aquaculture providing environmental services, the conversion of conventional farms to organic aquaculture, and the promotion of aquaculture with a 'high level of environmental protection' (Article 52, COM(2011)804). The latter refers to investments aimed at improving water quality and water efficiency, increasing energy efficiency, pond restoration (or 'de-silting'), and investments 'limiting the negative impact of aquaculture enterprises on nature or biodiversity'. At the same time, it will provide support for increasing the potential of aquaculture sites, encouraging new aquaculture farmers to set up enterprises, investments in new forms of aquaculture, namely off-shore and non-food aquaculture, and innovation, meaning developing and introducing improved products, processes and management systems, as well as introducing new knowledge to farms to reduce their impact on the environment.

In terms of over exploitation of natural resources from capture fisheries, the EMFF does reduce the funds available for environmentally harmful activities, therefore it is likely that the capacity of the EU fleet will decrease, and be more in balance with the available resources. Whether this will lead to a significant decrease in fishing effort and activity is not clear, as the balance between capacity and resources is also dependent upon measures adopted under the new CFP. The impact assessment for the EMFF proposal estimates that the fund could help to reduce discards by 40 to 70 per cent (SEC(2011) 1416 final). It also expects the fund to bring about small to medium improvements in terms of scientific advice and data coverage and quality. The aquaculture measures are designed to promote new forms of aquaculture and business establishment and increase the potential of aquaculture sites. Voluntary aqua-environment practices are also encouraged (eg water and energy efficiency), although types of measures that will limit the negative impacts of aquaculture on nature and biodiversity are not defined or clear. It should be expected that aquaculture production will increase, and although some of these farms may be more environmentally conscious, the question is whether these mitigation measures will be sufficient to achieve the environmental targets.

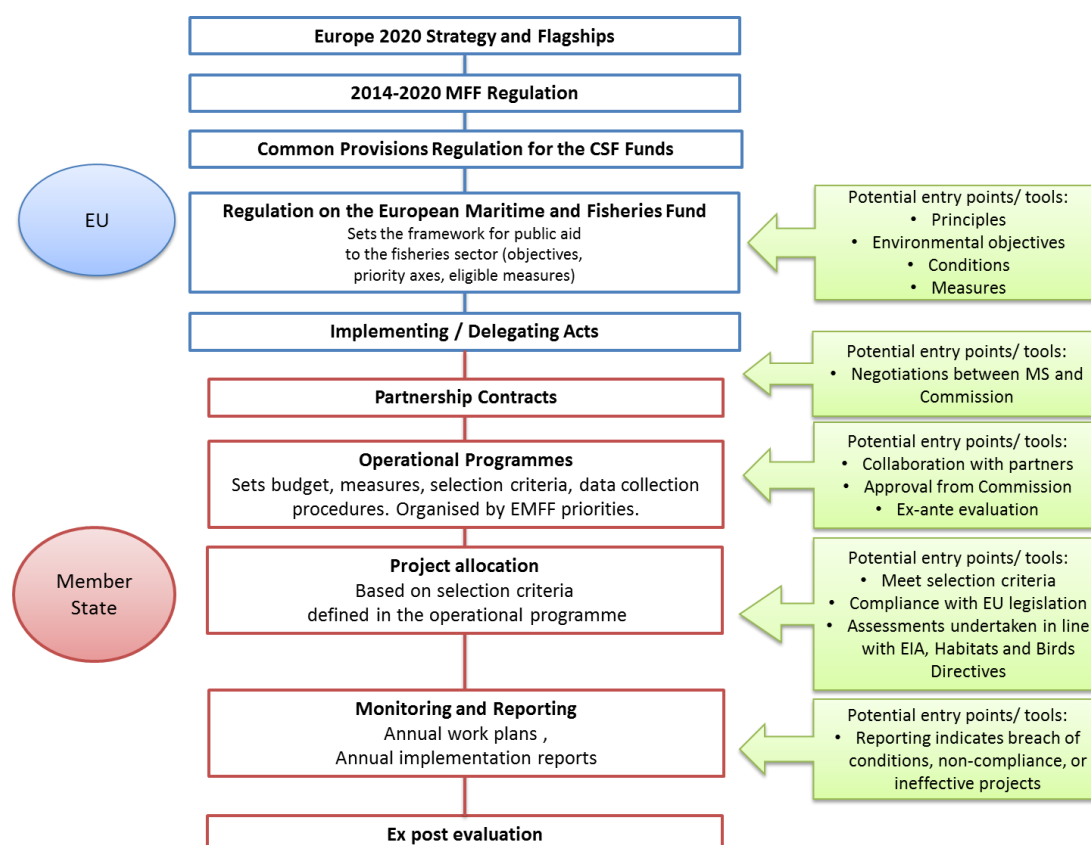
Intensive aquaculture can have a number of impacts on the marine environment, including sedimentation, chemical inputs, pathogen transmission, inter-breeding with wild organisms, introduction of alien species, and importantly, upstream or indirect ecosystem pressures. The latter refers to the harvest of wild fish to stock fish farms with juveniles (capture-based aquaculture) or the harvest of wild fish to provide feed for farmed individuals. The intensive production of mainly carnivorous species in Europe requires a high demand for fishmeal and fish oil in their diets. With typical grow-out diets containing between 30-50 per cent protein and 10-25 per cent oil, European aquaculture currently consumes around 615,000 tonnes fishmeal per year, thus requiring around 1.9 million tonnes of feed fish (Huntingdon et al, 2006). Although the EU aquaculture sector has stagnated in recent years, given the increased emphasis placed on aquaculture in both the CFP reform package (including the proposal of an advisory committee on aquaculture) and the EMFF proposal (which proposes additional aid for the sector) the EU aquaculture sector is expected to grow, and so is its need for fish meal and oil. In recent years new knowledge and technologies have been

developed to limit the demands for fish meal and oil from the sector, however applied innovation is still required and the small average size of aquaculture firms limits their access to existing technologies (see SEC (2011) 1416). On the other hand, aquaculture can play an important role in environmental conservation and enhancement of biodiversity, retention of water in the landscape and flood protection. In some cases aquaculture is instrumental in restoring wetlands for sustainable exploitation. These extensive or semi-intensive aquaculture systems can be compatible with sensitive habitats and can generate environmental benefits.

9.3 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing

Figure 9-1 provides a schematic overview of the different phases of implementation of the proposed EMFF, and the related entry points for biodiversity proofing. The proposal goes beyond current environmental requirements within the current EFF, but getting the details right in the Regulation will be crucial to ensuring that the principles, objectives, conditions and measures included will take biodiversity concerns fully into account, in order to be implemented in project allocation. As with other funds, entry points for biodiversity proofing exist at almost every stage of the implementation process.

Figure 9-1 Governance of the European Fisheries Fund



Funding under the future EMFF shall be allocated under the Common Provision Regulation, within a strategic approach bridging all five shared-management funds. This Common Strategic Framework (CSF) will be implemented through a Partnership Agreement, coordinating the CSF funds at national level. The CSF and Partnership Agreements will replace the strategic approach based on National Strategic Plans which was introduced for the current EFF, and which has been shown to have serious limitations and present undue administrative burden to Member States. The degree to which biodiversity concerns will be reflected in the Partnership Agreement is both dependent on the overall level of detail of provisions in the **main legislative framework** but also on the negotiation mandate of the Commission for concluding discussions with the respective Member State. Nevertheless they will be important strategic documents which could set out intervention priorities accompanied with dedicated funding allocations, and principles and safeguards to ensure biodiversity proofing of spending. In further contrast to the current EFF, the Common Provision Regulation introduces new **conditionality** provisions to ensure that funds deliver Europe 2020 objectives and targets. This conditionality takes the forms of ex-ante conditions that are required to be in place before funds are dispersed, and ex post conditions that will make 5 per cent of the EMFF allocation contingent on performance. Assistance will also be conditional upon compliance of Member States and operators to the rules of the CFP, especially control and data collection obligations. Ex-ante conditionality also applies to aquaculture, requiring Member States to prepare multiannual national strategic plans, to enable the sustainable development of aquaculture relating specifically to business security, access to waters and space, and simplification of licensing.

National Operational Programmes set the framework for expenditure. Each Member State must draw up a single Operational Programme, in close collaboration with the partners, structured around the Union priorities. Operational Programmes are expected to include, among other things: an **ex-ante evaluation**; an analysis of the situation and needs of the Member State; a demonstration of a pertinent approach integrated into the programme towards innovation, the environment, including the needs of Natura 2000 sites, and climate change mitigation and adaptation; an assessment of the **ex-ante conditionalities**; a list of measures selected, organised by Union priorities; a description of **selection criteria** for projects; and a description of data collection procedures, methods and activities to be carried out. The Commission shall assess the consistency of the Operational Programme with the EMFF Regulation, and taking account of the ex-ante evaluation analyses the contribution they will make to the EMFF priorities. The Commission will approve the Operational Programme through an implementing act. Clearly this is a major entry point for biodiversity proofing, to verify that biodiversity concerns are sufficiently prioritised, that a sufficient number of biodiversity related measures are selected for financing, and that the selection criteria for projects are stringent enough to avoid any projects which might have biodiversity damaging effects.

A key element of the CSF is the Common Strategic Monitoring and Evaluation Framework (CMEF), in which a set of **common output, result and impact indicators** will be defined in cooperation with the Member States and adopted in an implementing act. These indicators will be linked to the priorities of the EMFF and allow aggregation at the EU level. This will be a vast improvement on the EFF approach, in which the monitoring systems are fed with heterogeneous indicators: each MS has set up its own results and impact indicators which make it impossible to aggregate data and draw meaningful comparisons on indicators across MS, and indicators are focused on operational level and financial absorption (Ernst and Young, 2011). Ex-ante evaluation will be used to set baseline, milestones and target indicator values which will feed into the Partnership Agreements and the Operational Programmes.

Two reports in 2017 and 2019 will analyse the state of delivery and lessons for the following programming period.

In order to **collect data**, the Commission requires Member States to submit an **annual work plan** before 31 October each year. Annual work plans should contain a description of the procedures and methods to be used in collecting and analysing data and in estimating their accuracy and precision. The Commission shall approve the work plans by means of implementing act by 31 December of each year. This is a major entry point for biodiversity proofing, to establish that biodiversity monitoring procedures are robust and adequate.

In addition, the Member State managing authorities and monitoring committees are required to submit to the Commission an **annual implementation report** on the implementation of the Operational Programme in the previous calendar year. These reports are to be submitted by 31 May each year from 2016 to 2023. It is the responsibility of Member State monitoring committees to verify the performance of the Operational Programme and the effectiveness of its implementation, as well as issue opinions on the selection criteria for financing projects, actions necessary to fulfil ex ante conditions, and to consider and approve the reports before they are sent to the Commission. This is major entry point for biodiversity proofing, and presents an opportunity both for Member States and the Commission to verify that funding allocations are on track and that biodiversity concerns are taken on board.

At the end of the programming period, Member States will be required to submit an ex post **evaluation** report to assess the operational programme. This report shall be submitted to the Commission by 31 December 2023 at the latest. At the EU level, the Commission will produce synthesis reports of both the ex-ante and the ex post evaluations, to be completed at the latest by 31 December of the year following submission.

9.4 Best Frame of Actions

On the basis of the discussion of the previous section on the policy cycle and entry points for biodiversity-proofing, a possible “Best frame of action” for mainstreaming of biodiversity concerns within the EMFF has been identified, comprising of substantive and procedural instruments to be employed. The elements of this frame are presented here, and a more detailed assessment of their strengths, weaknesses, opportunities and threats can be found in Annex 5.

Stated at the EU level in the EMFF Regulation, the **priorities and objectives** within the EMFF will be requirements on all Member States, and will need to be recognised and respected at the national level in the Partnership Agreements and the Operational Programmes. Furthermore, they should be taken into account when selecting projects, during project implementation and during monitoring of projects. As with other funds, the wording of biodiversity related **requirements** and **safeguards** at the Regulation level is vitally important: without including **strong biodiversity protection objectives** at the Strategic Planning stages of the policy framework, it will be very difficult to guarantee biodiversity requirements at later stages of the policy cycle, such as during implementation. The expansion of requirements for biodiversity in the EMFF regulation could include such additions as a sustainable reference level at which fish stocks should be exploited (eg maximum sustainable yield (MSY) by 2015), the inclusion of the principle of “no net loss”, or the inclusion of an objective specifically related to habitat restoration. Any such change would have to be proposed by the Commission and subsequently be agreed in comitology by a qualified majority of Member States. Once any such biodiversity requirement was to be

included in the EMFF text, it would then need to be implemented consistently across all Member States. These steps present significant barriers to the inclusion of any biodiversity requirements which are not already legally required. The current negotiations over the EMFF proposal regarding maximum sustainable yield (in which Member States are debating over the date by which MSY should be met) are a perfect example of the difficulties which may be encountered.

Project selection criteria and project selection procedures are to be defined by Member States in their respective Operational Programmes for approval by the Commission. Member State Monitoring Committees are to be consulted and provide an opinion on the criteria and they may be revised according to programming needs. The project selection process is a crucial point in the implementation of the Regulation, and if the criteria are not well designed they may be opportunities for biodiversity harmful projects to be financed. This occurred during the previous funding period when some applicants were eligible for public assistance to support the decommissioning of fishing vessels. To avoid the decommissioning of vessels which were already out of service (or “deadweight”) the selection criteria required eligible vessels to have been fishing for at least 90 days in each of the two years before the application date or must have been fishing for at least 120 days in the year before the application date. However, the European Court of Auditors (2011c) audited ten decommissioning projects in Spain, of which two vessels were inactive: one had suffered a severe fire and was out of action although it did meet the eligibility criteria, the other simply did not meet the criteria. This example demonstrates the fundamental importance of taking care to design project selection criteria and project selection procedures, the role of the Member State Monitoring Committees in reviewing these, and the role of the Commission in checking and approving this particular aspect of Member State Operational Programmes. To make the procedures described here (as they appear in the EMFF proposal) even more stringent, it would be useful to have an audit of measures and review of criteria and procedures scheduled, to identify any issues or failings early on in the programming period. It should then be possible to modify the Operational Programme in light of any findings. Another potential inefficiency here relates to the fact that the selection criteria are defined at the Member State level. Although it is necessary to define the project selection criteria in close contact with potential beneficiaries to ensure their relevance and feasibility, it does mean that any lessons learnt at the Member State level will not necessarily be brought to the attention of other Member States. The Commission could play a role in facilitating adaptive management of project selection by aiding communication between Member States on any biodiversity relevant observations and changes to criteria, thereby helping to ensure a level playing field in terms of environmental restrictions.

Making funds **conditional** on compliance with EU legislation and performance, as per the EMFF proposal, can be a powerful means of increasing implementation of biodiversity measures. Placing the onus on project applicants to demonstrate their compliance can be considered a strength since the burden of proof lies with the person undertaking the project. This is administratively and technically more simple since the project applicant will be most familiar with the project. Although it may also be a weakness since there may be conflict of interest since the applicant is attempting to gain financial support. This highlights the importance of the Member State authorities to verify claims, and thus the resources available to them to do so. Furthermore, it relies on Member States to have properly implemented and enforced the respective environmental legislation. Any strengths and weaknesses related to the implementation of the environmental legislation (including the EIA and SEA Directives and the IUU Regulation) will therefore affect the implementation of the EMFF.

Monitoring of projects is the responsibility of Member States, and more specifically their Monitoring Committees, although under the proposed EMFF the Commission shall define the set of indicators specific to Union priorities by means of implementing acts. Nevertheless, as the proposal stands, as long as Member State reporting against the agreed milestones is satisfactory, the Commission will not undertake any further monitoring of projects, relying on the national Monitoring Committees to inform it of any outstanding issues. It is unclear here what constitutes satisfactory reporting, and therefore at which point it would be appropriate for the Commission to intervene. Furthermore, experience has shown that Member State reporting on fisheries has been variable in terms of completeness and quality (eg European Commission, 2012c). Although a common set of indicators will no doubt improve this, it is likely some Member States will find it difficult to comply, and the Commission should be prepared to conduct some monitoring of its own.

Member State managing authorities are required to submit to the Commission an **annual implementation report** on the implementation of the Operational Programme, which has to be considered and approved by Member State Monitoring Committees before submission. Annual reports are a valuable means of keeping track of biodiversity concerns, and are done frequently enough for problems (with the selection criteria for example) to be identified and acted upon. This will only happen as long as Member States are thorough, conducting this analysis properly and not treating it merely as a box-ticking exercise.

All Member States will be required to submit an **ex-ante evaluation** when they first submit their Operational Programmes, and an **ex-post evaluation** report to assess the operational programme at the end of the programming period. Ex-ante evaluation is clearly a very useful tool to identify potential sources of biodiversity harmful spending, though obviously not comprehensively gauge the impact on a specific environmental issue. This would help to identify projects that could be targeted for assistance in their development and for individual evaluation and monitoring. Compared to annual reporting and interim evaluations, ex post evaluations are seriously restricted in their ability to contribute to policy changes in a timely manner as they occur so late in the programming cycle. But they can focus on the impact on marine ecosystems and biodiversity and projects for which a risk of damage had been identified by the ex-ante and annual reporting.

9.5 Challenges and information gaps

One of the principal challenges with regards to the maritime and fisheries fund is that the impact of the measures within the EMFF depends on the details of the individual project. Measures vary significantly from one and other and projects supported by such measures will do too (eg measures to increase the selectivity of fishing gear could include any number of gear modifications depending on the specifics of the fishery, vessel, target species or bycatch species, etc). Predicting or measuring the impacts of all of any of the EMFF priorities or measures is therefore a serious challenge. This is particularly the case for projects which make improvements to vessels as long as they do not increase the ability of vessels to catch fish. The problem relates mainly to the difficulty of measuring whether the capacity of fleets is in balance with available resources. In a nutshell, the indicators of fishing capacity, vessel tonnage and engine power, are not reliable indicators of the ability of vessels to catch fish, especially considering advances to fishing technology.

This is also a problem for projects which aim directly to improve the state of biodiversity. When compared to other funds or policy areas, the scientific knowledge supporting fisheries policy is relatively abundant; the governance structures which are responsible for providing

scientific evidence in support of policy are well established; and increasingly over recent years thanks to European and national efforts there has been increased collaboration between scientists and the fishing industry, helping to reduce uncertainties and build trust in the evidence base. However, there remain many gaps in our knowledge. These gaps relate to the state of certain target stocks, and with the interactions between fish stocks, each other, and the wider marine environment, including habitats and marine mammals. Data gaps vary by sea basin, with the Black and Mediterranean Seas having greater insufficiencies, and the Baltic and North East Atlantic basins faring better, though still deficient. Understanding fisheries and the interactions it has within the wider marine environment is a particular challenge to biodiversity-conscious fisheries management, or rather, ecosystem-based fisheries management. Fortunately, research in support of the Marine Strategy Framework Directive indicators of Good Environmental Status, seabed mapping exercises in the framework of marine spatial planning initiatives, and pilot projects in multispecies modelling all demonstrate progress in these areas.

Another fundamental challenge to biodiversity proofing the EMFF is the lack of political will to forgo short term economic losses in order to rebuild fisheries, despite the environmental, social and economic gains this will have in the long term. It is clear from the debates over the EMFF proposal that some fishing industry interests and Member States are still attached to certain measures financed under the previous programming period, despite their failure to reduce overcapacity (and in some cases, their perverse ability to increase fishing capacity). This is an obstacle at the highest level, and is likely reflects a culture that spans all levels of implementation, from project to policy.

9.6 Recommendations

Regarding the EMFF there are actions that may be taken at most stages of the programme cycle to mainstream biodiversity. Possibly of greatest importance is to ensure that the wording of the EMFF Regulation itself is ambitious in terms of biodiversity content. Since the EMFF reflects the content of the CFP, it is therefore imperative that the CFP Regulation, currently under reform, is also ambitious. The proposed Regulations are greener than the Regulations currently in operation, and these should be maintained or strengthened to ensure sustainable exploitation of marine living organisms.

The next step would be to evaluate the potential impacts of the EMFF programme on biodiversity in an ex-ante evaluation in order to ensure the support it provides will not adversely affect the Union priorities to reduce the impact of fisheries on the marine environment, and protect and restore marine biodiversity, ecosystems and the services they provide. Particular attention should be paid to any projects where there is greater risk of any potential investments that might increase the ability of vessels to catch fish, increase greenhouse gas emissions, or increase pressures on wild fish stocks as a result of increased aquaculture production.

In terms of programming, biodiversity concerns will need to be reflected in the Operational Programmes, to ensure that the biodiversity requirements in the EMFF be reflected in the projects that it funds. This is particularly critical with regard to the project selection criteria defined in the Operational Programmes. Although selection criteria will be technical and specific, the Commission could provide increased support in this respect to aid Member States in designing this critical element of the programme, for example, by encouraging and enabling the sharing of good practice amongst Member States. The Commission should also scrutinise the selection criteria closely when verifying the Operational Programmes, and then annually based on the annual implementation reports.

Indeed, closer monitoring of projects would help to ensure that the biodiversity concerns which arose in the current programming period (such as the occasions reported where vessels increased their ability to fish as a result of modernisation measures) would be avoided or mitigated in the next programming period. Of course expanding monitoring efforts is costly and burdensome; therefore it is recommended that efforts are focused on the measures and projects which have been identified to pose the greatest risk, in the ex-ante evaluations.

10 RESEARCH AND INNOVATION – HORIZON 2020

10.1 Introduction to the fund

EU policy recognises that research and innovation are an essential element of the functioning of industrialised countries. This is emphasised by the Amsterdam Treaty which devotes a chapter to research and technological development (RTD) as an essential contributor to the competitiveness of the EU and the wellbeing of its citizens. Given the high cost, complexity and critical mass required delivering essential research and innovation programmes, EU intervention is seen as vital – delivering economies of scale, promoting co-ordination and networking, and overcoming problems of fragmentation.

The importance of research and innovation for the EU's economy has been increasingly emphasised in recent years and they are now at the top of the EU's agenda for growth and jobs, and account for a rising share of the EU budget. The EU has highlighted the importance of research and innovation in delivering economic growth and employment, as well as tackling key environmental and social issues such as climate change and the ageing population. It is recognised that our future standard of living depends on our ability to drive innovation in products, services, businesses and social processes. The EU has therefore placed innovation at the heart of the Europe 2020 Strategy. Central to this is the Innovation Union, an EU 2020 flagship initiative aiming to secure Europe's global competitiveness.

Central to research and innovation policy has been a series of RTD framework programmes, with the current programme (FP7) covering the 2007 to 2013 budgeting period. FP7 is supplemented by the work of other initiatives and organisations such as the Competitiveness Improvement Programme (CIP), the European Institute of Innovation and Technology (EIT) and the work of the Joint Research Centre (JRC) and European Research Council (ERC).

Horizon 2020, the new framework programme for research and innovation, will be the financial instrument implementing the Innovation Union. Running from 2014 to 2020 with an €80 billion budget, the EU's new programme for research and innovation is part of the drive to create new growth and jobs in Europe. Compared to research and innovation funding in the current budget period, Horizon 2020 will provide major simplification through a single set of rules. It will combine all research and innovation funding currently provided through the Framework Programmes for Research and Technical Development, the innovation related activities of the Competitiveness and Innovation Framework Programme (CIP) and the European Institute of Innovation and Technology (EIT).

Three priorities are proposed: “Excellent Science”; “Industrial Leadership”; and “Societal Challenges”. Under these three priorities the proposed support for research and innovation under Horizon 2020 will:

- Strengthen the EU's position in science with a dedicated budget of € 24,598 million. This will provide a boost to top-level research in Europe, including an increase in funding of 77 per cent for the European Research Council (ERC).
- Strengthen industrial leadership in innovation, with a budget of € 17,938 million. This includes major investment in key technologies, greater access to capital and support for SMEs.
- Provide € 31,48 million to help address major concerns such as climate change, developing sustainable transport and mobility, making renewable energy more affordable, ensuring food safety and security, or coping with the challenge of an ageing population.

Horizon 2020 will be complemented by further measures to complete and further develop the European Research Area by 2014. These measures will aim at breaking down barriers to create a genuine single market for knowledge, research and innovation.

Horizon 2020 has been constructed from the outset around a simplification of architecture, rules and procedures and control strategy. Simplification in Horizon 2020 aims to reduce the administrative costs of participants, speed up all processes of proposal and grant management and decrease the financial error rate.

The key documents relating to the establishment and implementation of Horizon 2020 are:

- a Communication from the Commission “Horizon 2020 - The Framework Programme for Research and Innovation” which sets out the overall context, objectives and priorities of Horizon 2020;
- a Proposal for a Regulation establishing Horizon 2020, which provides the legislative framework for establishing the programme;
- a Proposal for a Regulation laying down the rules for the participation and dissemination in Horizon 2020, which establishes a single set of rules for EU research and innovation funding; and
- a Proposal for a Council Decision establishing the Specific Programme Implementing Horizon 2020, which sets out a single programme setting out specific objectives for EU support for R&I and rules for implementation.

The programme will be implemented through Work Programmes, established for each of the three themes, “Excellent Science”, “Industrial Leadership” and “Societal Challenges” which will set out the objectives pursued, the expected results, the method of implementation and their total amount. They will also contain a description of the actions to be financed, an indication of the amount allocated to each action, an indicative implementation timetable, as well as a multi-annual approach and strategic orientations for the following years of implementation. They shall include for grants the priorities, the essential evaluation criteria and the maximum rate of co-financing. They shall allow for bottom-up approaches that address the objectives in innovative ways.

The timetable for Horizon 2020 is as follows:

- from 30/11/11: Parliament and Council negotiations on the basis of the Commission proposals;
- ongoing: Parliament and Council negotiations on EU budget 2014-20 (including overall budget for Horizon 2020);
- mid 2012: Final calls under 7th Framework Programme for Research to bridge gap towards Horizon 2020;
- by end 2013: Adoption of legislative acts by Parliament and Council on Horizon 2020;
- 1/1/2014: Horizon 2020 starts; launch of first calls.

10.2 Relevance for biodiversity

There is little evidence of the impact of EU research and innovation funding on biodiversity. However, this funding has the potential to generate both positive and negative impacts. These could include the following impacts.

- Direct, site based impacts. R&D activities potentially impact positively or negatively on biodiversity at the local scale, through for example, development of research facilities and through the direct impact on the natural environment of projects in key sectors such as agriculture, fisheries and renewable energy.
- Longer term impacts resulting from research and innovation outcomes. Research and innovation funding aims to develop and disseminate knowledge designed to influence the future of Europe's economy, society and environment. The results of these activities potentially encourage the development of industries that could impact negatively on biodiversity (such as some renewable energy technologies). However, research and innovation activity also aims to support the development of knowledge and solutions that help to address biodiversity loss and inform the sustainable development of sectors that impact on biodiversity.

The Commission's Research and innovation webpages⁵⁰ highlight the role of EU research and innovation programmes in funding biodiversity related research, stating that: "European research is directed towards assessing and forecasting changes in biodiversity and understanding the dynamics of ecosystems, particularly marine ecosystems. The relationships between the environment, the society and the economy are analysed in order to identify – and mitigate – potentially harmful effects on the environment and on human health and society. Risk assessments based on European research allow us to better manage, conserve and rehabilitate our ecosystems in a sustainable manner for future generations."

EU research and innovation policy has also helped to fund research aiming to reduce the impacts of key sectors on biodiversity. According to a survey of FP5, FP6 and FP7 project coordinators in the area of "Food, Agriculture and Fisheries, and Biotechnology" research, 49 per cent of all projects produced positive environmental impacts, which include reducing the impact of agriculture and forestry on biodiversity⁵¹.

DG Research commissioned an ex-post impact assessment of the FP6 sub-priority "Global Change and Ecosystems" in 2008. The purpose was to identify the degree of achievement of the objectives of the sub-priority and the impacts of the activities carried out. The study found that EU environmental research is leading in several environmental research areas, has high policy relevance and contributes to the development of tools for environmental policy.⁵² In terms of scientific impacts related to biodiversity and ecosystems, the assessment found that large projects benefit this area since they allow for the assessment of biodiversity and ecosystems at a larger scale. It found that the research funded was policy relevant and helped to inform the biodiversity action plan and CBD.

⁵⁰ http://ec.europa.eu/research/environment/index_en.cfm?pg=bio

⁵¹ COMMISSION STAFF WORKING PAPER - IMPACT ASSESSMENT Accompanying the Communication from the Commission 'Horizon 2020 - The Framework Programme for Research and Innovation'

⁵² DG Research (2009) Ex-post Impact Assessment FP6 sub-priority "Global Change & Ecosystems".
http://ec.europa.eu/research/environment/pdf/880final_report_assesement.pdf

An Interim Evaluation of the Seventh Framework Programme, undertaken in 2010, made no mention of biodiversity. The evaluation focused largely on the process aspects of FP7, and therefore gave no indication of the environmental impacts of FP7 funded activities (European Commission, 2010d).

DG Research and Innovation has developed a series of web pages on sustainable development. These focus entirely on the contribution that EU funded research and innovation programmes make in informing sustainable development policies and practice, rather than the direct environmental and other impacts of research projects themselves. The Commission has developed a web based monitoring tool (FP7-4-SD.eu) to examine these positive contributions⁵³ and has funded a publication “Gearing European research towards sustainability.”⁵⁴ The latter recommended that more needs to be done to promote sustainable practices among researchers and research institutions, but gave little information other than highlighting the energy intensity of many research activities.

Research and Innovation Policy funds projects in a number of sectors with potential to impact negatively on biodiversity, including transport (air, rail, road, water and multimodal); agriculture, fisheries and forestry; biotechnology; energy and industrial technologies. Research has the potential to reduce biodiversity impacts in these areas, but could possibly encourage the development of technologies that impact negatively on biodiversity. For example in the transport sector the EU is funding research to improve the treatment of marine oil spills, and has also funding a large number of projects concerning vehicle and aircraft technologies that could indirectly affect demand for transport infrastructure. In the energy sector a wide range of renewables technology projects have been supported, including biomass, wind and marine energy technologies with potential adverse impacts on biodiversity. Nanotechnology has a range of potential benefits and threats to the environment, and there is limited evidence of its potential impacts on biodiversity. A paper by Defra (2009) observed that the early focus of FP7 was on the opportunities for industry, with little attention on wider impacts, except to some extent human health.

The above examples relate to the possible indirect effects of research and innovation activity on biodiversity by influencing the potential development of technologies and industries that potentially affect biodiversity. It is also likely that some of the projects funded have direct impacts on biodiversity. For example, the EU funded research and innovation projects in the fields of wind and tidal energy, agriculture, forestry and fisheries may have direct biodiversity impacts at the project sites. However, no specific evidence of EU funding causing negative effects on biodiversity has been found.

Sustainable development will be an overarching objective of Horizon 2020. The dedicated funding for climate action and resource efficiency will be complemented through the other specific objectives of Horizon 2020 with the result that at least 60 per cent of the total Horizon 2020 budget will be related to sustainable development, the vast majority of this expenditure contributing to mutually reinforcing climate and environmental objectives. The proposal for a regulation establishing Horizon 2020 states that *research and innovation will interface with a wide spectrum of Union policies and related targets, including ...the Union's*

⁵³ European Commission (2011) “Monitoring the FP7 contribution to the EU’s SD objectives – facts & figures (update 2011)”. FP7-4-SD.eu policy brief No. 4 from April 2011. https://www.fp7-4-sd.eu/tpl/static/FP7-4-SD_policy_brief04.pdf

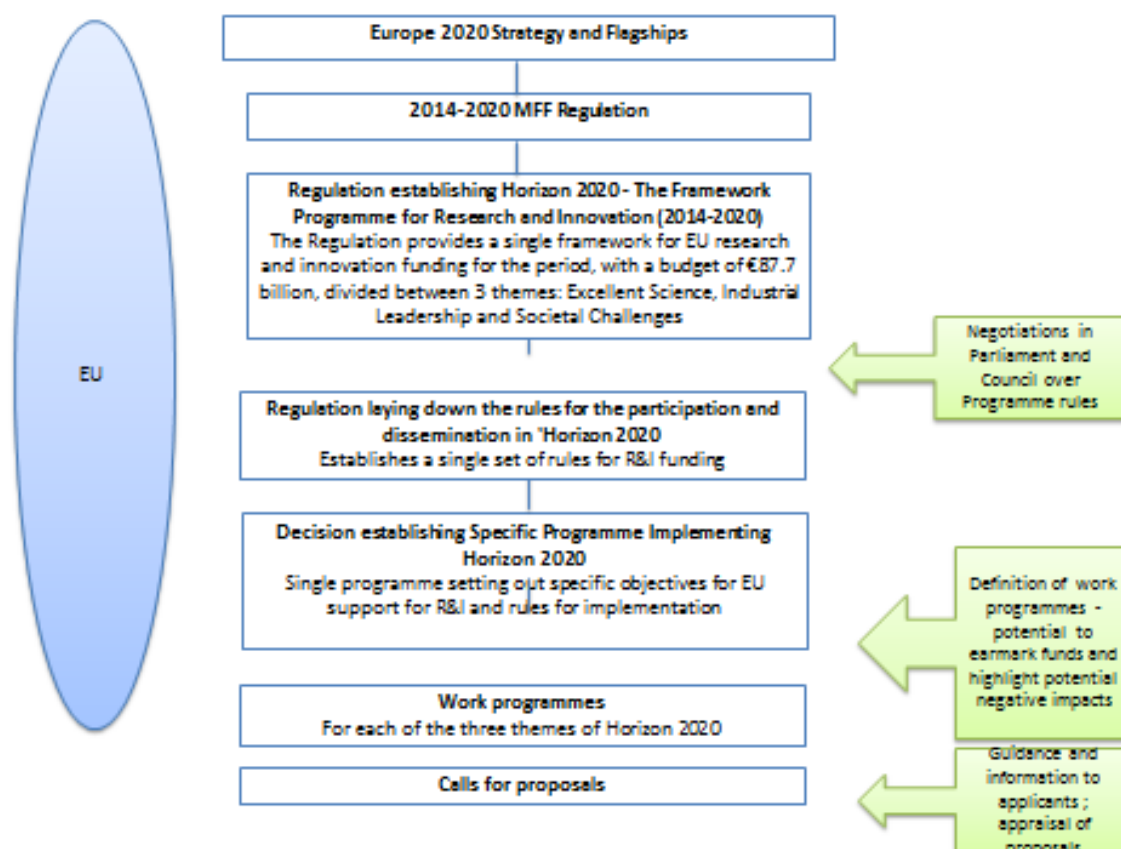
⁵⁴ European Commission (2009) Gearing European research towards sustainability. http://ec.europa.eu/research/sd/index_en.cfm?pg=publications

2020 biodiversity strategy, and highlights its role in addressing the EU's environmental challenges, including the loss of biodiversity and degradation of ecosystems.

Biodiversity projects will be funded through the climate action, resource efficiency and raw materials theme, with an overall budget of €3.6 billion, or just over 4 per cent of the Horizon 2020 budget. Among the priorities under this theme is "Sustainably managing natural resources and ecosystems" which includes research to "further our understanding of the functioning of ecosystems, their interactions with social systems and their role in sustaining the economy and human well-being" as well as to "Provide knowledge and tools for effective decision making and public engagement" with regard to ecosystems. However, given other priorities under this theme (with regard to climate change, raw materials, eco-innovation, global environmental observation and information systems), it is unclear how much funding biodiversity projects will receive. The increasing focus on sustainable development under other themes also provides some encouragement. Overall, while there is potential that opportunities for research and innovation activities that benefit biodiversity may be enhanced in the next programming period, there is some uncertainty. Furthermore, other priorities highlighted in Horizon 2020, such as food security, clean energy and transport growth have the potential to impact negatively on biodiversity, suggesting a continuing need to identify and address possible negative impacts within these other themes.

Figure 10.1 below provides a schematic overview of the stages of implementation of research and innovation funding and the related entry points for biodiversity proofing.

Figure 10-1 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing



The main tool that is currently used to further the conservation of biodiversity involves specific allocations of funding to biodiversity projects. No tools or procedures are in place to address potential negative impacts on biodiversity. Project appraisal criteria do not seem to take account of specific environmental criteria. No relevant arrangements could be identified for the area of institutional instruments.

Table 10-1 Tools available for Best Frame of Action

Tool	Extent to which biodiversity is covered
Substantive instruments Setting of objectives and priorities, and allocation of funding Specific objectives are set out in the Proposal for a COUNCIL DECISION establishing the Specific Programme Implementing Horizon 2020 A more detailed Work Programme for the “Societal Challenges” part will set out funding allocations in more detail.	Ecosystems are covered as one of five priorities identified under the CLIMATE ACTION, RESOURCE EFFICIENCY AND RAW MATERIALS theme under Part III – Societal Challenges. The theme has an overall budget of €3.6 billion. No reference is made in the Horizon 2020 documents to policies to safeguard biodiversity (or indeed wider sustainability) across wider funding measures
Procedural instruments Appraisal of project proposals Ethics Review procedures for project proposals	Project appraisal does not appear to take account of environmental criteria Ethics Review process does not take account of environmental aspects
Institutional instruments No relevant arrangements identified	

There does not appear to be any specific requirement for applicants to submit information regarding the environmental impacts of projects, and environmental aspects do not appear to form part of the selection criteria, except to the extent that these represent core aims of the project.

Activities in FP7 are required to respect fundamental ethical principles, including those reflected in the Charter of Fundamental Rights of the European Union. Ethical principles include the need to protect the physical and moral integrity of individuals, their privacy and dignity and the welfare of animals. For this reason, the European Commission is required to carry out an ethical review of proposals when appropriate (http://cordis.europa.eu/fp7/ethics_en.html). The applicant needs to address the ethical aspects of the objectives, methodology and the implications of the proposed research in the dedicated ethics section of his/her proposal and, if relevant, include a timetable regarding the prior authorisation of his/her research. Environmental aspects are not considered among these ethical principles at present.

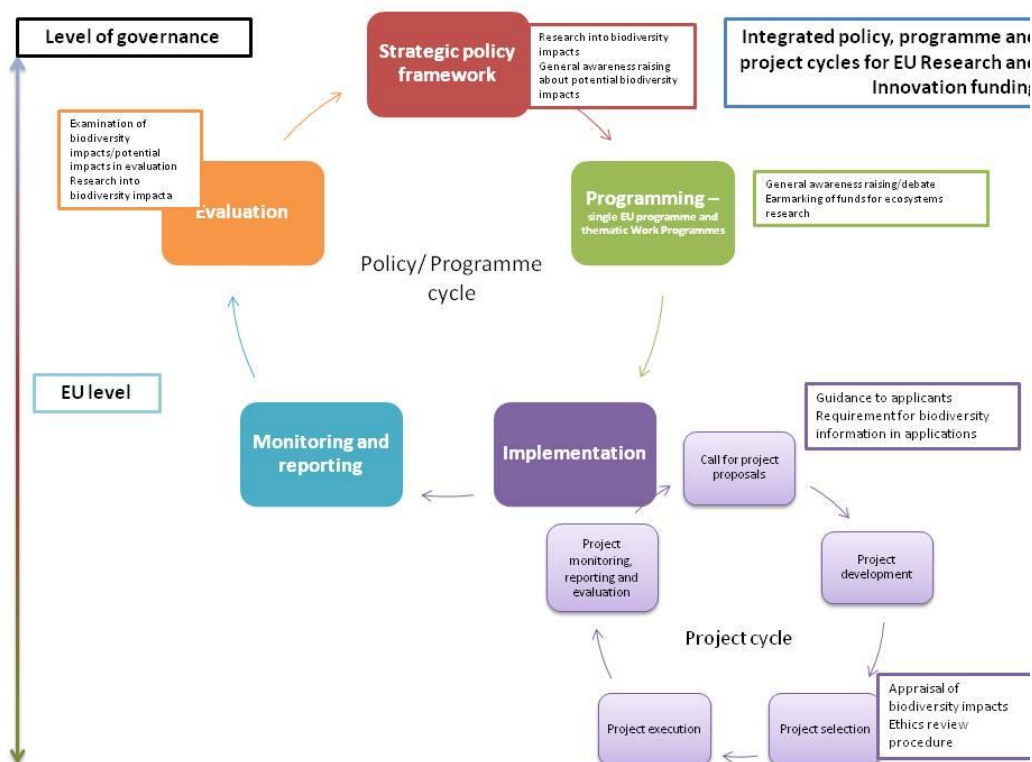
Under the Horizon 2020 proposals the aim is to simplify and streamline the applications procedures for research and innovation funding, rather than adding additional requirements for applicants. However, the stated emphasis of Horizon 2020 on sustainable development, both in directly funding sustainable development research and innovation activities, and in providing the knowledge required to support sustainable development in key sectors, offers encouragement that the programme will offer benefits and opportunities rather than threats to biodiversity. The wording of the sectoral themes (“sustainable agriculture”, “clean energy”, “green transport”) gives further encouragement, as does the stated intention that Horizon 2020 should contribute to the delivery of key EU policies including the Biodiversity Strategy. Nevertheless, the potential for research and innovation projects to harm biodiversity, either directly or indirectly, still remains.

Possible entry levels to incorporate biodiversity considerations are outlined below.

- EU level programming. Proposals have been published for a Regulation establishing Horizon 2020, a Regulation laying down the rules for the participation and dissemination in Horizon 2020, and a proposal for a Decision establishing the Specific Programme Implementing Horizon 2020. The only mention of biodiversity or indeed wider environmental issues is with regard to support for projects with these objectives. Work Programmes will be developed that will set out funding allocations and procedures in more detail, and could represent a potential point of entry. However, it is now very late in the programming process to influence the rules and procedures, and the Commission is not expected to propose significant changes. While the Parliament and Council have this power, it is unlikely that they will see biodiversity as a priority issue at this stage.
- Calls for proposals. Calls for proposals issued by DG Research under specific themes offer a potential point of entry – eg providing an opportunity to issue guidance to potential applicants regarding biodiversity issues and to request information from applicants regarding potential biodiversity impacts;
- Appraisal of proposals. Project appraisal criteria could potentially include consideration of impacts on biodiversity. However, there has been no requirement to include environmental information in project applications to date, and Horizon 2020 aims to simplify application and appraisal processes.
- Evaluation of programme. Interim and ex post evaluation of the programme could examine effects on biodiversity, in order to enhance understanding of impacts. There is no evidence of such impacts being covered by previous evaluations, except with regard to specific environmental themes, and the breadth of the evaluation task and the marginal role of biodiversity is a barrier to achieving this.
- Addressing biodiversity impacts outside the R&D process. Given the absence of evidence regarding impacts of EU R&I funding on biodiversity, the need for entry levels within the R&I funding process could be questioned. Most R&I projects themselves will have little or no impact on biodiversity, and there may be greater concerns that R&I activity leads to innovations whose wider adoption causes adverse biodiversity impacts. As such impacts are difficult to predict, it might be argued that they could best be addressed outside of the R&I process (eg through development control and other measures).

The figure below provides a further overview of how the policy/programme cycles and the project cycles interact, and where biodiversity proofing can support the better consideration of biodiversity concerns into research programming.

Figure 10-2 Implementation cycles and levels of governance



10.3 Best Frame of Actions

Research and innovation play an important role in meeting biodiversity objectives, and this is reflected in the number of projects aiming to contribute to biodiversity priorities in the current budgeting period. The increasing focus on sustainable development through Horizon 2020 offers potential to grow this funding in the next budgeting period.

Cross-cutting tools and procedures to ensure that research and innovation projects do not impact negatively on biodiversity appear to be lacking at the EU level. This may not be of great concern, since evidence of negative impacts is currently lacking. However, there is potential for EU funded projects to have negative impacts on biodiversity in future. Consideration could therefore be given to the need to address potential biodiversity impacts in the project appraisal process.

The following measures and initiatives could be considered to address these concerns.

- **Research into the impacts of research and innovation programmes on biodiversity** (positive and negative, direct and indirect). There is currently very little evidence on this issue, other than that relating to direct funding for biodiversity projects, and further research would help to inform the case for policy action. Research could be funded by DG Research under the Horizon 2020 programme.
- **Guidance on the impacts** that different sectors and technologies have on biodiversity, and means of mitigating these, to inform project development and

appraisal. Such guidance could be shared with other funding instruments and policy areas (eg Cohesion Policy) with input from DG Environment.

- **Requirements for the review of potential biodiversity impacts** as part of the project appraisal process in particular themes in which negative impacts are most likely to occur (eg in relation to food security and agriculture, energy and transport). Guidance could be given by DG Research to applicants within the documentation issued with calls for proposals.
- **Ring-fencing funds for biodiversity related research**, within the Climate action, resource efficiency and raw materials theme in Horizon 2020 and potentially in other themes relevant to biodiversity.

As funding is allocated at EU level, rather than through the Member States, any biodiversity proofing activity needs to be focused at this level, working with the Directorate General for Research and Innovation. The principal points of entry would appear to be:

- negotiations on the legislative proposals for Horizon 2020 (up to the end of 2013);
- consultations on Work Programmes;
- consultations on specific Calls for Proposals;
- provision of guidance to potential applicants;
- appraisal of research proposals; and
- evaluation of programme, with respect to potential impacts on biodiversity.

Given the current lack of evidence of negative effects of EU research and innovation funding on biodiversity, **research** into this area would therefore seem to be a prerequisite for action. While research in itself will not prevent adverse impacts on biodiversity occurring, it would provide a firmer basis for taking action in future. Research at EU level could be co-funded through Horizon 2020 and could examine potential and actual impacts of EU research and innovation funding on biodiversity, with reference to specific EU funded projects.

Guidance to applicants regarding potential biodiversity impacts of particular sectors and technologies could help to integrate biodiversity concerns into project development, helping to avoid negative effects and even to encourage biodiversity friendly innovations. Guidance will not itself guarantee that biodiversity impacts are avoided, and may have little effect unless backed by sticks or carrots. It has the potential to positively enhance project development and implementation and could be shared with other EU programmes dealing with relevant sectors (eg Cohesion).

Integration of biodiversity criteria into the **project application and appraisal** process would enable potential biodiversity impacts of all projects to be addressed, and provide a strong incentive for applicants to address potential biodiversity impacts. However, this would impose a burden on applicants and administrators which may be seen as disproportionate, especially given lack of evidence on biodiversity impacts, and may conflict with the stated aim of simplifying the appraisal process.

Integrating biodiversity criteria into **Ethics Review procedures** might therefore be more feasible and attractive. As this is based on an existing process, it is likely to be more feasible and less burdensome than developing separate approach. However, the ethics review currently focuses on specific issues (eg animal welfare, human embryos) and does not include environmental criteria, and the current appetite to extend its scope may be limited.

Nevertheless, this could represent the most promising option for developing biodiversity proofing in future, given an adequate evidence base about actual and potential impacts.

10.4 Challenges and information gaps

Key challenges and barriers to achieving systematic biodiversity proofing of EU research and innovation funding include:

- The **lack of evidence of the impacts of EU research and innovation funding on biodiversity**, which is a major barrier to action. Further research into potential and actual impacts of EU funds would therefore appear to be a prerequisite for action in this area.
- The stated aim of further **streamlining and simplifying application and appraisal processes** for EU research and innovation funding under Horizon 2020, which could lead to resistance to the introduction of further restrictions and appraisal criteria.
- The **advanced state of negotiations** regarding the next funding programme, which limits opportunities for progress in this area before 2020.

In the light of these challenges and information gaps, research and evidence gathering are a strong priority – this will strengthen the evidence base for action with regard to future funding.

10.5 Recommendations

Given the shortage of evidence of the impacts of EU research and innovation funding on biodiversity, it is difficult to make a compelling case for intervention. Research to assess impacts of EU research and innovation on biodiversity would therefore appear to be a priority. Given the lack of attention to environmental proofing in general, and the stated intention of simplifying application and approval processes, biodiversity proofing might be expected to meet substantial resistance.

Since there is an existing Ethics Review procedure that applies to the selection of research and innovation projects, integration of biodiversity considerations into this process might be the most promising option in the future.

However, given that the greatest potential impacts occur beyond the research and innovation process (ie as a result of commercial development of research results), there is a case for focusing intervention outside the research and innovation process itself, by ensuring that the planning and development control system as a whole adequately addresses biodiversity impacts.

11 LIFE PROGRAMME

Note that at the time of writing this report aspects of the post 2014 LIFE Programme proposals were potentially subject to change. Interpretation of the conclusions should therefore take into account any subsequent changes in the post 2014 policy.

11.1 Introduction to the fund

The LIFE programme has been on-going since 1992, and is the only dedicated financial instrument for the environment in the EU. The LIFE+ Programme for 2007-2013, the fourth of its nature, has a budget of EUR 2.143 billion. It is designed to contribute to the implementation, updating and development of EU environmental policy and legislation, including the integration of the environment into other policies.

The LIFE+ fund enables but does not require the participation of individual Member States (Farmer, 2011). It thus does not request to be transposed into national law. In a number of Member States, however, new administrative arrangements have been developed, for example the creation of a LIFE+ Government Working Group (GWG) in the UK (Farmer, 2011). LIFE+ 2007-2013 is managed centrally by the Commission, assisted by the LIFE+ Committee. The Committee consists of representatives from the Member States and helps to determine the content of the monitoring reports from beneficiaries; establishing indicators to monitor LIFE+; amending non-essential elements of the Regulation; laying down methodology for project selection; and deciding upon the list of projects to receive funding (Farmer, 2011). Member States can inform the Commission of their own national annual priorities and comment on the project proposals they forward to the Commission.

Following an ex-post evaluation and an impact assessment on the future financing programme for the environment in 2010, the Commission called for LIFE to continue into the next funding period 2014-2020. The proposed Regulation on the establishment of a programme specifically dedicated to funding the environment and climate action (LIFE) was published on 12 December 2011. The programme is now more closely aligned to Europe 2020 objectives, and will serve as a funding instrument for climate action as well as the environment more generally.

The new LIFE programme is intended to be a catalyst with a particular focus on the implementation and integration of climate change and environmental considerations in other policy areas and Member State practices. Special emphasis is given to the achievement of better governance, the improvement of the knowledge base, and priority issues such as resource efficiency, biodiversity loss and climate adaptation and mitigation. To achieve its objectives, the new LIFE programme has been allocated a financial envelope of EUR 3,618 million. This expenditure will fall under the heading of 'Sustainable Growth: Natural Resources' in the next Multi-annual Financial Framework. As regards the approach and management of expenditures under the new LIFE programme, the European Commission has opted for a flexible top-down approach for all types of projects, instead of the bottom-up approach currently applied under LIFE+. The type of funding will still mainly consist of action grants, and will also still include operating grants and public procurement contracts. However, there will now also be scope for contributions to innovative financial instruments (eg loans combined with technical assistance grants), though these have not been specified in any detail. At the same time, the minimum co-financing share of the EU will be increased to 70 per cent and in exceptional cases to 80 per cent, compared to the previous 50 to 75 per cent. The programme is to remain centrally managed, ie with tasks such as selection and

monitoring potentially 'outsourced' to an existing executive agency, for example the European Agency for Competitiveness and Innovation.

11.2 Relevance for biodiversity

It needs to be emphasised that the LIFE programme is designed to contribute to the achievement of EU biodiversity targets, including in particular the implementation of the Birds and Habitats Directives as well as more widely promoting the integration of biodiversity into other policy areas. Though the instrument's budget is rather small it plays an important role as catalyser and in leveraging financing for biodiversity across different policy sectors (GHK et al, 2011). In addition, by improving general environmental conditions it also more largely benefits biodiversity conservation by reducing some of the pressures on biodiversity, including on climate change, air pollution and water quality. It can be assumed that the benefits by far exceed the potential negative impacts resulting from the projects it finances. Nevertheless, risks remain that might be overlooked by focusing on individual environmental benefits across projects and not considering their wider potential negative impacts or win-win situations.

The LIFE programme for 2007-2013 supports projects under three thematic components: LIFE+ Nature and Biodiversity, LIFE+ Environment Policy and Governance (EPG), and LIFE+ Information and Communication. A minimum of 78 per cent of the LIFE+ budget (roughly EUR 1.5 billion) is to be spent on action grants for projects in the Member States, whereas the remaining 22 per cent is to be spent directly by the European Commission in the form of operating grants and public procurement. Of the €1.5 billion for Member State projects, at least 50 per cent is 'ring-fenced' for the Nature and Biodiversity component. Annex I lists the types of measures eligible for co-funding. It needs to be emphasised that these explicitly exclude routine environmental spending on infrastructure for water or waste management, or on pure research. Rather, LIFE+ focuses on innovative, good practice, or demonstration projects and measures. Campaigns aimed at raising public awareness of and participation in EU environment policy are also eligible, as are monitoring and training in relation to forestry and fire prevention. According to a survey of project beneficiaries in the recent impact assessment and ex-post evaluation of the LIFE+ programme (GHK et al, 2011), the annual investment costs of the programme based on expenditure in the first three years amounts to EUR 199 million for the nature strand, EUR 233 for the EPG strand and EUR 17 million for information and communication.

The proposed LIFE programme 2014-2020 has been divided into two sub-programmes, environment and climate action. In the previous programme, climate change was covered under the thematic component 'Environment Policy and Governance', but it now figures prominently as a sub-programme. 'Climate Action' has been allocated EUR 904.5 million (EUR 800 million in constant prices ie according to the base year; EUR 46 million to administrative issues) of the budget, and includes the three specific priority areas 'Climate Change Mitigation', 'Climate Change Adaptation' and 'Climate Governance and Information'. The sub-programme environment has been allocated a budget of EUR 2,701 and includes the priority areas 'Environment and Resource Efficiency', 'Biodiversity' and 'Environmental Governance and Information'. The latter replaces the LIFE+ topic on 'Information and Communication', with a shift in focus to more actively promoting the dissemination of knowledge for decision-making, in addition to awareness raising campaigns. The proposal recognises the importance of funding biodiversity by including the requirement that at least 50 per cent of the resources provided to projects by action grants should be dedicated to supporting biodiversity and nature conservation.

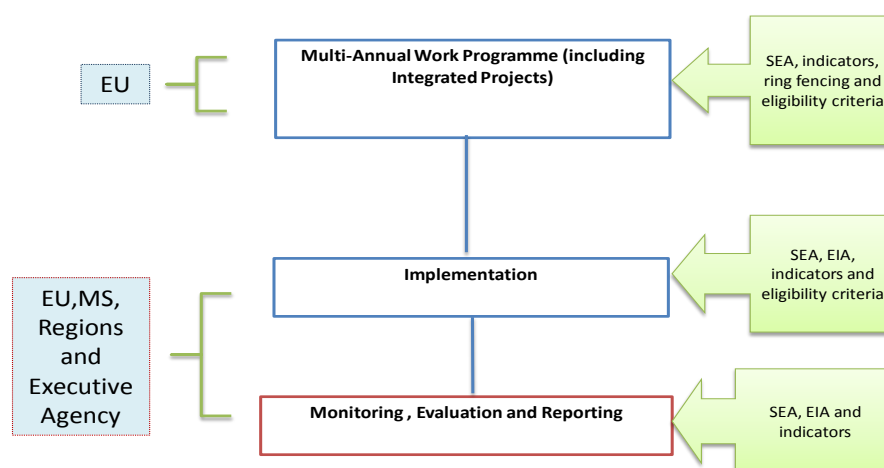
Specific objectives have been outlined for each of the three areas of the climate change sub-programme. Funding under the environment sub-programme will be closely linked to the new EU Biodiversity Strategy and the implementation of the Habitats and Birds Directives and Natura 2000 management. Also, the introduction to the proposal reiterates that priority should be given to Natura 2000 financing and in particular to the Prioritised Action Frameworks envisaged under Article 8 of the habitats Directive.

The overall budget under the 2014-2020 LIFE programme has seemingly increased compared to the previous LIFE+, although it still forms a very small part of the EU budget. A direct comparison remains difficult, particularly in relation to biodiversity funding, due to several substantial changes to the allocation of resources. This for once refers to the more prominent role climate change plays and the fact that the new sub-programme takes up a large share of the increase. To what extent this covers ecosystem-based approaches to climate change mitigation and particularly adaptation remains rather opaque as it has not been clearly outlined in the proposed Regulation and description of activities to be financed. In addition, it needs to be highlighted that different from the previous programme financing of infrastructure is now not necessarily excluded. There is thus the risk of harmful impacts and missing important synergies if collaboration and cooperation across the related institutional actors is lacking and no appropriate safeguards are in place. On the other hand, this focus offers important opportunities for taking forward integrated approaches to climate change and ecosystem services protection.

11.3 Overview of the policy cycle, including potential entry points and tools for biodiversity proofing

For the next funding period the following aspects in the LIFE programme are relevant, as shown in Figure 11-1.

Figure 11-1 Relevant stages in the LIFE programme.



As regards the approach and management of expenditures under LIFE 2014-2020, the European Commission has opted for a flexible top-down approach for all types of projects. In practice this means that the European Union will now be responsible for developing multi-annual work programmes. These should lay out their duration, allocation of funds between each priority area and between different types of funding within each sub-programme (eg, action grants and debt and equity instruments), selection and award criteria for grants, and specific but non-exhaustive priorities linked to specific targets to be assessed by defined indicators. These will be defined by implementing acts. Indicators will refer to expected outputs and final outcomes at project level and expected outputs at programme-level.

There will also be a new type of projects named integrated projects. These are projects implementing on a large territorial scale environmental or climate strategies or action plans required by specific environmental or climate EU legislation. They are aimed to provide examples of how coordination of different EU funding instruments is possible to achieve these objectives. The Commission shall ensure geographical balance in line with the principles of solidarity and effort sharing in the award process for Integrated Projects.

The LIFE programme will be centrally managed but the Commission will explore the possibility to delegate a large extent the selection and monitoring tasks to the European Agency for Competitiveness and Innovation.

Fifty per cent of action grants are still to be ring-fenced for biodiversity and Natura 2000, though the share for action grants remains unclear as it is not specified, due to uncertainty about how much would be need to be dedicated to the use of new financial instruments.

11.4 Best Frame of Actions

The eligibility criteria under the current LIFE Programme are general in their nature and cover achievement of objectives (including biodiversity), coherence and feasibility, innovative measures etc. These eligibility criteria are set in the next funding period as part of the multi-annual work programmes set-up by the Commission. These eligibility criteria ought to ensure that no projects will be funded that have a negative impact on biodiversity. The multi-annual work programmes under the next LIFE programme period will be revised (they are valid for at least two years) and the eligibility criteria ought to be reviewed at the same time based on the type of funded projects and the information that has been received through the monitoring of SEA and the use of appropriate indicators.

Since LIFE is directly administered by the Commission and has an exclusive focus on the environment, a number of safeguards can be directly applied by the Commission. This includes priority setting via the multi-annual Strategic Framework and eligibility criteria to steer the process of applications. Ring-fencing remains an important option to ensure that sufficient amount of funding is dedicated to biodiversity in general and Natura 2000 in particular. For the post 2014 LIFE+ funding period it has been proposed that 50 per cent of action grants still to be ring-fenced for biodiversity and Natura 2000. The share for action grants remains now unclear as not specified, as it is uncertain how much would be need to be dedicated to the use of new financial instruments. There is also a danger that not enough funds overall have been allocated for biodiversity. The ring-fenced allocations for biodiversity are set for the whole funding period and are fixed and cannot react to any required changes during this time. It could be recommended for the Commission to have more flexibility in ring-fencing to address changing needs, for instance enabling ring-fencing to be reviewed every second year as part of the multi-annual work programmes.

11.5 Challenges and information gaps

One of the major problems related to the current implementation of LIFE is that the absorption capacity in Member States can be severely limited. Insufficient administrative capacities on Member State level can lead to poor dissemination, guidance and monitoring and an overall weak application process, particularly in smaller EU Member States and EU 10 Member States that lack expertise with European application processes. Another recurring problem relates to the sustainability of projects. Often the lifespan of funded activities does not last beyond the duration of the LIFE funding. Ensuring a long-term and independent impact is a critical challenge for Member States and hence also the selection of projects that have good prospects of running on their own after LIFE funding ceases to exist. Adopting a stronger top-down approach will help with priority setting, but priority setting also needs to remain reflective of Member State needs. Good communication is therefore essential.

Output indicators (under the 2007-2013 LIFE+) do not provide a holistic picture of the results that LIFE+ projects have overall. However, this needs to change, as the focus under the post 2014 funding period will be geared towards qualitative and quantitative impacts.

11.6 Recommendations

As a number of changes are envisaged in the LIFE post-2014 funding period the focus needs to be on the policy instruments that have potential to contribute to the proposed changes and improve the implications for biodiversity. In this context the role of SEA has several important features that could be adapted to achieve this. SEA can be used as an on-going process to develop the quality of the multi-annual work programmes which set the eligibility criteria, allocation of funds between priority areas, indicators etc. Consequently the SEA would be able to contribute to the appropriate development of these tools as well as providing feedback on the outcomes of the LIFE programme through its monitoring requirements. The SEA can therefore help in developing improved indicators in addition to using the existing baseline of indicators proposed by the Commission as part of the work programme and helping with the development of the next multi-annual work programme. This in turn would improve the understanding of the LIFE programme's outcomes as a whole and move away from the project specific evaluations of the current funding period. The potential of the SEA can be lost in relation to LIFE unless the additional dimensions of SEA (positive impacts, monitoring, links to indicators) are not realized by those who are conducting the SEA.

SEA might also play a role for Integrated Projects⁵⁵ under LIFE post-2014. The projects are now going to be part of the Partnership Agreements⁵⁶ negotiated between Member States and the Commission with the aim of coordinating the funding/aims of LIFE with those under shared management. Hence it is recommended that the SEA (as well as ex-ante evaluations) undertaken by Member States as part of Cohesion Policy fully capitalise on the potential that LIFE funding can have in coordinating and ensuring that Cohesion Policy will not have a negative impact on biodiversity. This is also relevant from the point of view of Cohesion Policy as meeting the requirements of the Habitats and the Birds Directives is a conditionality for funding. Hence the LIFE funding, as part of integrated projects, could be used to ensure that any opportunities on EU added value in relation to biodiversity investment are not overlooked. Hence LIFE funding for integrated projects could enable a

⁵⁵ They refer to 'projects implementing [...] on a large territorial scale [...] environmental or climate strategies or action plans required by specific environmental or climate EU legislation [...]'

⁵⁶ For further information about Partnership Agreements see section on Cohesion Policy

larger number of biodiversity friendly projects under shared management. In this respect the LIFE funding can be perceived as an umbrella, guiding the other funds under shared management in the right direction.

The focus on larger scale integrated projects and the fact that LIFE will be informed through the work agenda of two Directorate Generals in the future calls for enhanced efforts for coordination at the programming level of calls, particularly with regard to multi-annual programmes and a mutual understanding of eligibility criteria. Given the opportunity to include infrastructure investment care needs to be taken for proper ex-ante documentation of biodiversity impact and enabling a system of relevant expenditure tracking and monitoring. The use of innovative financial instruments should be framed through directional criteria to avoid amassing of additional private capital on projects with a potential detrimental impact on the natural environment.

12 GENERAL CONCLUSIONS

12.1 Key tools

This study, and in particular the analysis of key sectoral policies and associated funds, has shown the importance of and potential for biodiversity proofing the EU budget. Although comparatively small in size compared to national budgets it has an important policy lever function and currently provides important funding for measures that benefit biodiversity, most notably through the CAP and the LIFE programme. However, pressures on biodiversity can also be increased by aspects of some EU policies, in particular in relation to the Cohesion Policy and specific funds promoting fisheries, transport and energy developments. Increased efforts are therefore needed to ensure that spending under the EU budget is not detrimental for biodiversity and that it contributes to maximizing biodiversity benefits as much as possible. Where this is not feasible, unavoidable residual impacts should be minimised and compensated for.

It is clear that biodiversity proofing can be an effective means of maximising benefits, whilst identifying and addressing potentially detrimental impacts. Experience from many sectoral policies suggests that the 'best frame of actions' for biodiversity proofing needs to be based on holistic and integrated processes, with interventions at all appropriate stages of the policy cycle.

- Substantive instruments are very important in the first parts of the cycle, ie setting up the general frameworks of the policy and programming guidelines. Objective setting for shares of funds (earmarking) and allocation of funds and setting up concrete requirements for climate proofing tools can only be done at these stages. It is also important to adequately perform SEAs at the programming level. EIA and tracking expenditure approaches accompanied with carbon screening and risk assessment tools are relevant for the implementation phase. Authorities can also use biodiversity favourable project selection criteria to steer project selection.
- Procedural instruments (indicators, reporting) are also more important for the monitoring/reporting and evaluation phases, but reserving funds (performance reserves) to reward adequate compliance with provisions constitutes an important substantive instrument in this late phase.
- Institutional instruments including dedicated administrative units tasked with biodiversity proofing and communication mechanisms, working groups and monitoring committees need to support the programming and implementation and evaluation phases. Reserving or earmarking funds for institutional capacity building and training and improving the knowledge/technical base for expenditure planning can help to build early support.

The frameworks should use a coherent mixture of the available biodiversity proofing legislation and other tools. Of these, the Habitats Directive and the Birds Directive contain legal requirements for avoidance and reduction of biodiversity impacts whereas the SEA and EIA Directives lay down essentially procedural requirements for the consideration of environmental impacts rather than instruments that legally require the avoidance or reduction of environmental impacts. Additionally, other legislation such as the WFD and MSFD also has ecosystem based objectives which will be critical both in assisting the specific objectives of the Birds and Habitats Directives and in enhancing wider biodiversity and

ecosystem service protection. Each also has its own interaction with sectoral policies and should be taken into account in biodiversity proofing processes.

This study finds significant opportunities to avoid and reduce negative biodiversity impacts from EU spending by means of effective applications of these directives, and tools, building upon good practice and key principles such as the polluter-pays principle and the precautionary principle. Most importantly it is evident that effective biodiversity-proofing is dependent on sufficient integration of biodiversity considerations into all relevant EU policies and related instruments at the highest levels. This is essential because it provides a mandate for 1) due consideration of potentially negative biodiversity impacts and necessary interventions to avoid and at least reduce them during the implementation of the policies (eg at the programming, project selection and project implementation levels) and 2) biodiversity beneficial spending.

Due to their important role in supporting biodiversity proofing, the following paragraphs consider EIA and SEA and their interaction with other key Environmental Directives in more detail.

12.2 EIA and biodiversity

The EIA Directive on the assessment of the effects of certain public and private projects on the environment, requires a systematic assessment of the likely environmental impacts of projects in a wide range of sectors. The EIA process seeks to help ensure that project development and planning decisions take environmental impacts into account by incorporating adequate measures to avoid or reduce and if possible offset potential impacts from the planning stage, selecting lower impact projects and rejecting projects whose likely impacts are considered unacceptable by the competent national authorities. The EIA Directive has been reviewed and a Proposal to amend the EIA Directive was published in October 2012⁵⁷.

There is no specific requirement to address impacts on biodiversity in the EIA Directive. Instead the requirement relates to assessment of impacts on flora and fauna. This has tended to result in a species-based approach with insufficient consideration of the implications of development for habitats, biotopes or ecosystems (ie the three levels of biodiversity identified in the Convention on Biological Diversity). Few EIAs carry out thorough assessments of impacts on biodiversity, in particular the cumulative impacts which may be induced by an individual project which may be insignificant when considered in isolation. According to the Commission's 2009 *Report on the application and effectiveness of the EIA Directive*⁵⁸ implementation experience shows that the requirements of the Appropriate Assessment are not taken properly into account, in practice, in the context of EIA procedures. The EIA procedures particularly fail to take into consideration cumulative impacts of projects and plans. Furthermore, the EIA procedures focus on the impact on Natura 2000 sites, while the species protection provisions tend to be neglected. Also wider biodiversity issues are not taken into account, with particular shortcomings being observed in agriculture and forestry⁵⁹. The EIA systems put in place in the Member States have therefore often not proved as effective as they could have been in preventing biodiversity loss.

⁵⁷ http://ec.europa.eu/environment/eia/pdf/com_628/1_EN_ACT_part1_v7.pdf

⁵⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0378:FIN:EN:PDF>

⁵⁹ http://ec.europa.eu/environment/eia/pdf/eia_study_june_09.pdf

The Proposal to amend the EIA Directive gives biodiversity and ecosystem services a more prominent role. The preamble to this proposal refers to the United Nations Convention on Biological Diversity and that the prior assessment of impacts should contribute to attaining the EU headline target of halting biodiversity loss and the degradation of ecosystem services by 2020 and restoring them where feasible. The preamble also refers to measures that should contribute to avoiding any net loss of biodiversity.

The Proposal sets more specific requirements on when an EIA is required and the developer has now to provide information of the likely significant effects of the proposed project on the environment resulting from the use of natural resources, including biodiversity. Based on this information the competent authority is required to make its decision based on selection criteria, which now also includes impacts of the project on biodiversity population quality and quantity and ecosystem degradation and fragmentation. This decision has to state how these criteria have been taken into account and this decision has to be made publicly available.

If an EIA is required the developer has to prepare an environmental report, which also needs to include the natural resources used (including biodiversity) and the aspects of the environment likely to be significantly affected by the proposed project, including in particular, population, human health, fauna, flora, biodiversity and the ecosystem services it provides.

Compulsory monitoring requirements are also introduced by the Proposal to ensure a common approach in all Member States and to ensure that, after the implementation of mitigation and compensation measures, no impacts exceed those initially predicted.

Based on the above the EIA Proposal introduces a number of new aspects that will make the consideration of biodiversity and ecosystem services more prominent both in terms of coverage (when and where to consider impacts on ecosystem services and biodiversity), decision-making (justification for how impacts on biodiversity and ecosystem services have been considered) and monitoring (are the impacts exceeding those initially predicted?)

The Proposal also requires Member States to provide for coordinated or joint procedures. Under the coordinated procedure, the competent authority is required to coordinate the various individual assessments required by the EU legislation (including SEA, Birds and Habitats Directives, among others) and issued by several authorities. As part of this joint procedure, the competent authority has to issue one environmental impact assessment, integrating the assessments of one or more authorities.

It is not certain how the EIA Proposal will evolve during the legislative negotiations as it stands but it provides a platform for an improved integration of biodiversity into EIA by considering the changes in the distribution and conservation status of species and habitats both prior to and following project implementation. This would require understanding of the diversity and abundance of species populations that might be affected, the availability of suitable habitat or biotope to sustain them and the changes in ecological function and process that might occur.

12.3 SEA and Biodiversity

The SEA Directive extends EIA procedures and principles from projects to plans and programmes. It applies to a wide range of public plans and programmes that relate activities covering specific sectors such as land use, transport, energy, waste, and agriculture. As a general rule, SEA is meant to inform higher level decision making at earlier stages of the policy planning process. The process involves a number of steps and the most relevant ones for the inclusion of biodiversity consist of screening, scoping (including the development of the Environmental Report), consultation and monitoring (including data availability).

An assessment of the implementation of the SEA Directive⁶⁰ was conducted in 2010. In a similar vein to the EIA Directive, Member States take the view that there are no major problems in integrating biodiversity considerations into the SEA process. However, whereas the EIA Communication, based on the Commission's implementation experience, recognises that the EU Biodiversity Action Plan (BAP) requires better integration of biodiversity into land-use planning and development in practice, the SEA Communication only briefly touches on the issue.

SEA overcomes many of the limitations of project-based EIA by providing opportunities for conservation and sustainable use of biodiversity to be considered as a fundamental part of strategic decision-making, rather than as a single specialist topic that needs considering on a more reactive basis. Methods to achieve this could include:

- building biodiversity objectives into land-use, urban or sectoral policies, plans and programmes, at any point between international and local levels;
- identifying and managing apparently minor impacts, which when accumulated may pose severe threats to biodiversity;
- identifying biodiversity-friendly alternatives and mitigation strategies that would be compatible with sustained delivery of ecosystem services;
- ensuring effective monitoring programmes are in place to provide information about biodiversity;
- allowing biodiversity specialists and decision-makers and/or planners to engage; and
- integrating biodiversity into a range of activities affecting the way environmental resources are dealt with, such as agriculture, minerals and forestry, from the level of central government downwards.

SEA ought to have roles in both advocacy, to raise awareness of biodiversity issues, and in integration of environmental, social and economic considerations. There is a growing body of experience to draw on. For instance Arcadis and IEEP have completed a not yet published guidance document for DG Environment on how to best incorporate the coherence of the Natura 2000 network into the SEA procedures and not to only focus on the site specific impacts of plans and programmes. Note also that DG Environment is to publish guidance in 2012 on how to better incorporate biodiversity (and climate change) considerations into SEA.

⁶⁰ Commission of the European Communities, Communication on the application and effectiveness of the Strategic Environmental Assessment Directive, (COM(2009)469), 14.9.2009, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0469:FIN:EN:PDF>

12.4 Interactions between biodiversity proofing and environmental Directives

As discussed in Section 1.2.2, all EU spending should be compliant with the requirements of environmental legislation, and biodiversity proofing should pay particular regard to the aims and obligations of the Habitats and Birds Directives. These Directives set out clear and legally binding requirements for the assessment and avoidance of potential impacts on Natura 2000 sites, and the need for compensation measures where activities are permitted that have unavoidable residual impacts (see Box 1.3). The Commission has also provided further guidance on the interpretation and practical implementation of these obligations.

One of the key distinctions between SEAs/ EIAs and Appropriate Assessments under the Habitats Directive, apart from the fact that they measure different aspects of the natural environment and have different criteria for determining ‘significance’, is how the outcome of the assessment is followed. In this regard, the assessments under the SEA and EIA lay down essentially procedural requirements and do not establish obligatory environmental standards. In contrast an Appropriate Assessment under the Habitats Directive lays down obligations of substance, mainly because it introduces an environmental standard (ie the conservation objective of a site and the need to preserve its integrity). The principal added value of biodiversity proofing is therefore to provide positive support to the overall aims of the Directives by avoiding or limiting biodiversity impacts in the wider environment (ie beyond Natura 2000 sites) and by, for example, increasing biodiversity beneficial funding.

There is also clear potential for biodiversity proofing to support the implementation of other Directives that may provide biodiversity benefits, most notably the WFD and MSFD. However, the exact needs and appropriate means of achieving this are not obvious. The WFD in particular is proving increasingly challenging in relation to other EU policies. A current review of River Basin Management Plans (RBMPs) shows that few have sought to impose new obligations on farmers, yet agriculture is a critical pressure on water (quality and quantity). At this stage while some current CAP Pillar I cross-compliance conditions do contribute to water quality objectives, the primary focus for integration with the CAP is through Pillar II. However, it is not evident that support measures alone will deliver WFD implementation. The nature of much agricultural practice is not consistent with the WFD and Member States will reach a point where serious non-compliance poses major questions for their agricultural policy (and by inference to the CAP). However, using exemptions, such a challenge is unlikely to occur before 2027 and, therefore, beyond the objective date for the EU Biodiversity Strategy.

In contrast, while Cohesion Policy can result in some pressures on water (and there is particular concern over the interaction between this policy, water policy and renewable energy policy with regard to hydropower), there is a strong element of Cohesion Policy driving water improvements. Traditionally this has focused on waste water treatment. The forthcoming water Blueprint is likely to emphasise other important spending areas such as addressing leakage and re-use of waste water – as water efficiency measures. This spending is viewed as critically important in the current economic crisis in order to deliver water improvements. In this respect there is greater focus on the synergies of the two policy areas than their conflicts.

The MSFD has a similar relationship with the CAP to the WFD, except that it is more distanced. At this stage it is not yet clear if agricultural actions would be needed to meet MSFD objectives that are additional to those being taken to meet the WFD objectives. With regard to Cohesion Policy, there is concern with some issues such as port development. However, with this the immediate physical impacts would be with the Birds and Habitats

Directives (if relevant) and the WFD, with MSFD impacts due to dispersed pollution and shipping.

At Member State level, however, the conflicts and synergies between the WFD/MSFD and other EU policies are made more complicated by the often lack of integrated governance. The WFD, MSFD, CAP and Regional Policy are all focused around the development of plans – setting out objectives and directing measures or spending. In many Member States the co-ordination between such plans is very poor. Thus even if greater synergy is developed between these policies at EU level, the challenge will be to ensure an integration of analysis and planning at MS level. There is therefore a clear need and potential for better policy integration and more coherent implementation through biodiversity proofing. EU policies can encourage this by requiring specific links to be made, but a cultural change is needed in many sectors. A further problem is that the integration of spatial planning is not straightforward, largely because different types of plans are often generated at different spatial scales (eg river basin or local government unit).

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APPENDIX 1. WORKSHOP PARTICIPANTS**WORKSHOP ON BIODIVERSITY PROOFING OF THE EU BUDGET**

3rd of July 2012
Committee of the Regions,
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Kim Holm	DK	Ministry of Food, Agriculture and Fisheries
Kadri Möller	EE	Ministry of the Environment
Evaggelia Tsartsou	EL	Ministry of Environmental, Energy and Climate Change
Nikolaos Karavas	EL	Greek Implementing Authority of the Rural Development Program
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Caroline Vieux	FR	French Agency for Marine Protected Areas
Claire Bracht	FR	Ministry for Ecology, Sustainable Development, Transport and Housing
Gyöngyvér Gyene	HU	National Development Agency
Levente Huszti	HU	National Development Agency
Ors Marczin	HU	Ministry of Rural Development
Aldo Ravazzi Douvan	IT	Ministry of Environment
Zymantas Morkvenas	LT	Baltic Environmental Forum Lithuania
Joanna Borg	MT	Malta Environment and Planning Authority
Erik van der Sommen	NL	Ministry of Economic affairs, Agriculture and Innovation
Maria Witmer	NL	PBL Netherlands Environmental Assessment Agency
Sylvia Śnieg	PL	General Directorate for the Environmental Protection
Ana Maria Biro	RO	Ministry of Environment
Corina Cosma	RO	Ministry of Environment
Fredrik Granath	SE	Swedish Environmental Protection Agency
Jessica Magnus	UK	Joint Nature Conservation Committee
Peter Pitkin	UK	Scottish Natural Heritage
Valerie Olivette		University of Louvain

APPENDIX 2. SUMMARY OF KEY CONCLUSIONS FORM THE STUDY WORKSHOP

WORKSHOP ON BIODIVERSITY PROOFING OF THE EU BUDGET

**3rd of July 2012
Committee of the Regions,
Rue Belliard 101, Brussels**

This document provides an informal summary of some of the key conclusions that came out of break-out group discussions at the workshop on opportunities for biodiversity proofing the EU funding instruments. Please note that these are personal interpretations of the workshop rapporteurs and do not necessarily reflect the opinion of the European Commission.

Please see the separate Workshop Briefing Document for further information on the subject of biodiversity proofing and the Background Study towards Biodiversity Proofing the EU Budget, to which the workshop was contributing.

OPPORTUNITIES FOR BIODIVERSITY PROOFING COHESION POLICY

On a broad level, the seemed to be an agreement on the identified existing and/or upcoming key opportunities (eg entry points and tools) for biodiversity proofing the EU Cohesion Policy.

Conditionality: The requirement to take into consideration possible implications of Cohesion Policy funding on the Birds and Habitats Directives – supported by existing Commission guidance - was considered as a useful safe guard and basis for biodiversity proofing. However, several participants agreed that there was a need to broaden this conditionality to wider ecosystems and ecosystem services (ie beyond conservation of specific species and habitats). This could be done through emphasising the broader requirements of the nature Directives (eg Articles 10 of Habitats Directive on conserving and restoring connectivity) and providing reference to other relevant Directives that address broader ecosystems such as the Water Framework Directive (WFD), Marine Strategy Framework Directive (MSFD) and even the Environmental Liability Directive.

Indicators: The dedicated common indicator for biodiversity ('habitats in better consideration status') proposed in the current draft Regulations for EU funding under Cohesion Policy was seen as an improvement to previous funding period. It was, however, considered that a broader set of biodiversity indicators would be required to secure effective biodiversity proofing of EU spending on cohesion. Different opinions were expressed in terms of at which stage of the Cohesion Policy cycle, and at which level of EU governance, these indicators would be most usefully adopted; that is to say, adopting common EU-level biodiversity indicators versus developing dedicated indicators for Operational Programmes (OPs) and/or individual projects.

Strategic Environment Assessments (SEAs): SEAs were seen as a useful tool for biodiversity proofing Cohesion Policy spending at a programme level. However, it was agreed that in order to be effective SEA should be used in a more holistic and comprehensive manner to identify biodiversity risks, set appropriate requirements for Operational Programme indicators and monitoring, and help to integrate biodiversity into project selection criteria. Under the future Regulations SEAs are foreseen to be obligatory for Operational Programmes and it is only 'highly encouraged' that they should be carried out for Partnership Agreements (PAs). Therefore, extending SEA assessment to cover as many PAs as possible was considered crucial. In addition, the obligatory monitoring requirements imposed by SEA Directives were considered helpful for biodiversity proofing. However, further insights on the actual implementation of this requirement by Member States during the existing Multiannual Financial Framework (MFF) are required in order to ensure the usefulness of this practise for biodiversity. In general, SEAs were seen to have a greater potential for supporting biodiversity proofing than EIA (see below).

Environment Impact Assessment (EIAs): At the project level, EIAs were seen as one of the key existing tools that have the potential to support biodiversity proofing. However, EIAs were considered to have some key limitations, in particular it was pointed out that EIAs were obligatory only for a limited number of projects. Also, the existing provisions and implementation of EIAs is focused on the possible impacts on the objectives of EU nature

Directives only and therefore does not (directly) address possible impacts on broader ecosystems and services. However, a process is on-going to update the EIA Directive with proposals also for wider issues concerning biodiversity and ecosystem services to be integrated into the EIA process.

Project selection criteria: Given the limitations of other tools (eg EIAs), project selection criteria was seen as an important tool for biodiversity proofing and preventing negative impacts of EU Cohesion Policy spending on biodiversity. Furthermore, it was highlighted that no new resources were foreseen to be needed for using project selection criteria more effectively for biodiversity. However, in order to ensure that the right criteria are included and correctly assessed in the selection process there is a need to ensure participation of relevant biodiversity experts in selection committees / processes.

There appeared to be a consensus among the participants that even though the existing tools (when appropriately used) could form a minimum basis for biodiversity proofing the EU Cohesion Policy, new provisions and/or tools would be required to develop a truly effective framework for biodiversity proofing. In particular, integrating requirements for biodiversity proofing (eg development of dedicated indicators, selection criteria and monitoring) in the high strategic level of the Cohesion Policy (ie at the level of Regulation and strategic framework) was seen as crucial to ensuring the uptake and implementation of proofing tools at programme and project level.

Finally, it was also pointed out that, while biodiversity proofing the individual EU sectoral policies and funding streams forms an important basis for the development of the future framework for biodiversity proofing, it is also important to jointly consider the accumulative effects of different EU funds, to provide an overall picture of biodiversity impacts at a more strategic level. Ideally, the same principle should also be applied at a project level.

Andrew McConville and Marianne Kettunen (IEEP)

OPPORTUNITIES FOR BIODIVERSITY PROOFING THE COMMON AGRICULTURAL POLICY

1. Biodiversity-proofing is essential to the mainstreaming of support for biodiversity and the environment. Whether mainstreaming is a satisfactory approach (this is still very uncertain) and will depend on the effectiveness of our biodiversity-proofing.
2. Although the IEEP report will not specifically address the reforms proposed for 2014-20, participants felt that these must be taken into account because they will determine the machinery of the programmes we are trying to biodiversity-proof.
3. Biodiversity-proofing isn't all negative. Limiting risks and imposing constraints. should be balanced against the opportunity to use the budget to support positive action to maintain and enhance biodiversity. We should be looking for new tools and mechanisms for managing biodiversity ('innovation'). Some of these will target biodiversity objectives directly (agri-environment-climate or Natura-related measures), others will support biodiversity indirectly (support for environmental marketing schemes or some kinds of farm diversification). Biodiversity-proofed programmes should include both, acting as far as possible in a complementary way.
4. Biodiversity-proofing should affect both pillars of the CAP. The first pillar retains the potential to put biodiversity at risk (as indeed does the second pillar). The workshop presentation did not cover the specific risks, although they are briefly addressed in the study itself. But the attendees of the workshop felt that the risk could arise, for instance, from the continuing provision of a proportion of coupled support. On the other hand, Pillar 1 plays an important part in supporting those farming systems that are inherently uneconomic yet by their extensive nature underpin much of the EU's biodiversity. As the result of 'greening' Pillar1 will (we hope) support biodiversity more directly across a wider range of farms after 2014. Biodiversity will benefit more from the greening measures, however, if they can be made to work concertedly with GAEC and Pillar 2 funding.
5. It will be important to ensure that biodiversity objectives figure in Member State Partnership Agreements (with reference to the Common Strategic Framework) for 2014-20 – otherwise it may be difficult to achieve sufficient emphasis in rural development programmes.
6. There are several factors acting against biodiversity-proofing which tend to arise from shortcomings in institutional capacity or a shortage of information. For example, the monitoring of biodiversity and the reporting of biodiversity outcomes from RDP measures is often inadequate. Strategic Environmental Assessment is often weak in its treatment of biodiversity. And GAEC, as the base-line for spending, hasn't been at all thoroughly evaluated. In order to improve our performance in this area, we need to increase our institutional capacity, both at the Commission level and Member State level. EAFRD support for technical assistance could be used to support the process more effectively.
7. Prioritisation and targeting of resources. We need to find some way of targeting our resources at EU biodiversity priorities - not just within Member States, but at EU level, allocating the budget between Member States accordingly. These priorities would include

Natura, HNV farmland, water protection, and natural/semi-natural grasslands. Some of priorities are (rightly) concerned with rare biodiversity, but rare species aren't the only priority – common ones inevitably play a bigger part in ecosystems.

8. There was a strong feeling that the Commission should hold Member States more rigorously to account in their use of CAP instruments to address biodiversity objectives (and measure Member State performance). We can expect further guidance from the Commission on 'programming' for biodiversity, but ultimately much of the challenge of biodiversity-proofing rests with Member State authorities.

Peter Pitkin (SNH)

OPPORTUNITIES FOR BIODIVERSITY PROOFING: CEF-TRANSPORT/CEF-ENERGY

1. **There is a need for strong biodiversity references as high up as possible in the policy framework**, eg in the Regulations. Without this, it will be a lot more difficult to include biodiversity requirements at later/lower stages of the policy cycle. Strong biodiversity references at high levels can be more easily reflected in subsequent stages of the policy cycle. This is particularly important for a fund such as the Connecting Europe Facility for Transport (CEF –T), as the Work Programme, subsequent calls for projects, etc., all need to be consistent with the Regulations. Clearer definitions of other terms at higher levels of the policy cycle could also be potentially useful. For example, the Europe 2020 strategy, and legislation such as the CEF-T that is consistent with this, refers to sustainable growth. Defining such growth in the respective Regulations in terms of, for example, the maintenance and enhancement of natural capital (ie natural resources, including species diversity and habitats etc), could also be beneficial to biodiversity and nature conservation.

2. The various **environmental assessments (EIA, SEA, etc.)**, as well as the **ex ante assessment and the Cost Benefit Analysis**, all have a **potentially important role** to play. Whilst theoretically there are likely to be overlaps between the various assessments, in practice they are undertaken from different perspectives and therefore all still have a role to play. Practically, there are also limitations in the way in which the various assessments are applied, not least in the way in which the relevant EU legislation that governs EIA and SEA addresses biodiversity. However, if existing good practice for these assessments was applied more widely, many of the current issues with respect to the treatment of biodiversity would be addressed.

3. For both the CEF-Transport and CEF-Energy, **the engagement of a wider range of stakeholders, such as those that focus on biodiversity, at various stages in the policy cycle would be potentially beneficial**. From the perspective of the CEF-Transport, the engagement of such stakeholders in the course of the development of the respective Work Programmes could be potentially useful, as would the engagement of similar expertise in the course of the evaluation of the projects. From the perspective of CEF-Energy, the engagement of such stakeholders in the regional groups that will identify the Projects of Community Interest (PoCIs) would be important. Finally, the inclusion of such expertise in, and/or the engagement with such stakeholders by, the respective Member State competent authorities would be important; these competent authorities will be responsible for facilitating and coordinating the permit granting process for PoCIs in each country.

4. There was a wide-ranging discussion on **how the impacts of large infrastructure projects on biodiversity should be monitored**. In the draft “best frame of action”, the development of local monitoring networks was suggested in order to make up for the current lack of ongoing monitoring of the impacts of such projects on biodiversity. It was argued that the Commission should ensure that resources are made available for monitoring the impacts on biodiversity, as it is important that EU co-funded projects do not adversely affect the EU’s ability to meet other policy targets, such as those on biodiversity. On the other hand, it was suggested that Member States’ environmental authorities should undertake such monitoring, although it was argued that this would not be appropriate in countries where resources are already limited, as it would not be a priority. It was noted that, given the

amount of financial resources that are mobilised for such projects, the additional monitoring required would use a relatively small amount of the total budget. Consequently, it was argued that the burden of proof that each large infrastructure project does not damage biodiversity should be placed on the respective project promoter; such an approach would also be consistent with the Polluter Pays Principle. Finally, it was noted that if an EIA was undertaken in accordance with good practice, it should identify potential adverse effects, such as those on biodiversity, and put in place suitable monitoring provisions as part of the project.

5. It was noted that in many countries, not just in the new Member States, there was a **lack of information about the baseline state of biodiversity**, which made it difficult to identify potential biodiversity impacts. In this respect, it was proposed that the CEF should fund studies to complete these gaps in the knowledge in order to ensure that its co-financing of large infrastructure projects does not adversely affect biodiversity. In other words, the CEF should be used to complete the gaps in knowledge to ensure that meeting one set of EU objectives (ie those in relation to energy and transport), does not undermine the achievement of another, ie protecting biodiversity.

6. Finally, it was noted that the approach towards the **CEF-Transport and CEF-Energy should be taken in the context of wider EU needs, policies and policy objectives**. While being outside of the scope of the ongoing project, it was noted that the CEF should be developed to ensure that it is consistent with wider policies, such as the EU ETS, and wider policy objectives, such as the need to reduce greenhouse gas emissions from transport. Furthermore, it was proposed that the identification of transport and energy infrastructure needs should be based on a wider assessment, which takes account of other demands on land, such as those from agriculture and urban development, and wider resources.

Ian Skinner (Transport and Environment Policy Research)