



Handbook on Financing biodiversity in the context of the European Fund for Regional Development (ERDF)

Practical guidance based on the
lessons learned from SURF Nature
project (ERDF Interreg IVC)

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Abbreviations

CF	Cohesion Fund	ERDF	European Regional Development Fund
CP	Cohesion Policy	ESF	European Social Fund
CPR	Common Provisions Regulation	EU	European Union
CSF	Common Strategic Framework	NGO	Non-governmental organisations
EAFRD	European Agricultural Fund for Rural Development	NEA	National ecosystem assessment
EMFF	European Maritime and Fisheries Fund	OP	Operational Programme
		PA	Partnership Agreement
		SME	Small and medium sized enterprises

Foreword



Over the past three years the SURF-nature project, a partnership of 14 institutions and regions spanning 10 EU countries, has explored the potential to use European Regional Funds to support biodiversity.

As the preparations for the new funding period 2014-2020 are starting in earnest with a new regulatory framework for Cohesion Policy, Regions are requested to decide how they will shape their Operational Programmes by the beginning of 2013. Biodiversity is often overlooked in the use of European Regional Funds, yet, as our project demonstrates, it has a lot to offer and the return on investment can be huge: recent Commission studies suggest that investing in Natura 2000 may generate up to €200-300bn of benefits per year for an annual investment of only around €5.8bn for proper management and implementation.

This and further evidence presented in this handbook make a clear case to use European Regional Development Funds for Biodiversity. Although the European Funding Regulations already allow for this, it is up to Europe's Regions and Managing Authorities to make sure that biodiversity is integrated in their various Operational Programmes in terms of priorities, measures, and financial allocations.

The SURF-Nature project slogan says: 'let's improve the use of Regional Funds together'. It is in this spirit that we are delighted to present this handbook; a step-by-step guide to inform and facilitate the inclusion of Biodiversity and Nature in Regional Funding programmes across Europe for the next programming period.

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1 ■ Introduction

→ Who and what is this guidance for?

1.1 Objectives and scope of the guidance

Sufficient financing is a key prerequisite for achieving the EU's biodiversity objectives for 2020. The purpose of this practical guidance is to help managing authorities to understand how they can make better use of the European Regional Development Funds (ERDF) to promote financing of biodiversity. Investing in the natural environment can bring significant welfare benefits and enhance socio-economic cohesion and thus contribute to major objectives of the ERDF. In order to achieve this the guidance summarises and showcases broader socio-economic benefits associated with financing biodiversity and ecosystem services, providing information on how these benefits can – and indeed should – be linked with implementing the EU-wide priorities for regional development.

Since 2007, most EU financing for biodiversity (e.g. implementing the EU Natura 2000 network) has been made available by integrating biodiversity goals into different existing EU funds or instruments, including the European Regional Development Fund (ERDF). For the majority of EU funding instruments, including ERDF, the allocation of funds between different national and regional priorities is primarily decided by Member States (see Chapter 4). These priorities traditionally emphasise job creation and economic growth and, as a result, the allocation of funding towards environmental activities is often significantly hindered. Consequently, environmental conservation in general, and biodiversity and Natura 2000 in particular, rarely emerge as the leading priority for allocating EU funds. Even if many biodiversity related measures are, in principle, eligible for funding under ERDF they receive a relatively small share of the budget.

Lack of financial resources to support biodiversity conservation has been identified as one of the reasons behind the failure to reach the EU and global biodiversity targets for 2010. Stepping up biodiversity financing is considered as one of the prerequisites for achieving the 2020 biodiversity goals. ERDF – together with the European

Agricultural Fund for Rural Development (EAFRD) and EU Financial Instrument for the Environment (LIFE) – is considered as one of the key EU funding sources for supporting biodiversity conservation in the future (e.g. the implementation of the Natura 2000 network).

Compared to the current ERDF framework (2007-2013), biodiversity concerns are more prominently featured in the Commission proposals for the future ERDF (2014-2020). There is, however, a genuine concern that the competition between different policy priorities under ERDF will continue to increase. In addition, the foreseen 20 % earmarking of ERDF to climate mitigation could create competition between climate and other environmental objectives, including biodiversity. Consequently, there is a need to highlight the importance of continued investment in biodiversity under ERDF, including showing how synergies with other policy priorities such as climate change can be developed to facilitate funding.

Consequently, the ultimate goal of the guidance is to provide ideas and solutions on how to better mobilise funds from ERDF to support the implementation of the EU's headline target of halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020. The guidance links to the broader discussion about how to better align biodiversity protection and the long-term EU budget expenditure (i.e. biodiversity mainstreaming). This discussion focuses on two inter-related tracks of action, namely stepping up the direct budget contribution to biodiversity and ecosystem services, and minimising potential negative impacts of all funding on biodiversity (IEEP et al. 2012). While the latter falls outside the scope of this guidance, it is generally acknowledged that a number of activities financed under ERDF, such as projects on transport and energy, can have negative impacts on biodiversity and ecosystems. For more information and guidance on how to minimise negative impacts of overall EU budget expenditure on biodiversity please see IEEP et al 2012.

1.2 Target audience and application

The key target audience for this guidance is the **national and regional level authorities** responsible for programming and administrating ERDF funding during the 2014-2020 period and/or selecting concrete projects and initiatives to be funded under ERDF. The document can be used by authorities both while drafting partnership agreements (PAs) and operational programmes (OPs) under the ERDF (see Chapter 4 below) or when commenting on the overall sustainability of proposed programmes. The document can also be a useful resource for any other stakeholder (e.g. NGO) wishing to influence the decision-making on ERDF funding and to advocate for more biodiversity-related investment. Finally, it is foreseen that the guidance will benefit different **national and regional beneficiaries aiming to seek funding from ERDF**, showing key aspects that need to be considered and steps to be taken to successfully access the funds.

The guidance is specifically targeted to be used during the development and implementation of ERDF operational programmes (OPs) in 2014-2020. OPs provide the overarching framework for ERDF project funding. Sufficient recognition of biodiversity concerns in the OP is a prerequisite for final success with mobilising finance for biodiversity-related projects. This guidance provides a comprehensive, yet concise, source for ensuring successful integration of biodiversity into the priorities for funding at national and regional level. In addition, the document can provide a useful resource for screening how biodiversity aspects could – or should – be integrated into project proposals and requested investments during the implementation of OPs. Finally, the guidance can form a useful starting point for developing ideas for concrete projects to be funded under ERDF, helping to establish the required synergies between biodiversity and sustainable regional development, growth and jobs.



2 ■ Approach & Structure

→ How should you read this guidance?

The guidance document consists of three distinct parts:

General guidance: The first part summarises the overall rationale for funding biodiversity under ERDF, highlighting that biodiversity and well-functioning ecosystems are both a foundation and an asset for regional development. It also provides a synopsis of the EU policy framework that forms a basis for integrating biodiversity into ERDF.

Practical guidance: The second part provides information on how funding for biodiversity under ERDF could be ensured in practice. Based on the existing information (i.e. the draft Regulation for ERDF), it summarises the foreseen key opportunities for funding biodiversity under ERDF in 2014-2020 and provides information on the framework and timeline for integrating biodiversity concerns into ERDF. Finally, the chapter also gives an overview of actual envisaged needs and challenges for future funding, based on insights from the SURF Nature project countries and regions.

Thematic guidance: The third part aims to give a more detailed overview on how to both demonstrate and proactively create links between biodiversity and regional development. In particular, it highlights synergies between: 1) biodiversity and green jobs, 2) biodiversity and Green Infrastructure, 3) biodiversity and climate change, and 4) biodiversity and urban development. The thematic guidance is supported by a number of concrete examples showing where such synergies have been taken up in the context of ERDF in SURF Nature countries.

Finally, conclusions and recommendations are provided to highlight the key considerations – opportunities, needs and concerns – that would need to be taken into account when planning future funding for biodiversity under ERDF.

Box 1. Glossary of key terms used in the guidance

Ecosystem services: Flow of benefits that people obtain from ecosystems, including both tangible goods and beneficial processes. These include provisioning services (e.g. food, fibre, fuel, water), regulating services (benefits arising from ecosystem processes that regulate climate, pollination, natural hazards, spread and outbreak of diseases, waste, air and water quality), cultural services (e.g. recreation, tourism, and aesthetic, spiritual and ethical values), and supporting services (e.g. soil formation, photosynthesis, nutrient cycling). (MA 2005)

Green economy: Economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive. (UNEP 2011)

Green Infrastructure: A strategically planned and delivered network of high quality green spaces and other environmental features, designed and managed to protect biodiversity and deliver a wide range of benefits and services to people. Green Infrastructure includes natural and semi-natural areas, features and green spaces in rural and urban, terrestrial, freshwater, coastal and marine areas. Areas protected as Natura 2000 sites are considered to be at the core of Green Infrastructure. (EC 2012)

Natural capital: An economic metaphor for the limited stocks of physical and biological resources found on earth (MA 2005), commonly used to refer to the socio-economic importance and value of nature in the context of green economy.

3 ■ General Guidance

→ What is the overall rationale that allows funding of biodiversity under ERDF?

3.1 Nature is both a foundation and an asset for regional development

The underlining objective of ERDF is to provide financial support for reinforcing economic, social and territorial cohesion in the EU. It does so by funding activities that support sustainable development and structural adjustment of regional economies within the EU.

Diverse and well-functioning nature underpins long-term socio-economic development. Therefore, sustainable use, protection and restoration of biodiversity play a key role in the future sustainable development of the EU regions, including their transition to more sustainable “greener” economies.

The importance of a healthy environment to sustainable economies and the socio-economic benefits of maintaining a high quality environment are increasingly recognised. Nature and ecosystem services support the maintenance of productive land and marine ecosystems, helping to preserve fertile soils, clean air and fresh water. They also play an important role in controlling environmental risk factors such as climate change, floods and droughts. In other words, nature underpins the functioning of our socio-economic systems, creating a range of jobs and business opportunities. In many cases it also provides cost-effective solutions for different sectors including management of water resources and mitigation of environmental risks (see Chapter 5 below).

“Greening” of our economies at local, regional and national level and building on the natural capital (i.e. the nature’s resources and functions) ultimately brings about positive socio-economic impacts (ten Brink et al. 2012, UNEP 2011). The concrete evidence base on the broader socio-economic benefits of investing in conservation and restoration of biodiversity, ecosystems and related services (including the Natura 2000 network) is increasing. Recent global and national assessments, such as the Economic of

Ecosystems and Biodiversity (TEEB)¹, have demonstrated the fundamental importance of biodiversity and well-functioning ecosystems in maintaining welfare both at global and European level. For example, a study by GHK reveals that investing in green sectors – including sectors depending on diverse and well-functioning ecosystems - brings about positive employment benefits in Europe (GHK 2011). In Wales (UK), environment-related employment has been estimated to directly support 117,000 full-time equivalent (FTE) jobs in 2000, contributing £8.8 billion of goods and services annually to the Welsh economy (9 % of Welsh GDP) (Bilsborough and Hill 2003). It has been estimated that by 2050, the global business opportunities dependent on biodiversity and the ecosystem services it underpins, could have a value of between 800 and 2,300 billion USD per year (EC 2012b). Finally, recent studies estimated that the socio-economic benefits of the Natura 2000 network are manifold compared to the costs of managing the network (Gantioler et al. 2010, ten Brink et al. 2011, see Chapter 5). The estimated benefits include several advantages and sustainable starting points for regional development including opportunities for tourism and recreation, mitigation of climate change and benefits to general well-being and health.

Based on the underlining principles of the EU Cohesion Policy, the less developed regions within the EU receive the majority of ERDF funding. Several of these regions also host a high percentage of unique species, habitats and ecosystems (e.g. Natura 2000 sites) (Natura 2000 barometer 2011), and thus can considerably benefit from a new approach to funding incorporating potential for green investments.

1 www.teebweb.org



3.2 EU policy framework - a solid basis for funding biodiversity from ERDF

There is a clear policy basis for funding biodiversity in the context of the ERDF. In the wake of the failure to reach the EU and global biodiversity targets for 2010, increased financing is considered as one of the prerequisites for achieving the 2020 biodiversity goals. Given the existing evidence on the role of nature in supporting sustainable development - embedded in all the key EU strategies - effective protection of biodiversity is fundamental also to achieving the broader EU targets for smart, sustainable and inclusive growth (Europe 2020 strategy). Finally, investment in conserving biodiversity, ecosystems and related services also has significant synergies with other EU policy goals relevant for regional development.

EU biodiversity policy: Article 8 of the EU Habitats Directive states explicitly that the implementation of the Natura 2000 network should be supported by funding from relevant EU funds. The EU Biodiversity Strategy towards 2020 (COM/2011/211) (EC 2011) reinforces this view by stating that better uptake and distribution of funding for biodiversity is needed across all available instruments, including funding under Cohesion Policy. Also, the Strategy calls for maximising co-benefits for biodiversity from various funding sources including funding for regional development (see below). For example, investing in biodiversity conservation can be a cost-effective response also to climate change. In addition, the EU has made an international commitment to substantially increase financial resources for biodiversity (Target 20 of Aichi Biodiversity Targets, agreed in Nagoya) (CBD 2012).

Europe 2020 strategy and flagship initiative on 'A resource-efficient Europe': The EU's overall strategy for 2020, the strategy for smart, sustainable and inclusive growth (Europe 2020 strategy) (EC 2010), has set five ambitious objectives on employment, innovation, education, social inclusion, and climate and energy. These objectives have been translated into more concrete targets by means of seven flagship initiatives including the flagship initiative on 'A resource-efficient Europe' (EC 2011b). The EU Biodiversity Strategy for 2020 is an integral part of the EU flagship initiative for resource efficiency as

emphasised, for example, in the context of the EU Roadmap to a Resource Efficient Europe (EC 2011c, EP 2012). Given the socio-economic benefits of healthy ecosystems and related ecosystem services, reaching biodiversity targets should be seen as an essential element of sustainable and inclusive growth (WWF 2012). Activities supporting biodiversity conservation can - both directly and indirectly - translate into increased employment, educational opportunities and cost-effective solutions for mitigating and/or adapting to climate, increasing social inclusion within regions (see Chapters 4 and 5 below).

Green economy in the EU: The EU Roadmap to a Resource Efficient Europe also outlines some key considerations for green economy in the EU context. It recognises that the economic prosperity and well-being of EU regions depend on their natural capital, including the maintenance of ecosystems and their goods and services. The Roadmap states that investing in natural capital, such as Green Infrastructure, often brings higher returns than constructed or manufactured alternatives, with lower up-front costs. It also emphasises that the loss of biodiversity can weaken the resilience of ecosystems, compromising the delivery of ecosystem services and making them more vulnerable to environmental shocks. This can further hinder - or even jeopardise - the possibilities for sustainable development in a region.

Synergies with other sectoral policy priorities: There are clear synergies between financing biodiversity and reaching the objectives of other policy sectors relevant for regional development. Well-functioning ecosystems mitigate the scale and duration of extreme events such as flooding and droughts, helping to reduce the likelihood of **environmental risks**. Consequently, nature's Green Infrastructure also helps to buffer against and adapt to the impacts of **climate change**. Nature and biodiversity can also provide a basis for sustainable business opportunities, supporting structural adjustment and **diversification of regional economies**. For example, nature-based tourism and recreation helps to create sustainable jobs, with clear positive impacts on broader regional economy (e.g. Kettunen et al. 2011a, ten Brink et al. 2011, Huhtala et al. 2012). Also, an increasing amount of SMEs (small and medium-sized enterprises) are being created around biodiversity-based innovations related to the biochemical, pharmaceutical and cosmetics industries (e.g. TEEB 2010, Kettunen et al. 2012).

4 ■ Practical Guidance

→ How do you ensure funding for biodiversity under ERDF in 2014-2020 in practice?

4.1 What is the framework and timeline for integrating biodiversity into ERDF?

ERDF is one of the instruments supporting the implementation of the EU Cohesion Policy aimed at improving economic, social and territorial cohesion within the EU. Consequently, ERDF is adopted and implemented as a part of the broader Cohesion Policy cycle (Figure 4.1). While the proposed EU Regulations framing ERDF (outlined below) set out the overall scope of and investment priorities for the fund, the Member States and regions can focus on allocating funds towards those priorities that they consider the most relevant for their future development in 2014-2020. Consequently, it is important to ensure that the opportunities and needs for funding biodiversity (e.g. as identified in sections 4.2 and 4.3 of this guidance) will be picked up by the Member States and that they will be integrated into the instruments implementing ERDF at national and regional level.

The **Common Provisions Regulation (CPR)** sets out common provisions for five key Community funds: ERDF, European Social Fund (ESF), Cohesion Fund (CF), European Agricultural Fund for Rural Development (EAFRD) and European Marine and Fisheries Fund (EMFF). This joint approach aims to ensure an integrated use of the funds to deliver common objectives. CPR identifies thematic objectives (described and discussed in detail in section 4.2 below) that can be supported during the 2014-2020 funding period (EC 2012b, 2012d).

A dedicated **ERDF Regulation** sets out specific provisions concerning the fund, determining the scope of intervention under ERDF and defining investment priorities for the thematic objectives. In addition, the Regulation also sets out common indicators for monitoring ERDF support, including indicators for environment related investments. A dedicated indicator for nature and biodiversity is also foreseen to be included on the list.

Under CPR, the **Common Strategic Framework (CSF)** establishes the key areas and actions of support for the thematic objectives, therefore providing the strategic direction for programming funds at the national and regional level. Once adopted, national and regional authorities will be obliged to use CSF as a basis for implementing ERDF.

The national and regional framework for ERDF implementation in 2014-2020 consists of Partnership Agreements and Operational Programmes, developed based on the Common Strategic Framework (CSF).

Partnership Agreements (PAs) will be agreed between the European Commission and each Member State, translating the elements set out in CSF into the national context. PAs will be binding documents, with obligations on the part of the Member State.

Operational Programmes (OPs) are the key planning tool for ERDF expenditure. They contain, for example, a development strategy for the funding covered by the programme, funding priorities and specific objectives and measures, financial appropriations and indicators for monitoring the implementation of funds. OPs shall be drawn up by Member States or any authority designated by them, in cooperation with the partners. OPs shall consist of priority axes, each axis corresponding to a CPR thematic objective (see section 4.2) and comprising one or more investment priorities related to the given objective. In addition, programme-specific indicators (e.g. for biodiversity) should be included in OPs, to complement the common ERDF indicators (see above).

Finally, **integrated territorial investment (ITI)** can be used when an integrated approach between different OPs is required to deliver the set policy goals. Such investment needs shall be identified in the relevant OPs, e.g. setting out the indicative financial allocation under different objectives (priority axis) of OPs.

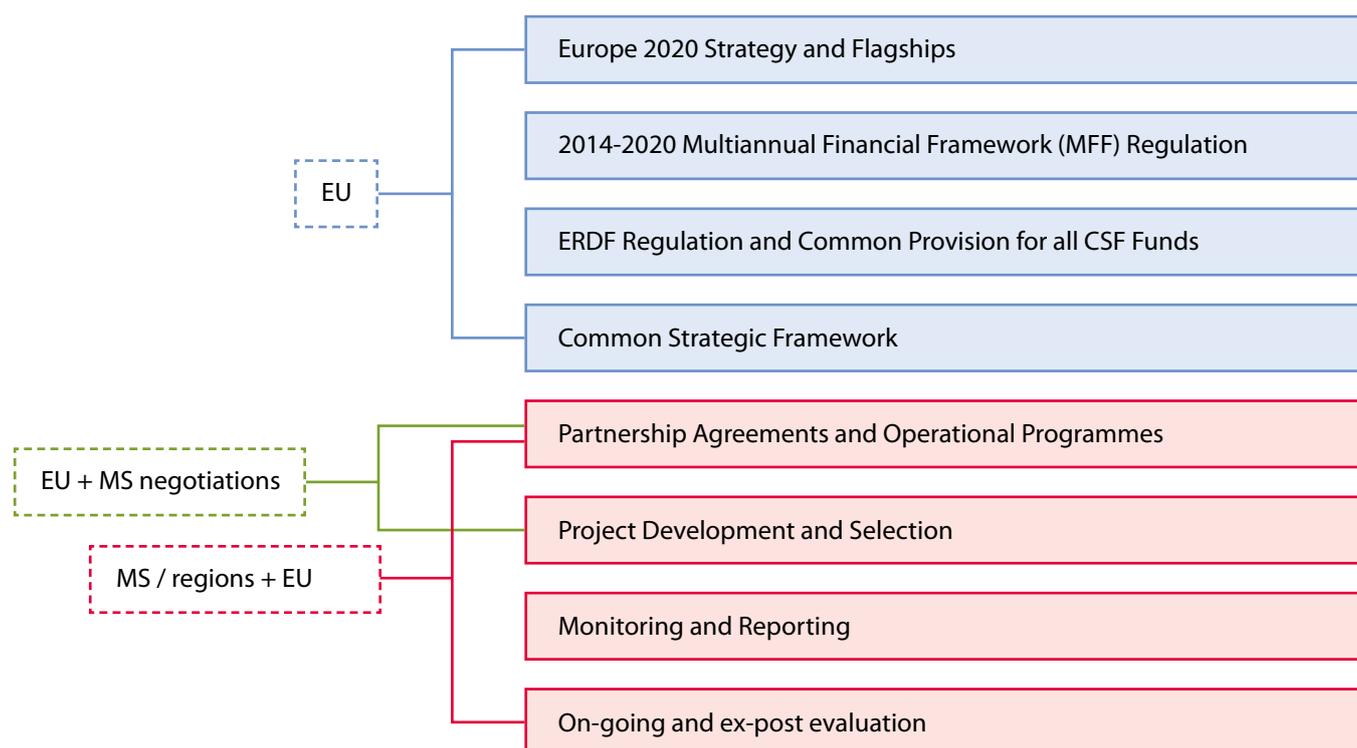
For PAs and OPs, a Member State is required to organise a partnership with the representatives of competent regional, local, urban and other public authorities, economic and social partners, and bodies representing civil society, including environmental partners, non-governmental organisations, and bodies responsible for promoting equality and non-discrimination. Hence organisations with an interest in biodiversity should have an opportunity to contribute to the development of PAs and OPs. Furthermore, the ERDF implementation framework (CPR) provides for special arrangements to be made for **community-led local developments** allowing

for community-led initiatives with multiple development objectives to take place under ERDF. These initiatives can be used as an additional avenue for the integration of sub-regional and local biodiversity concerns into ERDF. While these changes are to be welcomed, much will depend on how Member State authorities organise the partnership and consultation processes on the ground.

In terms of the timelines, the Common Provisions Regulation (CPR) and the ERDF Regulation are envisaged to be adopted in mid-2013 and enter into force on 1 January 2014. It is also foreseen that CSF will be adopted as an annex to CPR, providing a legally binding basis for implementation. Meanwhile, Member States should already start the programming of their respective PAs and OPs (both covering the period of 2014-2020) in 2012 in order for them to be adopted within three months of adoption of the legislative package. Both PAs and OPs are then foreseen to be adopted by the Commission by means of an implementing act within six months of their submission by the Member State. In practice, this procedure means that the Commission will be in a position to reject proposals that do not fulfil the requirements stipulated by the Regulations, including compliance with EU environmental law. This should serve as an incentive for Member States to properly account for biodiversity needs when drafting PAs and OPs.

While all regions in Europe will receive funding from ERDF, the amount of support will depend on a region's level of economic development (per capita GDP). In 2014-2020 three distinct regions are foreseen to be identified, including **less developed regions** (GDP per capita less than 75 % of the average GDP of the EU-27), **transition regions** (GDP per capita between 75 % and 90 % of the average) and **more developed regions** (whose GDP per capita is above 90 % of the average). In general, the less developed regions are foreseen to receive most of the funding under CP / ERDF (around 40 % of the total CP funding) with contributions to the other regions being considerably less (10 % and 14 % of the total CP funding, respectively) (EC 2012e). In addition, a certain amount of financing (3 % of the total CP funding) is foreseen to be allocated to support **territorial cooperation** within the EU (i.e. cooperation between different regions). These regional ERDF allocations are important also from the perspective of biodiversity as, based on previous experience (e.g. Kettunen et al. 2011b), the overall amount of ERDF funding available within a given Member State or region is also indicative of the scale of ERDF support made available for biodiversity.

Figure 4.1 Overview of the different stages of the Cohesion Policy cycle. Source: modified from Medarova-Bergstrom and Volkery (2012) and IEEP et al. 2012.



4.2 What are the foreseen opportunities for biodiversity in 2014-2020?

According to the Commission's legislative proposals (published in October 2011) financial support under the EU Cohesion Policy in 2014-2020 should concentrate on delivering the objectives of the Europe 2020 Strategy (EC 2012d&e). While the main focus of Europe 2020 is on promotion of growth and jobs, policy action under CP should nevertheless always be pursued within the framework of sustainable development, respecting the EU's commitment to protect and improve the environment, including biodiversity. Member States and the Commission should therefore ensure that environmental protection requirements, resource efficiency, climate change mitigation and adaptation, disaster resilience, and risk prevention and management are promoted in the preparation and implementation of all funds supporting CP (e.g. ERDF) (EC 2012e).

As outlined in section 4.1 above, there are two main legislative acts that will govern the programming and implementation of ERDF in 2014-2020. The Common Provisions Regulation (CPR) sets out general provisions for ERDF, identifying a total of 11 **thematic objectives** supported during the 2014-2020 funding period (see Box 2) (EC 2012b, 2012d). The dedicated ERDF Regulation outlines specific **investment priorities** - in line with the 11 thematic objectives - foreseen to be eligible for ERDF funding.

Several of the foreseen thematic objectives and related ERDF investment priorities provide (direct or indirect) opportunities for funding the conservation of biodiversity, ecosystems and related services. There are also a range of synergies between biodiversity goals and other objectives / ERDF priorities (e.g. climate change adaptation), providing opportunities to increase the cost-effectiveness of policy implementation by combining different thematic objectives. An overview of the most relevant thematic objectives providing direct and/or synergy-based opportunities for financing biodiversity is given below.

Note: The opportunities identified below should be considered as indicative only; they are based on the proposed CPR and ERDF Regulations that are currently being negotiated by the Council and the European Parliament. Some modifications to the final legislative framework may be made before its adoption in 2013 (EC 2012d). The list of identified opportunities is also not fully comprehensive and a range of other opportunities may also exist.

→ Direct opportunities for financing biodiversity under ERDF?

Protecting the environment and promoting resource efficiency (thematic objective 6): This is the only thematic objective with direct relevance for biodiversity. It clearly identifies biodiversity as an investment priority, providing for funding to be allocated towards investments such as the protection of biodiversity (e.g. Natura 2000), the promotion of ecosystem services and Green Infrastructure. In addition, other identified investment priorities such as broader environmental protection and resource efficiency can – or indeed should - be implemented through measures that have synergies with biodiversity conservation. For example, regional water security can be enhanced by creating and/or restoring wetlands, leading to investment in natural - rather than manmade - water purification systems (see Chapter 5).

→ Synergy-based and/or indirect opportunities for financing biodiversity under ERDF

Supporting the shift towards a low-carbon economy in all sectors (thematic objective 4): Conservation and restoration of biodiversity and ecosystem services can contribute to the mitigation of climate change. For example, the conservation and restoration of peatlands and forests can both prevent emissions from degraded habitats and/or improve carbon sequestration, therefore complementing actions to mitigate greenhouse gas (GHG) emissions. In addition, urban green areas can play an important role in stabilising local temperature peaks, reducing an area's overall energy footprint (see Chapter 5).

Promoting climate change adaptation, risk prevention and management (thematic objective 5): This is a thematic objective aimed at supporting adaptation to and addressing risks caused by climate change. In principle, funding can also be allocated to support ecosystem-based adaptation measures that build on the maintenance and/or restoration of ecosystem services. For example, restoring ecosystems' natural capacity to buffer the impacts of climate change (e.g. frequent heavy rains and other extreme weather phenomena) can be used as a means to mitigate flooding, droughts and wild fires (see Chapter 5). Investment in such ecosystem-based adaptation

measures is explicitly encouraged under the proposed CPR Common Strategic Framework (see section 4.1 above). When appropriately planned, such adaptation measures can also contribute to the protection of species and habitats, further delivering on the EU's biodiversity objectives.

Enhancing the competitiveness of SMEs and promoting employment (thematic objectives 3 and 8): Promoting the conservation of biodiversity and ecosystem services can have a range of synergies with measures promoting employment, e.g. enhancing the competitiveness of SMEs. Nature (e.g. protected areas) offers multiple opportunities and unique "selling points" for SMEs within the tourism sector. The number of SMEs focusing on the development of new biodiversity-based products and innovations, the so-called "bioeconomy", is also increasing (see Chapter 5). In addition, investing in natural solutions such as restoring ecosystem's ability to maintain water quality (see above) can be a cost-effective solution in the long term, improving SMEs' performance and competitiveness.

Promoting social inclusion and combating poverty (thematic objective 9): Building on nature's capacity to support sustainable development (as outlined above) can also be used to support broader physical and economic regeneration of deprived urban and rural communities. Restoring ecosystems and related ecosystem services can have significant welfare impacts, for example by improving environmental security and/or quality in the area. As highlighted above, nature also provides a range of business opportunities. Finally, evidence shows that contact with green spaces and nature can improve psychological health (e.g. by reducing stress levels) (see Chapter 5). Consequently, nature can also support a range of measures and activities that enhance social inclusion, including providing opportunities for nature-based therapy and care.

Investing in education, skills and lifelong learning (thematic objective 10): Nature provides a vast number of opportunities for education and skills development. For example, nature and environment schools are considered as an important means to improve children's understanding of sustainable development. Similarly, increasing people's knowledge on biodiversity conservation, ecosystems services and the related business and investment opportunities contributes to lifelong learning, supporting a shift towards more sustainable socio-economic practices.

Enhancing institutional capacity and an efficient public administration (thematic objective 11): Lack of institutional and administrative capacity has often been identified as one hindrance to the implementation of EU biodiversity targets, e.g. preventing the uptake of opportunities available in the context of ERDF (see Section 4.3 below). Allocating ERDF funding to improve national and regional environmental governance (e.g. biodiversity mainstreaming) can help to overcome these institutional and administrative barriers.

Finally, in the context of the 11 thematic objectives specific support from the ERDF is foreseen to be given to cities and urban development (EC 2012b, EC 2012d). For example, the current ERDF proposal envisages ring-fencing 5 % of funding for integrated sustainable urban development measures and for the setting up of an urban development platform to promote exchanges between cities. This focus on cities and urban areas provides a range of opportunities for biodiversity; restoration of urban ecosystems and related services (e.g. urban wetlands, water bodies and green spaces) can create a range of benefits for biodiversity, urban welfare and different economic sectors (see Chapter 5).



Box 2. Foreseen investment priorities for ERDF under the 11 thematic objectives in 2014-2020 (EC 2012d)

Note: Thematic objective 6 is directly relevant for biodiversity whereas numerous synergy-based and/or indirect opportunities for financing biodiversity can be established under a range of other objectives. Thematic objectives 8-11 are mainly foreseen to be covered by the European Social Fund (ESF).

Thematic objective 1: Strengthening research, technological development and innovation

Thematic objective 2: Enhancing access to and use and quality of ICT

Thematic objective 3: Enhancing the competitiveness of SMEs

Thematic objective 4: Supporting the shift towards a low-carbon economy in all sectors

Thematic objective 5: Promoting climate change adaptation, risk prevention and management, including investment priorities for supporting dedicated investment for adaptation to climate change and promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems

Thematic objective 6: Protecting the environment and promoting resource efficiency, including investment priorities for:

- a) addressing the significant needs for investment in the waste sector to meet the requirements of the environmental acquis (body of EU legislation);
- b) addressing the significant needs for investment in the water sector to meet the requirements of the environmental acquis;
- c) protecting, promoting and developing cultural heritage;
- d) protecting biodiversity, soil protection and promoting ecosystem services including Natura 2000 and green infrastructures; and
- e) action to improve the urban environment, including regeneration of brownfield sites and reduction of air pollution.

Thematic objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

Thematic objective 8: Promoting employment and supporting labour mobility

Thematic objective 9: Promoting social inclusion and combating poverty

Thematic objective 10: Investing in education, skills and lifelong learning by developing education and training infrastructure

Thematic objective 11: Enhancing institutional capacity and an efficient public administration by strengthening of institutional capacity and the efficiency of public administrations and public services related to implementation of the ERDF

4.3 What are the priorities for funding biodiversity?

→ What do we know about the actual needs for funding biodiversity under ERDF in 2014-2020?

Based on the review of the proposed provisions for ERDF, the fund seems to continue to offer a range of possibilities for financing biodiversity in 2014-2020. However, to take up these opportunities information on the foreseen regional financial needs is required to ensure the practical integration of targeted and well-defined opportunities for biodiversity into PAs and OPs. It is also important to consider how the foreseen opportunities under ERDF identified in Section 4.2 match the envisaged “real” needs for financing biodiversity within regions.

This chapter summarises a range of concrete future needs for investing in biodiversity under ERDF, as identified by SURF Nature partners. It draws from regional reports that assess the past experiences and future needs of funding biodiversity through ERDF and its regional programmes. Insights from the following regional reports have been synthesised: Austria, Czech Republic, France, Murcia (Spain), Romania, Slovenia, Poland, Italy and Wales (UK). The complete reports are available on the SURF project website (www.surf-nature.eu).

Needs for improving the general ERDF framework

Many existing OPs under ERDF (2007-2013) identify biodiversity as an important issue to be addressed in the context of regional development. Nonetheless, a detailed analysis of these OPs shows that biodiversity and nature conservation are rarely fully incorporated into regional programmes. For example, biodiversity may be taken into consideration in the regional SWOT analysis, but not clearly specified as a priority for the OP.

Consequently, there is a clear need for better integration of biodiversity and nature conservation into OPs in the future, for example by setting biodiversity as a priority and including Natura 2000 as an objective in all OPs across the EU. To complement this, clear and usable biodiversity indicators need to be included in the set of programme indicators used to assess the success of an OP. These indicators are frequently used as a basis for the approval of projects, and a project that clearly contributes to the achievement of an indicator may have a higher chance of success.

It was also recognised that better integration of biodiversity often requires close cooperation between different authorities and greater coordination between different funds (e.g. rural development and ERDF). In addition, several regions expressed the need to improve the participation of stakeholders in the development of OPs and to strengthen their ability to implement biodiversity conservation through ERDF funding. Non-experts in European Programmes, especially potential beneficiaries such as biodiversity stakeholders, still find it difficult to access the available European funds. Increased participation of conservation experts in OP development is also considered necessary. Also, cooperation between different stakeholders can be encouraged, and there is an opportunity for increased private sector involvement for co-financing.

Needs for funding biodiversity under ERDF: conservation and management measures

In line with the post-2010 biodiversity policy, many countries are currently revising their national biodiversity strategies and priorities. Naturally, the specific habitats, species, ecosystems and ecosystem services concerned and their ecological requirements will vary between the different geographic regions. Furthermore, the broader policy context of biodiversity conservation varies between regions, as the specific pressures and threats are different. Consequently, the priorities for biodiversity funding under ERDF diverge significantly within the EU. Nevertheless, the following priority themes can be identified regarding the need for ERDF investment in biodiversity.

The restoration of degraded ecosystems: In order to meet biodiversity targets at national and international level, there is an immediate need to take restoration measures for degraded habitats and to take actions to improve and increase their area. The exact priority ecosystems and measures differ between regions. Examples are coastal and marine environments (Brittany (France)), grasslands and forests (Czech Republic, Brittany (France)), bogs (Austria), river and floodplains (Romania, Austria) and floodplain forest (Czech Republic, Romania). Most regions express the need to focus the investment on Natura 2000 sites or prioritise Natura 2000 habitats and species.

Fragmentation: Many regions identify investment needs to tackle fragmentation. Priority measures relate to Green (and blue) Infrastructure creation and restoration, such as population restoration through ecological corridors, improving the coherence of Natura 2000, preservation of high value Green Infrastructure in urban ecosystems and strengthening the landscape's ecological stability. Defragmentation in the aquatic environment is also seen as a priority, for example in relation to the Water Framework Directive. Examples of funding needs are river and floodplain restoration, restoring permeability of water courses for migration and building fish migration aids.

Improvement of environmental conditions: Funding is required to improve the abiotic conditions of different priority habitats and species. Some regions focus on water courses and wetlands (e.g. Czech Republic), while others require the rehabilitation of systems that suffer from pollution and over-exploitation (e.g. Romania, Italy). Recommended measures include the integration of environmental and biodiversity concerns in sectoral policy (Murcia (Spain)) and protection against soil erosion (Czech Republic).

Climate change mitigation and adaptation: Funding is needed for measures that mitigate the effects of climate change on biodiversity, and allow the adaptation of the natural world to changing circumstances. This theme has been expressed as a priority in several regions (e.g. Austria, Czech Republic, Wales (UK), Brittany (France)). Recommended measures relate for example to invasive species (e.g. improved monitoring of threats and liquidation and prevention measures, Czech Republic), and improving ecosystem resilience through Green Infrastructure (Brittany (France)).

Needs for funding biodiversity under ERDF: supporting measures

In addition to the direct funding priorities for biodiversity, there are a number of activities in need of ERDF funding that will benefit biodiversity in a more indirect manner. These actions facilitate the implementation of direct biodiversity measures.

Improved management of Natura 2000 sites: Several regions state that they require improvements in management planning and operation, for example through increased financial resources for management planning, programmes that promote integrated management and studies and assessments for the design of intervention

measures in protected areas. The management of sites would also benefit from improved site-based data availability and analysis (Slovenia) and the development of stakeholder skills. The improvement of infrastructure for public use in natural areas was also seen as important (Murcia (Spain), Romania), for example by building visitor centres (Czech Republic) and developing infrastructure to better manage open air activities (Brittany (France)). This may not only increase public support for nature conservation, but also direct pressure away from the most sensitive areas.

Monitoring is a key tool for making wise and timely decisions in nature conservation based on sound data. Improvements in the mechanisms for collecting information are needed in some regions (e.g. Murcia (Spain), Brittany (France)), while other regions require increased funding for monitoring of species and sites (Czech Republic), hydro-morphological and biological elements of surface waters (Czech Republic) and the monitoring of efficiency conservation of measures (Slovenia, Brittany (France)). Monitoring of environmental effects (both positive and negative) of ERDF funded activities is needed to promote attention to environmental results (Murcia (Spain)).

Public participation and awareness raising is seen as fundamental to successful nature conservation, and is therefore identified as a priority for ERDF funding in many regions (e.g. Austria, Murcia (Spain), Czech Republic, Romania, Slovenia). Many activities are suggested in the regional reports that could be funded through ERDF, such as:

- The engagement of private land owners (Murcia (Spain)) and support for public participation (Czech Republic, Murcia (Spain)).
- The establishment of policies and campaigns to increase environmental awareness of the general public (Murcia (Spain)), for example to improve public understanding of landscape design and function (Czech Republic), raise awareness regarding the importance of Natura 2000 and Green Infrastructure (Romania).
- The promotion of forums and discussion groups on environmental policy or specific sites (Murcia (Spain)).
- The promotion of rural and science tourism with regards to conservation of Natura 2000 sites (Slovenia).
- The improvement of public participation in decision-making (Italy), and the integration of biodiversity in municipal politics (Murcia (Spain)).

- Awareness-raising through environmental activities e.g. in conservation areas (Murcia (Spain)), such as exhibitions, lectures and visits (Czech Republic).

Education and training is regarded as a priority in several regions. The dissemination of biodiversity-related knowledge and translation of knowledge into practice needs to be improved within regions and across regions, for example related to the determination of risk and the key threats to species and habitats (Brittany (France), Slovenia). Education and training is necessary to change behaviour and preserve traditional activities (Slovenia) and it constitutes an important tool to encourage behavioural changes related to the natural environment in the general population (Wales (UK)) and to raise the public profile of the issues surrounding nature conservation financing (Wales (UK)).

ERDF opportunities vs. regional priorities

The priority themes for biodiversity funding emerging from the SURF regional reports broadly reflect the EU-wide picture of threats to biodiversity, as identified by the European Environment Agency (EEA): habitat loss, fragmentation, over-exploitation, pollution, invasive alien species and climate change (EEA 2010). Consequently, the investment needs stated in the regional reports closely fit a number of the key EU targets from the biodiversity strategy 2020: conserving and restoring nature, maintaining and enhancing ecosystems, more use of Green Infrastructure and combating invasive alien species.

While most of the identified priorities are biodiversity focussed, they clearly link to the wider context of improved ecosystem services and sustainable regional development. The identified priority habitats and ecosystems are known to provide a range of ecosystem services, such as flood prevention, water purification, pollination and carbon storage. Therefore, their restoration does not only benefit biodiversity but it also increases free ecosystem services and the viability of local communities. For example, the restoration of coastal ecosystems is known to be a cost effective way of mitigating the risks of sea level rise. Priority habitats such as bogs, dunes and river habitats are known to contribute to water purification, carbon storage and flood protection, and therefore ERDF investment in the waste and water sectors can be justified to meet environmental requirements. Forests, bogs and moors can store significant amounts of carbon, contributing to climate change mitigation.

In conclusion, the proposed ERDF Regulation seems to provide a sound basis for investment in the identified regional biodiversity priorities. ERDF funding of the identified priorities is justified from the perspective of sustainable development, fitting the investment priorities defined in the Regulation: restoration of degraded ecosystems and tackling fragmentation leads to a more resilient natural environment, thereby diminishing the risk of natural disasters and contributing to climate change adaptation. Identified regional investment needs do not only benefit biodiversity but also clearly link with improving sustainable regional development through increased ecosystem services and improved viability of communities.

In more concrete terms, protecting biodiversity (e.g. Natura 2000), soil protection, Green Infrastructure and promoting ecosystem services are identified as investment priorities for ERDF in 2014-2020 (as a part of thematic objective 6, see Section 4.2). In addition, the identified regional financing needs can also be integrated into the implementation of several other thematic objectives and ERDF investment priorities, such as funding for measures to support climate change adaptation, risk prevention and management (thematic objective 5). The required investment in education and training related to nature conservation could fit within the ERDF priorities for investment in education and skills (thematic objective 10). Finally, with some strategic thinking and planning a number of identified priorities, such as the development of public infrastructure and the improvement and/or restoration of ecosystems and broader environmental conditions, could also be linked to promoting regional employment and enhancing the competitiveness of SMEs (thematic objectives 3 and 8) (as identified in Section 4.2).



5 ■ Thematic Guidance

→ How do you create and demonstrate synergies between biodiversity and regional development?

Linking biodiversity with the broader objectives of regional development (e.g. a range of CPR thematic objectives and related ERDF investment priorities) requires understanding on how to create and demonstrate synergies between biodiversity and other aspects of sustainable development. Such thinking can also become a very important asset in 2014-2020. The negotiations between the Council, Parliament and Commission indicate that a more flexible approach might be adopted than that foreseen in the current legislative proposals, allowing ERDF investment priorities to address or correspond to a number of thematic objectives (instead of being objective-specific). Given the range of synergies between biodiversity and other aspects of sustainable development, this can mean increased opportunities for biodiversity, ecosystem services and Green Infrastructure.

This Chapter outlines the key arguments for funding biodiversity in the context of broader sustainable development. It also provides some possible ideas on how synergy-based opportunities for funding biodiversity could be – and indeed have been – taken up in practice.

5.1 Synergies between biodiversity and green infrastructure

→ Provision of services complementing conventional infrastructure and socio-economic development supported by natural ecosystems (e.g. thematic objectives 3, 5 and 6)

There is an emerging body of evidence which demonstrates the possibilities of well-functioning ecosystems to provide significant economic outputs at comparatively low cost. In addition, these same ecosystems can frequently be

managed so as to maintain a high level of biodiversity and support broader well-being in the area. As a consequence numerous initiatives have been undertaken across Europe (by public authorities, third sector organisations and increasingly by private sector organisations) to maximise these co-benefits in a manner that simultaneously provides valuable socio-economic benefits and promotes biodiversity. These initiatives have been used to complement and reduce the cost of operating conventional “grey” infrastructure or, in some cases, completely replace it. The underlying principle of Green Infrastructure is that the same area of land can frequently provide multiple benefits if the correct priorities are established from the outset (Mazza et al, 2011).

Although the evidence base estimating the potential benefits of Green Infrastructure within and across the EU is preliminary, there are reasons to expect that the economic benefits are very significant. The existence of forests in the Alpine region in Switzerland, for instance, is recognised as a major resource for national (public and private) socio-economic well-being in terms of disaster prevention, with 17 % of Swiss forests estimated to bring value of around USD 2-3.5 billion per annum in avalanche, rock fall and landslide protection (ISDR 2004). Investment in Green Infrastructure can also result in reduced costs for private companies. In northern England, a major water supplier United Utilities has invested in the restoration of an extensive area of upland peatbog habitat with the aim of reducing the costs of colour treatment with noticeable improvements measured within several years (McConville, 2012). Overall, ten Brink et al (2011) estimate that the Natura 2000 network (considered as a fundamental component of Green Infrastructure in Europe) provides benefits of between 200-300 billion EUR per annum, amounting to around 1.7 - 2.5 % of EU GDP. Furthermore, these benefits far exceed the estimated costs for managing the network (5.8 billion EUR / year) (Gantioler et al. 2010).

Nevertheless, ecosystems in the EU are being consistently degraded, undermining their capacity to provide these key services. Fragmentation (e.g. through transport and energy infrastructure, including ERDF supported initiatives), land use change (through agricultural intensification or urban sprawl) and pollution are major pressures on ecosystems. Alongside policies to reduce the pressures on ecosystems and to integrate Green Infrastructure into spatial planning, investment is required to restore ecosystems and to maintain their functionality. ERDF can be successfully used for this objective (see Box 3).

Box 3. ERDF supporting Green Infrastructure and risk reduction

Ecological restoration of Comana Wetland, Giurgiu County (Romania)

Comana Wetland National Park is a richly structured landscape of wetlands, forests, lakes and agricultural land, and is one of the most important sites for biodiversity along the Danube. However, water management projects aimed at increasing arable land area before 1990 caused significant reduction of surface and groundwater levels, causing ecological damage and adversely impacting on farming as grasslands reduced in quality. In 2009, Giurgiu Council began an initiative to restore biodiversity and efficient management of an area of about 1,180 ha. Co-funded by ERDF, the measures include the construction of a dam to increase and maintain water levels in the floodplain area, ecological restoration of habitats and species, improving visitor infrastructure (visitor centre, information panels etc) and preparation of publicity materials for the local community.

Beach nourishment and restoration in Liguria (Italy)

A 1.5 km stretch of coast of the Italian region of Liguria, formerly nourished by the Roja River sediments, is now subject to erosion as a consequence of the construction of dams for flood control and electricity generation reducing river sediments transported to the beaches. The erosive process has been also increased by the deployment of the railway along the coastline and increasing urbanisation. The beach nourishment initiative has given the opportunity to link the protection measures of the coastline with the Roja River Basin Plan which proposed dredging the river bed in order to restore the hydrological regime in different sectors of the basin. The dredged material formed the Roja River has been used to nourish the beaches, allowing significant cost reduction of works. Local people appreciate both the landscape improvement and the fact that the beach has been able to sustain the high energy storm events which have occurred over the past few years.

Source: Lucius et al (2012)

5.2 Synergies between biodiversity, job creation and regional vitality

→ Enhancing competitiveness of SMEs and promoting entrepreneurship and new business models (e.g. thematic objectives 3, 7 and 8) and investing in education, skills and lifelong learning (e.g. thematic objective 10)

The activities required to restore, manage and protect biodiversity also result in both direct employment opportunities (including management of reserves, and land-let agreements with farmers) and indirect employment as a consequence of visitor and tourism expenditure. ERDF investment in environmental and nature protection therefore has the potential to create employment opportunities (see Box 4), especially in areas with the greatest need for employment as several important nature conservation areas are located in areas of reduced economic activity. These job creation opportunities can be significant, particularly at the local and regional scale, generating much needed employment and investment for rural areas. The presence of natural areas can also be utilised for learning and development of new employment skills (see Box 4).

While no comprehensive review of the links between jobs and biodiversity conservation at the EU level yet exists, it has been estimated that in the EU-15, 125,000 jobs are directly supported by nature protection-related activities (Rayment and Dickie 2001). This figure is likely to be an underestimate. In Germany alone, nature conservation management is estimated to support 38,500 jobs (Blazejczak et al. 2009). Opportunities exist to develop SMEs that exploit biodiversity- and/or conservation-related opportunities beneficial for businesses and site managers alike. A European Commission funded study has identified numerous activities such as biomass extraction, certified meat products, mowing and engineering projects that may contribute to management of Natura 2000 (RSPB 2010).

Box 4. ERDF supporting tourism and employment opportunities

Estimated socio-economic outcomes of ERDF funded projects in Wales (UK) (realised and/or estimated):

Project	Theme	ERDF funding	Direct jobs created (FTE)	Enterprises created (FTE)	Additional visits to area
Valleys Regional Park	Green infrastructure, tourism and recreation, green jobs, health and welfare	£13 300 000	Not yet available	6 (total)	100 000 / annual
Communities and Nature (CAN)	As above plus nature conservation	£6 600 000	20 (total)	3 (total)	100 000 / annual
Green Links on Holy island*	As above	£153 000	2.5 (total)	2 (total)	13 000 / total
Coastal Access	As above	£3 983 000	6 (total)	2 (total)	100 000 / total
Conwy Connections*	As above	£178 000	2 (total)	-	30 000 / total
Coed y Brenin Forest Park	As above plus forestry	£650 000	76 (total)	Not yet available	50 000 / total

* delivery under Communities and Nature (CAN) project

Source: JBA Consulting (2012)

Cooperation and mutual learning through Bog Alliance in the Alps (Austria)

Building on similar projects in the region, the Bog Alliance in the Alps was an ERDF Interreg-funded project to increase cross-border cooperation and mutual learning with respect to bog conservation in an area which reaches from bogs in Salzburg over Tyrolean wetlands to the Bavarian Alpine Foothills. The project has three components: generating sustainable ecotourism through increasing accessibility and information availability; improving conservation through the sharing of information about the habitats and production of management plans; and education of young people through development of excursions, education packs and bog guides. The cooperation between different regions allows the use of synergies beyond the subject of bog restoration and conservation and offers the possibility of achieving wide-ranging results for nature conservation in the region.

Source: Wagner et al (2011)

Of even greater significance is the job creation potential associated with tourism and visitor expenditure in and around areas of conservation interest. Over 40 % of European travellers surveyed in 2000 included a visit to a national park (Eagles and Hillel 2008). In Finland, it has been estimated that total annual revenue linked with visitor spending in national parks (altogether 37 areas) is around 108.3 million EUR, supporting the local economy by creating 1,394 man-years of employment (Huhtala et al 2011). Similarly, in Wales (UK) the region's three national parks were estimated to generate 11,926 jobs and £177 million of income in 2006 (Hyde and Midmore 2006). Investment in nature reserves are required to develop the tourism trade through the establishment and maintenance of public infrastructure (bike paths, parking, traffic calming) to redirect visitors or to carefully direct tourist activity (e.g. via information centres, observatories, scenic view points, signage, walking trails, natural and cultural routes and trails).

In addition, wildlife management (e.g. in the context of Natura 2000) can also be seen to directly create employment opportunities. For example, the re-introduction of charismatic species has been shown to be an effective way of attracting visitors and creating a net return of investment as a consequence of tourist expenditure supporting local businesses. In Wales (UK), wildlife-related employment has been estimated to be at around 32,000 FTE jobs and Gross Value Added (GVA) at £0.9 billion per year in 2007, equivalent to just over 2 % of GVA for Wales (Mabis 2007).

5.3 Synergies between biodiversity and climate change adaptation

→ Promoting climate change adaptation (e.g. thematic objective 5) and also indirectly supporting the shift towards a low-carbon economy in all sectors (e.g. thematic objective 4)

Climate change mitigation is a key priority of the Europe 2020 strategy and both mitigation of and adaptation to climate change have been embedded into the draft ERDF Regulation. In terms of mitigation, given the scale of the challenge of installing sufficient renewable energy capacity and commercialising carbon capture and storage

(CCS) processes, the restoration of certain ecosystems (e.g. peatlands and forests) can complement actions to mitigate greenhouse gas (GHG) emissions, by preventing emissions from degraded habitats and sequestering carbon directly. In addition, urban green areas can also contribute to lowering the overall energy consumption in an area (see section 5.4). Furthermore, as outlined in section 5.1 above, the proper functioning of ecosystems can improve resilience against extreme events and therefore be an important component of a climate change adaptation strategy (see Box 3 and also section 5.4 below).

The restoration of peatlands is particularly important for climate change mitigation. Although covering only 3 % of the world's land surface, peatlands store more carbon than global forest biomass, constituting the world's most efficient store of carbon in terrestrial environments (Bain et al. 2011). Undamaged peatlands remove carbon from the atmosphere through photosynthesis of their associated vegetation and store it in the peat as plant remains. Damage of these habitats (e.g. by overgrazing, drainage or fires) can result in the release of carbon turning them from a carbon sink to a source. A loss of just 1.6 % of global peat would equate to the total annual anthropogenic GHG emissions (Bain et al. 2011). Similarly, forests also sequester a substantial amount of carbon: between 2005 and 2010, tree biomass growth in European countries removed about 870 million tonnes of CO₂ annually, equivalent to about 10 % of GHG emissions in 2008 from those countries (MCPFE 2011).

5.4 Synergies between biodiversity and green urban regeneration

→ Support to integrated sustainable urban development (a cross-cutting ERDF objective)

Cities and urban areas now represent the majority of European populations. In Europe, 75 % of the population live in cities and this is expected to rise to 80 % by 2020 (Georgi et al. 2010). There is fast-growing understanding of the positive contribution of urban green spaces² to mental and physical health, childhood development, social cohesion and adaptation to climate change meaning that maintenance of and access to these areas presents a significant opportunity for improving social well-being and people's quality of life. In the UK, deprived areas

2 Green space in urban environments refers to a wide range of features, ranging from parks to individual street trees (natural/semi-natural green spaces, street trees, public parks, domestic gardens, outdoor sports facilities/ recreational areas, allotments, urban farms, cemeteries, previously developed land and water) (UK NEA 2011)

systematically fare worse in terms of quantity and quality of green space (UK NEA 2011), signalling that improving green features in these areas also presents an opportunity for tackling social exclusion.

Research on the health benefits of green spaces is well developed, with a growing interest from health practitioners and services (e.g. see the Marmot Review)³. Living in close proximity to green spaces has been shown to result in increased physical activity, with positive effects on individuals' health and capacity to deal with stress (O'Brien et al. 2010). Children with access to safe, green areas are more likely to be physically active and less likely to be overweight (Gong 2009) while contact with nature has been shown to reduce the severity of Attention Deficit Hyperactivity Disorder (ADHD) symptoms (Taylor 2009). A study of parks in Philadelphia estimates the health values to citizens at a total of 69 million USD per year and states that the value derived from the parks is around 100 times the city-wide expenditure on parks (Trust for Public Land 2008).

Urban ecosystems can also be significantly better utilised to enhance climate mitigation and adaptation (UK NEA 2011) (see also section 5.3 above). Large areas of heat-absorbing surfaces (such as roads, pavements and buildings) contribute to the urban heat island effect and exacerbate the impact of heatwaves in summer months. Transpiration by street trees lowers summer temperatures by consuming up to 1,000 megajoules of heat energy, as well as providing shade which reduces the need for summer air conditioning (McPherson et al. 1997). A study of green roofs in Toronto (Banting et al, 2005) shows that greening 5,000 hectares of roof (the maximum feasible city-wide) would reduce local ambient air temperatures by 0.5 to 2°C, depending on the time of year, with annual cost savings attributable to a reduction of the urban heat island effect and building energy savings amounting to 12.32 million CAD and 21.56 million CAD respectively.

Finally, urban areas are normally dominated by non-porous surfaces that encourage run-off which can contribute to flash flooding and contaminate drinking water supplies (Oberndorfer et al. 2007). Increasing tree cover and green space by 10 % in urban areas could reduce surface water runoff by almost 6 % and 5 %, respectively (Gill et al. 2007). New York City, for instance, expects to save 1.5 billion USD over 20 years by reducing volumes of water discharged to the storm and sewer system through capturing 2.5cm of precipitation over 10 % of impermeable surfaces through detention or infiltration techniques (New York City Government 2010).

Box 5. ERDF supporting urban green development: Green Life in the City (Greece)

The Operational Programme Attica runs the programme "Green Life in the City" that funds projects and actions in urban municipalities of the Region of Attica which face problems such as lack of green spaces, deterioration in quality of life, poor air quality etc. The programme, with a total budget of 100 million EUR (75 % ERDF and 25 % national funds), was initiated to address these problems. Some of the main interventions related to biodiversity and nature conservation are: planting trees on pavements, improving squares and open spaces, upgrading groves, pedestrianisation of roads in order to improve or extend pavements, and installing green roofs on municipal buildings.

Source: <http://surfnature.ctfc.cat/cerca.php>



³ <http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review>

6 ■ Conclusions & Recommendations

→ What can be done to encourage uptake of ERDF funding for biodiversity?

The existing EU policy framework supports the use of ERDF to deliver biodiversity protection and enhancement, recognising the importance of biodiversity, ecosystems and related services in achieving the EU's objectives for "smart, sustainable and inclusive growth". Several EU Member States have already taken up this opportunity (see Chapter 5) and successfully used ERDF to invest in the improvement and restoration of their natural capital with a view to supporting sustainable socio-economic development and growth.

The proposal for the future ERDF provides for a range of novel opportunities for biodiversity financing in 2014-2020. However, turning opportunities into reality requires their operationalisation within the upcoming ERDF Participatory Agreements (PAs) and Operational Programmes (OPs), leading to a subsequent uptake of funding at project level.

Regional insights provided by SURF Nature partners indicate that the priorities for biodiversity funding at regional level correspond with the EU biodiversity targets. Notwithstanding the fact that investment in biodiversity through ERDF is an essential part of the adopted EU biodiversity strategy and that it contributes to Member States' requirements under the Habitats Directive, the identified regional priorities for biodiversity also clearly link to the wider context of improved ecosystem service and sustainable regional development. Consequently, these priorities seem - for the most part - consistent with the opportunities foreseen by ERDF in 2014-2020.

The comparison of opportunities and needs for ERDF indicates that some improvements are needed in both the future design and implementation of ERDF OPs in order to better deliver biodiversity objectives. Although the specific priorities and recommendations in the regional reports vary from region to region, three general themes can be identified. First, there is a need to improve the ERDF OP itself. Several regions expressed the need for procedural and institutional improvements in the regional implementation of the ERDF, in order to increase the contribution of the ERDF to delivering biodiversity goals. Second, a number of biodiversity priority themes in need of funding can be identified (outlined in Section 4.3 above). Investment in these themes through ERDF would directly contribute to the biodiversity goals. Last, there is a broad recognition of the need for investment in a range of activities facilitating the uptake of ERDF funding for measures supporting conservation such as capacity building and awareness-raising.

Based on a joint consideration of the foreseen opportunities and regional needs for 2014-2020 the following recommendations can be made:

Scaling up ERDF biodiversity investments

- Based on the insights from SURF Nature regions, funding for the following direct biodiversity conservation measures would need to be (further) integrated into ERDF in 2014-2020: restoration of degraded ecosystems and related services (e.g. addressing negative impacts of fragmentation and environmental degradation) and support to measures benefiting both biodiversity and climate change mitigation / adaptation.
- In addition to the direct funding priorities, a number of activities facilitating the implementation of biodiversity measures would benefit from ERDF funding: support to overall management of Natura 2000 sites (e.g. support management planning and promotion of integrated management), monitoring, public participation, awareness-raising, education and training.
- Note: ERDF is not foreseen to finance ongoing activities. Therefore, some identified priorities are not anticipated to be fully eligible or will be difficult to directly include to ERDF (e.g. improved management of Natura 2000 sites, monitoring). However, some aspects of these needs can be covered by ERDF (e.g. one-off restoration events, infrastructure needs for public access and monitoring).

Integration of biodiversity into ERDF Operational Programmes (securing practical uptake of opportunities)

- To guarantee the allocation of funding for biodiversity conservation under ERDF in 2014-2020 it is crucial to ensure that **thematic priority 6 on environment** is included in OPs, identifying biodiversity as one of the investment priorities. Integration of clear biodiversity priorities into OPs – and preferably also into Partnership Agreements (PAs) - remains crucial as only this will ensure concrete opportunities for funding. This is important both for the less developed regions receiving a considerable amount of funding under ERDF and also

for transition and more developed regions. For the latter, ERDF can provide several unique funding opportunities for biodiversity that are not necessarily covered by other funds, e.g. restoration of broader water bodies and wetlands.

- In addition to (and also in the context of) the thematic objective on environment, biodiversity can also be funded under other thematic objectives by identifying and promoting synergies between different priorities, as outlined in Chapters 4 and 5. To benefit from these synergies in practice, it is important to ensure that the investment priorities outlined by OPs allow ERDF-funded projects and initiatives to address a number of thematic objectives simultaneously.
- In terms of synergies, it will be of high importance to ensure that conservation of biodiversity and ecosystem services will be integrated into the OPs investment opportunities related to the **shift towards a low-carbon economy** (thematic priority 4). This priority area is foreseen to receive earmarked ERDF funding across all EU regions and it is important to guarantee that such earmarking will benefit – rather than compete with - biodiversity.
- Similarly, there is a need to ensure systematic and strategic links under the OPs between biodiversity and ERDF investment in **urban development** as cities and urban development will be a cross-cutting theme of ERDF and is foreseen to receive dedicated attention in the future allocation of ERDF funding. As outlined in Chapter 5, urban development offers a number of opportunities for promotion of biodiversity.
- Several current needs for the conservation of biodiversity and ecosystem services (e.g. restoration of river basins and watersheds) involve cooperation between several EU regions and Member States. Therefore, it is important to secure that the **territorial cooperation** under OPs also provides opportunities for funding biodiversity conservation across regions.
- In order to ensure an appropriate integration of the above opportunities into OPs, it is necessary to ensure the engagement of environmental authorities in the design and implementation of PAs and OPs, in partnership with relevant NGOs and other environmental organisations (following the provisions outlined under section 4.1). Increased participation of conservation experts in OP development will improve the efficiency of ERDF to deliver multiple goals (e.g. synergies between biodiversity and socio-economic development).

- The capacity of stakeholders and beneficiaries to take up biodiversity-related opportunities under ERDF is still recognised to be limited (see section 4.3). Non-experts in European Programmes, especially potential beneficiaries such as biodiversity stakeholders, still find it difficult to access the available European funds. There is a need to strengthen the ability of stakeholders to implement biodiversity conservation through ERDF funding. Therefore, OPs should also provide possibilities for improving capacities and awareness of stakeholders to apply for biodiversity-related funding. Administrative capacity constraints are also problematic in a number of Member States, with environmental authorities ill-equipped to follow programming of ERDF funds. An intelligent combination of resources across funds should help to better enable administrative capacity-building.
- Finally, the 2014-2020 framework for EU Cohesion Policy and ERDF provides increased opportunities for monitoring the actual spending on biodiversity under OPs. The proposed Regulations for 2014-2020 place greater emphasis on the use of common indicators across the Member States (e.g. a dedicated indicator for biodiversity). In addition, the adoption of OP specific indicators is also encouraged. Uptake of these opportunities would improve evaluation of the level and effectiveness of ERDF funding for biodiversity.

ERDF as part of the wider EU framework to secure biodiversity funding

- Integration of biodiversity into the EU budget (biodiversity mainstreaming) requires both stepping up the allocation of EU funds for biodiversity and ecosystem services and minimising potential negative impacts of all funding on biodiversity. Therefore, it is important to ensure that securing the uptake of ERDF for biodiversity goes hand in hand with guaranteeing that the activities financed under ERDF (such as projects on transport and energy) aim to avoid - or at the very least compensate - negative impacts on biodiversity and ecosystems.
- In 2014-2020 the financing of Natura 2000 network is foreseen to be supported by Prioritised Action Frameworks (PAFs) as referred to in Article 8 of the Habitats Directive (WWF 2012). The PAFs are foreseen to be an essential tool for relevant authorities to find solutions to the funding requirements of the Natura 2000 network in their country or region and identify key actions and potential funding sources. The programming of ERDF should also make strategic use of PAFs to ensure that OPs meet the foreseen fund-specific needs for funding Natura 2000.

7 ■ References

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