Interreg Atlantic Area
European Regional Development Fund
EUROPEAN UNION

Improving the management of ATLANTIC LANDSCAPES: accounting for biodiversity and ecosystem services

ALICE

BLUE-GREEN INFRASTRUCTURE NETWORKS

Fact Sheet

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Where are we now?

According to the Millennium Ecosystem Assessment, Europe's landscapes are among the most altered and fragmented in the world due to its long history of urbanization, agriculture, river management and extensive rail and road transportation systems **(Figure 1)**. This has led to important changes on biodiversity patterns and on the structure and functioning of natural ecosystems. Healthy ecosystems provide to human societies with valuable services such as regulation of environmental risks, food, clean air and water, carbon storage or pollination, among many others. Thus, the damage to natural ecosystems has serious consequences for the development of our societies.

In May 2011, the European Union adopted a Biodiversity Strategy to halt biodiversity loss in Europe by 2020. The strategy is built around six mutually supportive targets, one of which represents the first normative reference related to Green Infrastructure Networks (GIN): "by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems". Responding to this political ambition the European Commission published a new strategy in May 2013 to promote the use of GIN across Europe. The strategy aims to create a robust framework in order to promote and facilitate GIN implementation within existing legal, policy and financial instruments.

Figure 1. Example of mountainous landscapes.

What is a Blue-Green Infrastructure Network (BGIN)?

A BGIN can be broadly defined as "a strategically planned network of high quality natural and semi-natural ecosystems/ habitats that is designed and managed to deliver a wide range of ecosystem services and to protect biodiversity in both rural and urban settings". More specifically, a BGIN should be understood as a landscape planning instrument whose aim is optimizing the spatial arrangement of ecosystems, habitats and practices in a given territory to enhance nature conservation and biodiversity, while delivering multiple ecosystem services to human societies. The implementation of BGINs will depend on the needs and potentialities of each territory, for example what are the biodiversity issues and ecosystem services that need to be prioritized and which are the demands of the stakeholders inhabiting in that territory.

One of the key attractions for the implementation of BGINs is that its components could perform several functions in the same spatial area. This contrasts with other type of infrastructures implemented in the landscape (i.e. 'grey' infrastructures), which usually have only one single objective. BGINs should promote win-win solutions or 'small loss-big gain' combinations that deliver benefits to a wide range of stakeholders as well as to the public at large. In order to achieve this, three aspects should always appear in the definition and design of a BGIN **(Figure 2)**:

. ***Blue-Green nature:*** *A BGIN should always contemplate when possible the implementation of natural based solutions. These will be constituted by high quality natural and semi-natural ecosystems/habitats from terrestrial, riparian and aquatic environments.*

. ***Connectivity:*** *the BGIN should focus on the spatial arrangement of components in the network structure in order to improve biodiversity and functionality.*

. ***Multi-functionality:*** *a BGIN should be designed and managed to deliver a wide range of ecosystem services and to protect multiple biodiversity targets.*

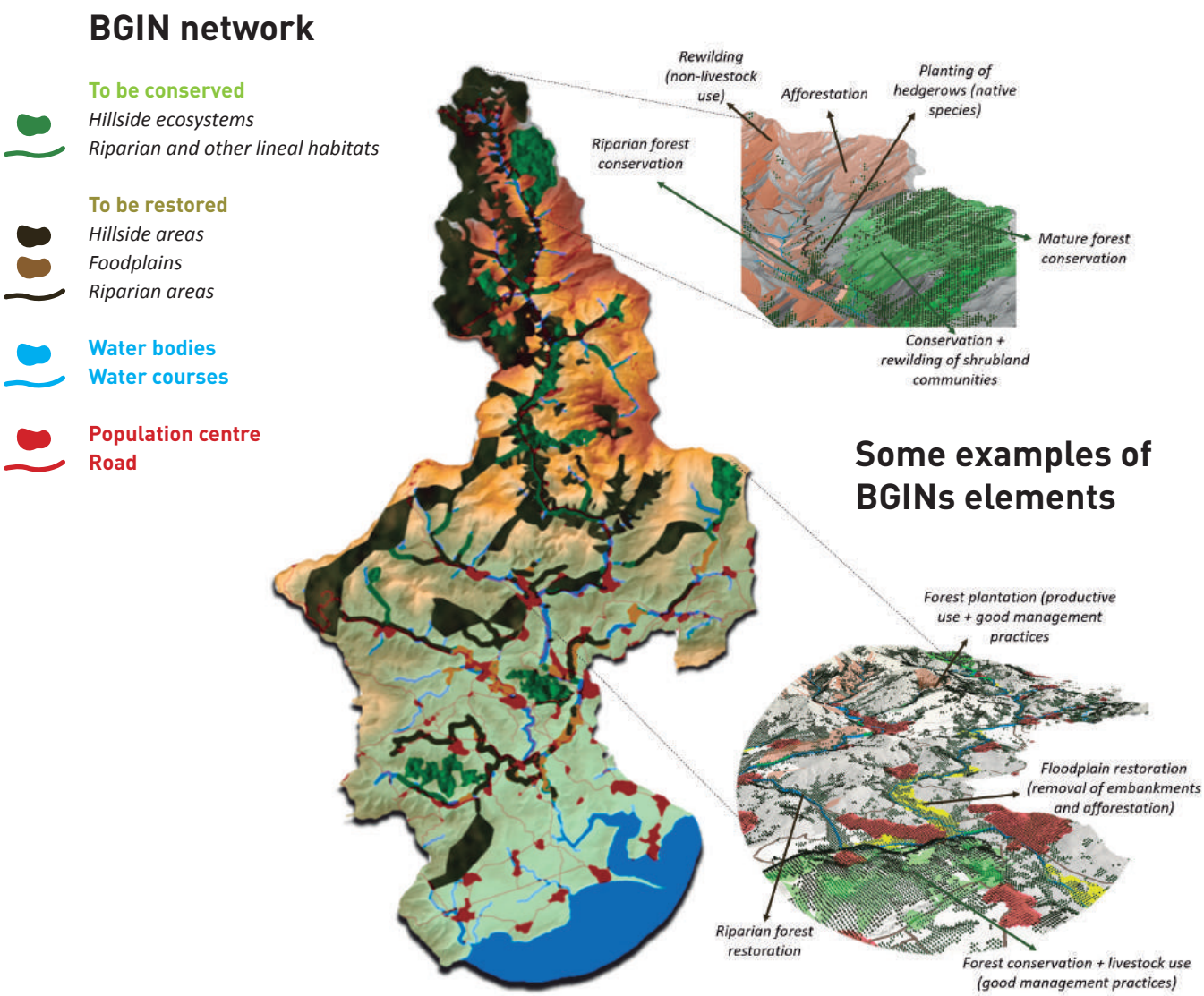

Figure 2. Diagram of the different elements composing a Blue-Green Infrastructure Network.

BGINs are composed of different elements. A first set of components correspond to physical entities of the territory (e.g. mature hillside forests, riparian belts, floodplains, hedges between agricultural lands, etc..), while a second set of components could relate to different practices and/or land uses in which different land cover types are managed (e.g. best management practices, delimitation of areas for rewilding, etc..).

Moreover, some of the components of a BGIN will be ecosystems and habitats in a good status of conservation (components to be conserved), while others will need to be restored or susceptible to some good practices.

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