Event Report

EPPA Regional Workshop on Green Infrastructure and Ecological Connectivity

24 – 25 June 2020

Live video conference

This Project is funded by the European Union

The project implemented by the Consortium of NIRAS (lead) and Umweltbundesamt GmbH

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1 Introduction

The regional workshop

The regional workshop on "Green Infrastructure and Ecological Connectivity" took place on 24-25June 2020, via live video conference. The workshop was organized in cooperation with TAIEX, and under the EPPA project work programme, activity 5.1.1 "Support for the implementation of the EUSAIR and EUSDR activities in the area of nature protection and biodiversity".

The participants of the workshop came from the relevant authorities of the EPPA beneficiaries involved in the development of a green infrastructure and ecological connectivity under the project. They represented the relevant Ministries (with the environment portfolio) and nature conservation institutes or environment protection agencies of Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. Kosovo* participated with observer status. Details are available in the list of participants.

Civil society was represented by NGOs from the beneficiaries, namely: Environmental Center for Development, Education and Networking (Albania), LIR Evolution (Bosnia and Herzegovina), Center for Protection and Research of Birds (Montenegro), and Macedonian Green Centre (North Macedonia).

EU Delegations' representatives in Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, and Serbia also attended.

The speakers represented EU Member States' and EU institutions' experience. There were experts fromAustria (regional administrations and Umweltbundesamt – an EPPA implementing consortium member), Bulgaria, the Netherlands, Romania, Slovenia, and the EC (DG ENV, DG NEAR, DG REGIO).EU Strategy for the Adriatic-Ionian Region was also represented with speakers from its Thematic Steering Group (TSG) 3. Details are available in the agenda.

The presentations are available in both the TAIEX website and in the EPPA project website.

Ecosystem Services, Green Infrastructure and Ecological Connectivity

Ecosystem services are the benefits that flow from nature to people. They can be provisioning (e.g. the supply of food, clean air and water and materials), regulating (e.g. water and climate regulation, nutrient cycling, pollination, or the formation of fertile soils), or cultural (e.g. recreation opportunities, or the inspiration we draw from nature). Natural ecosystems are multifunctional – they can provide a wide range of services simultaneously. The range and flow of these benefits depends largely on biodiversity and ecosystem condition.

A network of healthy ecosystems often provides cost-effective alternatives to traditional 'grey' infrastructure, offering benefits for EU citizens and biodiversity. Therefore, the EU promotes the use of nature-based green and blue infrastructure solutions.

Green infrastructure is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. This network of green (land) and blue (water) spaces can improve environmental conditions and therefore citizens' health and quality of life. It also supports a green economy, creates job opportunities, and enhances biodiversity. The Natura 2000 network constitutes the foundation of the EU green infrastructure.

Green infrastructure planning is a successfully tested tool to provide environmental, economic, and social benefits through natural solutions. In many cases, it can reduce dependence on 'grey' infrastructure that can be damaging to the environment and biodiversity, and often more expensive to build and maintain.

The European Commission has developed a Green Infrastructure Strategy[1]. This strategy aims to ensure that the protection, restoration, creation, and enhancement of green infrastructure become an integral part of spatial planning and territorial development whenever it offers a better alternative, or is complementary, to standard grey choices.

"Ecological connectivity has become a cornerstone of conservation science and practice. Since the introduction of wildlife corridors as a game management strategy in the early 20th century, followed by

[1]See the EC's website: https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm

the recognition of connectivity as a fundamental element of landscape structure in the 1990's, well over 1,000 scientific papers on corridors and connectivity have been published in the fields of biodiversity conservation and ecology. During this time, habitat loss and fragmentation have widely been agreed to constitute the single greatest threat to biodiversity worldwide, and climate change is expected to exacerbate these effects, as species' ranges must shift across fragmented landscapes to track suitable conditions. Although protected areas such as national parks have long been the primary focus of conservation, it is now widely understood that isolated reserves will not be sufficient to sustain some species and communities in the face of these combined threats. Land use modification around protected areas has reduced their ecological function via a range of mechanisms linking them to the degraded ecosystems that surround them, and specific climate envelopes for many species currently supported by reserves are expected to shift beyond reserve boundaries.

"Corridors are intended to mitigate the effects of land use and climate change by facilitating movement of individuals among patchy resources and among populations, providing buffering effects from local extinction processes, supporting gene flow and thus genetic diversity, maintaining ecological processes such as migration, and enabling species and ecological community adaptation in response to climate change. Conservation strategies that maintain biodiversity in human-modified landscapes beyond protected area borders, particularly those aiming to maintain or restore connectivity between remaining habitat patches, are now considered critical in the face of future landscape change."[2]

2 Objectives of the training and expected results

The aim of the workshop was to provide advice on the implementation of EU policy in the area of nature and biodiversity with a focus on the ecological connectivity and Green Infrastructure, particularly the EU Biodiversity Strategy 2020, the EU Strategy on Green Infrastructure and Habitat Directive.

The workshop presented the results from the Study on ecological connectivity and green infrastructure deployment in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia, performed in the framework of EPPA Project and provided a forum for discussion on possible future actions.

3 Highlights from the workshop

3.1 Introduction of the Workshop: context, agenda, and objectives

Mr. Nicholas Hanley introduced the workshop as a key event in the context of EPPA's work on biodiversity and Green Infrastructure. The workshop was to serve as the forum to present the draft study on ecological connectivity and green infrastructure deployment in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. The beneficiaries were asked to give their comments to finalize the report and to provide next steps recommendations for the green infrastructure of the region.

Mr. Nicholas Hanley also put the meeting into context by recalling the outcomes of the November 2019 meeting on biodiversity and the new policy context of the EU Green Deal, which will reinforcebiodiversity policy in the EU.

Ms. Madalina Ivanica expressed her hopes that the workshop will allow for the discussion of actions that can be implemented in the future, as well as the establishment of a network of experts from the region and from EU Member States. The study comes in the wake of the EU's new biodiversity strategy[3] and it was made in the framework of the EUSAIR work, contributing to its implementation. It is expected the study will provide the beneficiaries a tool to pursuit ambitious policies in nature conservation and biodiversity, in the context of EUSAIR and EU approximation. Ms. Madalina Ivanica presented the colleagues from the EC.

[2] Plassmann, G., Kohler, Y., Badura, M.,Walzer, C. (2016): Alpine Nature 2030. Creating [ecological] connectivity for generations to come. Published by: Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB).

[3]See more information in https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm

3.2 Biodiversity and ecosystems in the framework of the new EU Biodiversity Strategy 2030

Mr. Patrick Wegerdt presented the EU's new Biodiversity Strategy for 2030. The Strategy sets out the course of the next 10 years and it formalizes the EU's ambitions for nature protection, restoration and mainstreaming of biodiversity actions. The new Strategy comes under the umbrella of the Green Deal and fits within one of its major goals: protecting nature.

The world is currently witnessing a global biodiversity crisis with an acceleration of extinction rates. Among the drivers are land and sea use changes, direct exploitation, climate change, pollution, and invasive alien species. Indirectly, demographic, economic, technological reasons are also driving the loss in biodiversity, and the absence of sufficient integration of biodiversity concerns in other policy areas.

Biodiversity is a key topic because it underpins sustainable development. Almost half of the global GDP is linked to nature, and its loss presents a threat to humanity. An economic threat, but also a natural threat because there are connections between biodiversity, climate change and pandemics. Any recovery strategy must include the restoration of biodiversity.

The timing for the new strategy comes with the understanding of the urgency of the biodiversity crisis, the EU's role in the world as a policy driver (especially within the CBD), and the understanding that recovery will need biodiversity concerns to be mainstreamed into other policies, like the CAP, recovery plans and the Multiannual financial framework of the EU (MFF).

The new strategy has 4 pillars: protect nature, enable transformative change, restore nature and setting an ambitious global agenda. In terms of nature protection, the strategy seeks to protect 30% of EU land and sea, based on Natura 2000 and other nationally designated areas, and integrate ecological corridors to build a coherent network. 10% of the protected areas will be strictly protected, covering high biodiversity values and its recognition for mitigation and adaptation to climate change.

In terms of nature restoration, a new area, the strategy foresees the establishment of legally binding targets. For instance, at least 30% of protected habitats and species are to show a favorable status or positive trend by 2030, to increase organic farming to 25%, reduce pesticides and fertilizer pollution by 50%, reverse the pollinators decline and add an additional 3 billion trees to Europe's stock. In addition, action will be taken to remediate contaminated soils, restore 25 000 km of free-flowing rivers, establish an urban greening platform, reduce damage to seabeds and halve the number of red list species threatened by invasive alien species.

To enable transformative change, the strategy will reform the governance framework, unlock financing, engage businesses, promote knowledge and education, and promote nature-based solutions.

Finally, the strategy seeks to place EU as a global leader in the establishment of an ambitious global agenda, by promoting ambitious global 2030 goals, improving the means of implementation (capacity, finance, R&D), involvement of stakeholders and promoting a fair and equitable share of the benefits from the use of genetic resources linked to biodiversity. The EU will seek to reach these by working within the Sustainable Development Goals of the UN, deploying Green Diplomacy, promote international ocean governance, and reflecting them in trade, climate, and other international cooperation.

The next steps are the adoption of the strategy by the Council and Parliament. The implementation of actions will be reflected in specific legislation. Finally, the EU will take its agenda to international fora like the CBD COP15 (in May 2021) and the UNGA Biodiversity Summit (September 2020 to be confirmed).

3.3 EUSAIR activities under the topic Transnational terrestrial habitats and biodiversity

Mr. Senad Oprašić presented EUSAIR activities under the topic Transnational Terrestrial Habitats and Biodiversity. He stated EUSAIR activities, and the current workshop help non-EU countries to have a better understanding of the implementation of EU policy in the area of nature and biodiversity, as well as EU Biodiversity Strategy 2020, EU Strategy on Green Infrastructure and Habitat Directive.This topic is important for the region's future work, and the information provided in the workshop will be useful for Non – EU Countries.

EUSAIR lunched in 2014 and since that period has reached some positive results. EUSAIR, via pillar 4, covers key topics for the improvement current situation on each of pillars, and particularly in the sense of sustainable development. In the capacity of Co-coordinator of Pillar 3 (Environmental Quality), Mr. Senad Oprašić expressedhis gratitude to the EU for launching the macroregional strategy.
Pilar 3 has two pivotal areas: the marine environment (the first pivotal topic of the macro-regional strategy in terms of environmental quality), and transnational terrestrial habitats and biodiversity (the second pivotal topic of the macro-regional strategy).
The second pivotal topic is important for the workshop, and it is in real connection with the ecological connectivity and Green Infrastructure, that was discussed many times at the TSG 3 meetings. EUSAIR also presented blue and green corridors, as work topics and proposed some projects for implementation.
EUSAIR prepared 4 mono-pillar projects and 2 interpillar projects, trying to include all countries in the project activities, where it is possible, since there are two landlocked countries, the Republic of Serbia and the Republic of North Macedonia, especially in the area of Transnational terrestrial habitats and Biodiversity, via project proposal titled: “Development and drafting a joint plans for cross-border habitats and ecosystem management, and joint plans for managing big carnivores”. This project proposal is discussed among other countries and adopted by consensus.
Since the Republic of North Macedonia join to the EUSAIR October 2019, it is expectedit will approve and join the development of the project proposal. It is important to note that there was active participation and supportof non-EU countries. EUSAIR expectsthe project implementation tohappen without any problems.
It is important to raise a question regarding pollution in non – EU countries. There are a lot of illegal landfills, litter in the riverbanks, etc., which will result in more of plastic and microplastic, increasing the global problem of marine litter. It is necessary to clean the region and keep it clean. Without that, the region cannotrealistically implement EU politics such as the Green Deal, the Biodiversity Strategy, and other strategic documents.

Mr. Mitja Bricelj presented the vision EUSAIR is seeking to achieve. EUSAIR seeks to bring together environment and sustainable development in the Adriatic and Ionian region with blue and green corridors. Ecological connectivity is key to ensure a general good ecological status. The corridor approach dates from 2016 and it aimed to provide the infrastructure to develop priority transboundary activities for the region. In addition, EUSAIR sough synergies between all its pillars and used data from all participating countries to avoid possible conflicts. The same methodology is still in use. The result has been a high consensus level in the Strategy’s governance creating as an output 4 priority projects from the environmental pillar. The projects deal with transboundary Integrated Coastal Zone Planning and marine spatial planning in the Adriatic and Ionic region. EUSAIR is doing its best to recognize the problems and pressures in the region and to take that into account into its planning, as well as policy developments like the EU Green Deal. There are also projects in progress that already integrate green infrastructure on land and river basin management with coastal and marine concerns.
With the approach above, EUSAIR is servicing the needs of the users of the international river basins in the western Balkans and using good practices in the Adriatic and Ionian region. The approach also reveals the synergies between the macroregional strategies (Alpine, Danube, Adriatic, and Ionian) where products are delivered through transboundary projects that involve the local communities. It provides a bottom up approach, that benefits the users of coastal and marine resources, using solutions that respect green infrastructure and connectivity. The Slovenian presidency of EUSAIR hopes to accelerate this approach and declare new marine protected areas.

Mr. Giuseppe Di Paola welcomed the EPPA Green Infrastructure study as timely. A new programming cycle for cohesion policy is about to start for which the study will provide guidance on the definition of priorities. In parallel, the Slovenian Presidency of EUSAIR will put focus on the Green Deal, of which green infrastructure will be a key component, in the context of the enlargement process. The current year has been productive despite the circumstances. The first development was the inclusion of North

Macedonia in EUSAIR with the role of coordination of pillar 2. The recent inclusion of North Macedonia is important to the Strategy in the implementing of the terrestrial component of its ambitions. This provides 2 ecological areas for intervention: the Adriatic and Ionian Seas and the mountainous, and the inland forested areas, creating an approach that considers green and blue corridors. The second element is the extension of EUSAIR scope thus becoming a tool to facilitate the enlargement. The implementation of the EU's environmental policies is a key element to that process, and it will be central in the new programming period.
EUSAIR presidencies is taken by both EU Member States and non-Member States, providing an element of shared responsibility and better cooperation. The closing of the Serbian Presidency came during the lockdown making it impossible to have the usual annual forum. However, Serbia facilitated a Ministerial Meeting that concluded with a Declaration, the most important document delivered by EUSAIR annually. The document took stock of progress, and set the way forward, putting focus in environmental issues, including the Green Deal and the Biodiversity Strategy of the EU. The document also highlighted the Covid-19 crisis and how EUSAIR countries can respond to it. The most viable response is a green transition.
Another development is a new approach to cooperation in cohesion policy. The idea is to mainstream cooperation in cohesion policy programmes. In addition, cooperation is to become a horizontal objective, meaning that operational programmes will have to cooperate among each other and work with neighbors, in the framework of macroregional strategies.
EUSAIR members recently selected flagship projects seeking to create meaningful actions in terms of natural infrastructure development and improving ecological quality through regional cooperation.

At the end of the presentations, a representative of North Macedonia inquired about the EU plans to involve the West Balkans in the implementation of the Biodiversity Strategy for 2030, given the regions richness in biodiversity and gap in capacities. In response, Ms. Madalina Ivanica said the EC wants to bring the strategy to the region, as part of the Green Agenda, with concrete actions and funding opportunities. She expressed hopes that the beneficiaries will partner with the EU in its global vision for biodiversity protection and nature restoration.

3.4 EPPA Study on green infrastructure deployment and ecological connectivity status in Albania, Bosnia-Herzegovina, Montenegro, Serbia, and North Macedonia

Mr. Ventzislav Vassilev presented the EPPA Study on Green Infrastructure and Ecological Connectivity in Albania, Bosnia-Herzegovina, Montenegro, Serbia And North Macedonia. The objectives of the study were to support the implementation of EUSAIR and EUSDR activities in nature protection and biodiversity. In particular the study sought to analyze transboundary areas, collect information about the core conservation areas, main green corridors and important ecosystem fragmentation issues, identify priority areas for ecosystem restoration and Green Infrastructure deployment, and, finally, to provide recommendations for further action.
The study's methodology involved the collection and analysis of information from international and national sources, mapping of other relevant projects / initiatives in the topic, analysis of information on core conservation areas, a spatial analysis of the ecosystem connectivity (focusing on umbrella species), mapping the elements of green infrastructure based on the ecosystem services, and defining conclusions and recommendations for protection and improvement of habitat connectivity and green infrastructure.
The data sources used were the EEA, the JRC, OSM, national authorities and IUCN. The data included CORINE LandCover 2018, rivers and lakes, roads and railways, settlements, elevation, protected areas, EMERALD or proposed Nature 2000 sites and species distribution. The data was used to produce a GIS-based suitability habitat model for selected umbrella species: wolf, lynx, and brown bear, identifying potential core areas, least cost paths and landscape corridors and overlays with protected areas.

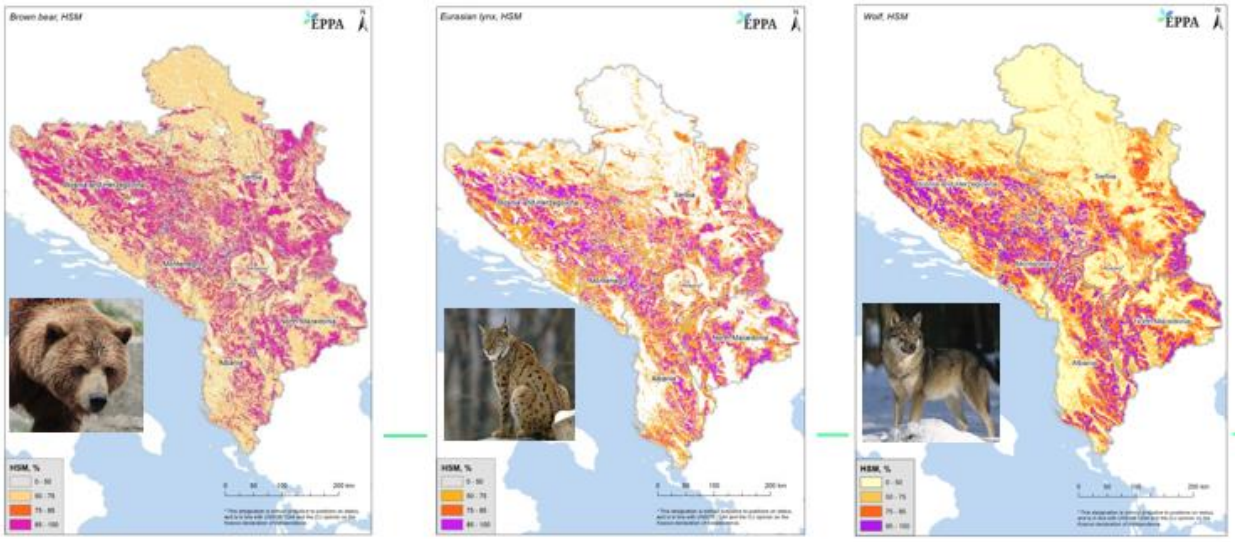

Figure 1 - Habitat Suitability Model

Regarding the mapping of green infrastructure elements based on an ecosystem services approach the study concluded that forests have the highest potential, followed by water ecosystems and wetlands, semi-natural vegetated lands, and urban green areas. The map of green infrastructure elements based on ecosystem services shows large coverage of the landscapes with medium-high potential to deliver ecosystem services in the region, especially in the mountain areas and around the large lakes. There is a need of more detailed, robust, and coherent data to perform MAES-compatible study.

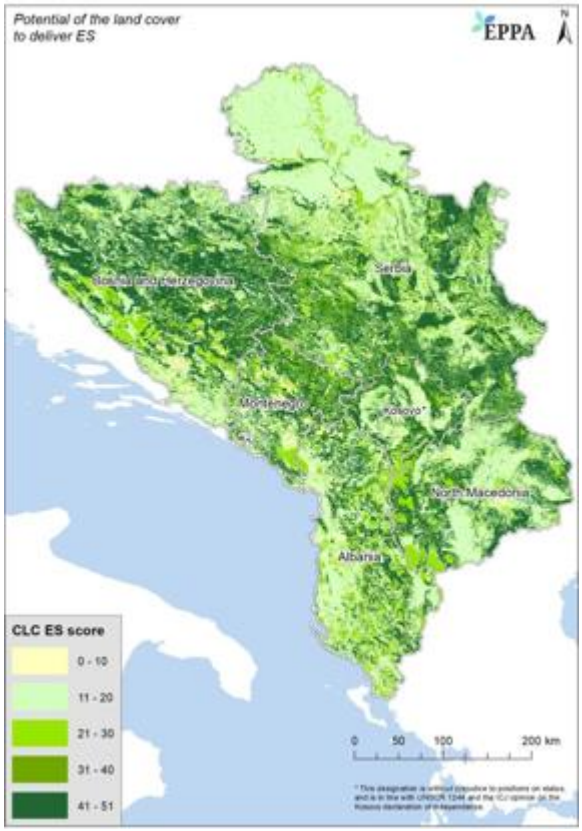

Figure 2 - Ecosystem services potential

Mr. Ventzislav Vassilev concluded with the main cautions about the study results and takeaway points. The Habitat Suitability Model provides a good picture at regional scale for the potential distribution of the large carnivores. However, it needs update and verification to serve at site level. HSM does not

calculate all critical environmental factors, creating a possible discrepancy between potential distribution and actual distribution. The model for Brown bear shows good coverage of potential core areas and dispersal corridors at regional scale. Migration barriers with human origin are also present and they are not always visible on the maps. The model confirms the fragmentation of the Lynx habitats. This species has high habitat demands, needs large individual areas. Its distribution is limited to isolated core areas. GI mapping requires uniform and coherent geo-referenced data, which is only partially available. There is a need of further study on the Blue Infrastructure and integration with green infrastructure.

After the presentation and replying to questions from the audience, Mr. Ventzislav Vassilev clarified that further details on the data used and national contacts in each of the beneficiaries are available in the study itself. Furthermore, the study used already existing methodologies, based on other successful Interreg projects, primarily the methodology for Bioregio and Ecoconnect. Regarding the data, he also stressed that the project did not have resources to make site verification, although the results were validated against existing national action plans for plausibility. The study did not use the population viability model because it would require more detailed data than available, and further analysis that was outside of the mandated scope of the study. However, one of the recommendations of the study is to advance towards population level management plans.

3.5 Assessment of the ecological connectivity and identification of the Green Infrastructure elements in Slovenia

Mr. Saso Santl presented ecosystem services concept as a tool to support environmental objectives, the recognition and development of green infrastructure and examples of connectivity development. Mr. Saso Santl set the stage by looking at the concept of mean species abundance index (Braat et al., 2008) and how it demonstrates the hypothetical, negative relationship between land use intensity, biodiversity, and ecosystem services output. The more the land is intensely used, the greater the fall will be in terms of species and related services. This idea highlights the importance of recognizing green infrastructure to manage biodiversity.

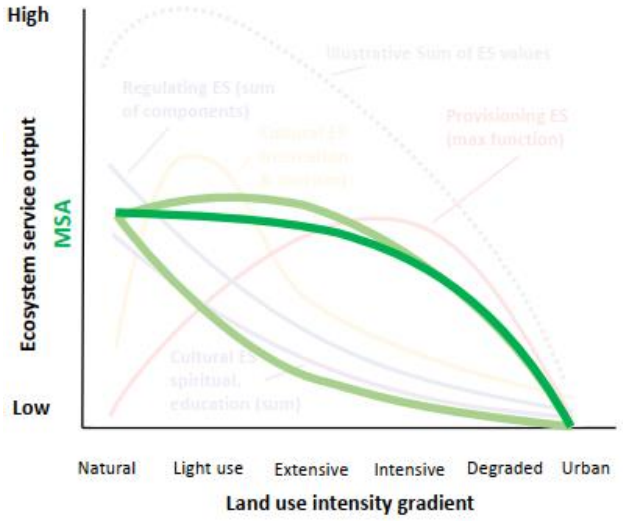

Figure 3 - Mean species abundance vs. land use intensity

Green infrastructure is therefore a guarantee for a higher supply of ecosystem services (the opposite is also true). The higher the services, the more viable that green infrastructure are can be. It can be used to support spatial planning at all levels, it should be considered whenever planning development objectives and land use, and it should both have a bottom-up and a top-down approach to harmonize local, national and regional objectives. The green infrastructure and ecosystem services approach may also provide a good tool to create synergies between several environmental policy areas (as expressed

by EU directives) and improve the general state of environmental governance. For instance, the good management of influential areas (riparian sites) for bathing sites, the management of flood prone areas, the management of cultural heritage and nature protection sites can not only improve the supply of other ecosystem services (tourism, nutrient retention, fisheries, recreation, etc.), but also contribute to a better implementation of the water framework directive, the MSFD, the birds and habitats directives, etc.

Green infrastructure should be recognized based on an area's capacity to provide biodiversity and ecosystem services. That recognition and mapping should identify the potential and needs for its further development. The survey stage will then lead to the planning and implementation of new green infrastructure. The mapping can be done using already existing legal regimes. By collecting and unifying data for biodiversity (Natura 2000 areas, valuable nature features, ecological important areas, etc.) and ecosystems services (bathing waters, water supply and drainage, flood areas, protected forests, etc.) and assigning valuation criteria one can create a ranking of green infrastructure potential across a region or country.

In terms of planning, green infrastructure should be thought of in several levels: macro (regional), mezzo (cross border), and micro (national or provincial). The macro and mezzo levels will be the areas for strategic planning and the micro level will be the area for implementation of the strategies via spatial planning. As an example, connectivity (blue and green corridors) should be planned at macro level considering the biogeographical regions, their interactions, and their needs. That agreed strategy can then be translated to specific corridors at a mezzo level and implemented locally through spatial planning of concrete corridor sections, identifying the green infrastructure, its ecosystem services and biodiversity functions.

The deployment of the explained approach will require coordination among competent authorities for spatial planning and nature protection, local communities, and a developed science-policy interface. In addition, it should always consider present uses against developmental objectives.

3.6 Experience of the EPPA countries in planning of ecological networks, challenges, and needs.

3.6.1 Albania

Ms. Klodiana Marika presented the status of development of the Natura 2000 network in Albania. Albania has been struggling with nature degradation over the past 2 decades. And although the protected areas coverage increased to 18.5%, there are insufficient management capacities. There are plans to introduce a new system of protected areas, structured in 3 categories – National Park, Nature Park, and Protected Landscape (IUCN categories). It is expected the reform will contribute to the improvement of protected area management. In parallel, Albania benefit from several projects that increased its capacity to prepare for Natura 2000 implementation. Some of the key outcomes have been education and awareness, interinstitutional cooperation, better knowledge, studies of the territory, and updated inventories of habitats and important species. In addition, and because of the actions above, Albania identified 43 proposed sites of Community Interest for habitats and species and 1 potential special protection area for birds. Looking ahead the country is still facing shortages of scientific and technical capacities, needs bigger community engagement in the designation of Natura 2000 sites, and needs long term funding to operate the Natura 2000 network effectively.

3.6.2 Bosnia and Herzegovina

Ms. Zlata Grabovac presented a Natura 2000 project in Bosnia and Herzegovina dating from 2012-2015. The project identified a possible 122 Natura 2000 sites covering 18.6% of the country (3 sites in Brcko District, 58 sites in the Federation, and 61 sites in the Republika Srpska).

The establishment of a Natura 2000 Network is predicted in the Law on Nature Protection of the Federation and a Government Decree of the Federation.

There are also 3 draft management plans for 3 areas: Vranica (alpine region), Tisina (continental region), and Orien-Bijela Gora (Mediterranean region) already consulted with the public. The

management plans were supported by a situation analysis, a method for setting managed goals, and a sub-activity plan with a detailed schedule.

3.6.3 Montenegro

Ms. Anela Sijaric presented the challenges and needs of ecological networks in Montenegro. The current network of protected areas covers 13.5% of the territory, with 5 key national parks (among other types of protected areas): Biogradska Gora, Durmitor, Lovcen, Skadar Lake and Prokletije. An IPA project called "Establishment of Natura 2000 Network", between 2016 and 2019, aided Montenegro to launch its Natura 2000 network. In 2019, the Government followed up with 200 000 EUR in state budget allocation for the continuation of field work by the Environment Protection Agency of Montenegro. The financial allocation was renewed in 2020. Other projects contributed to further work in the area. A GIZ project in 2019 did the habitat mapping of Skadar Lake. A second project performed data collection in the coastal and marine environments.

Montenegro's main challenges are uncontrolled urbanization and tourism development, changes in land use by agriculture and forestry, exploitation of resources (illegal hunting, overharvesting, etc.), water, soil and air pollution from industry and agriculture and municipal waste, and the impacts of climate change (wildfires). Responding to these challenges will require comprehensive monitoring of air, water, soil and biodiversity indicators, better capacities, better policy-science nexus, raising awareness of ecosystems as wealth sources, involving nature users in biodiversity protection, and strengthening regional cooperation.

3.6.4 North Macedonia

Mr. Vlatko Trpeski presented North Macedonia's status regarding protected areas and ecological corridors. Currently, 8.9% of the territory is protected, with ongoing procedures for the proclamation of 3 protected areas. The country is developing managing plans for its existing protected areas. The plan to designated Emerald sites reaches 29% of the territory. The activities undertaken for development of the

National Emerald Network are important preparatory work towards the preparation of North Macedonia for EU membership with respect to the implementation of Natura 2000 and towards compliance with the Habitats and Birds Directives.

In 2017/18, the MoEPP in cooperation with national experts in the field biology, ecology, and forestry, after collecting literature, data, and field research, identified potential Natura 2000 areas in the country. In relation to the requirements of the Habitats and Birds Directives, up to now, 12 sites were identified as potential Natura 2000 sites. A new IPA project running this year will identify all potential sites.

Regarding ecosystem services, a team of 20 national experts identified 8 main ecosystem types on national level. The main categories of ecosystems in North Macedonia are in line with the MAES (2013) classification at Level 1 and Level 2. These ecosystem types were further subdivided into ecosystem subtypes of Level 3 which correspond to the EUNIS habitat classification system and Corine Land Cover. Following this, by using the analysis which was made in accordance with MAES (Mapping and Assessment of Ecosystems and their Services) methodology, the status of every ecosystem type was determined and maps were produced about the status of ecosystems regarding their provision of ecosystem services. Furthermore, there are ongoing activities on testing a payment mechanism for ecosystem services. The mechanism will be introduced in one pilot area, with the possibility of replicating it in other protected areas.

In terms of needs and priorities of North Macedonia, Mr. Vlatko Trpeski identified the establishment of a regional working group on ecological connectivity, the expectation that IPA3 will finance the building of green bridges, the need to complete the Natura 2000 network, working with communities to strengthen connectivity measures, conservation measures for the brown bear, monitoring of habitats and species and funding for habitat restoration.

3.6.5 Serbia

Mr. Radislav Momirov presented Serbia's recent experience with ecological networks. He started by updating the audience on the legislative efforts to align with the EU acquis and explaining the institutional set up for transposition, implementation, enforcement, and monitoring. Mr. Radislav Momirov also listed the projects that have assisted Serbia in the establishment of the Natura 2000 Network. Some of the outputs were the identification of 43 potential special protection areas and pilot management plans for 2 sites. In parallel, the state budget also financed a number of actions, such as an inventory of wetlands, mapping of forest habitat types in Vojvodina, identifying important bird areas, management plans for the brown bear, wolf and lynx, and trainings. These initiatives are being followed up by further mapping work on GIS of habitats and endangered species.

Currently, the ecological network in Serbia has 101 ecologically important areas (43 of which are preliminary SPAs, PBAs, and Emerald sites).

In the future, Serbia's goals are:

- Designation of the NATURA 2000 Network in Serbia (Harmonization with Emerald Network)
- Establish mechanisms of future collaboration among stakeholders at the national, regional, and local level to preserve and protect habitats and species of international and national importance
- Prepare new guidelines and/or methodology for the development of management plans
- Mobilize financial resources through different mechanisms for implementation EU Directives
- Establish mechanisms of public participation in the project, informing and mass media participation
- Improve regional cooperation
- Strengthen institutional capacities at all levels
- Establish a monitoring system of habitats types and species
- Provide all preconditions for implementation of IPA 2016 project
- Provide financial resources from the budget for continued financing of the projects for establishment of ecological network in Serbia including Natura 2000
- Strengthen capacities for using GIS and provide specialized trainings; establish an information in the ministry and link it with SEPA, INCS
- Secure implementation of SEA and EIA and development of AA

3.7 Overview of the EU funding opportunities for nature conservation actions in the region, programme in the period 2021-2027

Ms. Guillemette Vachey and Mr. Andrea Saviolo presented the EU funding opportunities for nature conservation in the enlargement region for the period 2021-2027 through the multi-annual financial framework and IPA 3. Ms. Guillemette Vachey started the joint presentation with Mr. Andrea Saviolo by stating that the information provided is subject to change. EU level discussions regarding the financial instruments for the next EU budgetary framework are not yet finalized.

Mr. Andrea Saviolo introduced the MFF 2021-2027. Among its 7 thematic areas, heading 6 "Neighbourhood and the World" is the one that budgets the EU's external aid. IPA is the second most important sub-heading with a forecasted 14.5 billion euros. The amount increased 13% compared to IPA 2. The EC first presented its MFF proposal in 2018. In 2019 the Parliament and Council established their positions. Currently, 2019-2020 the trialogues between the EU institutions are in progress to discuss the EC's budget proposal, including IPA funding. Negotiations about IPA III are linked to NDICI ones and are part of the general package to be discussed and agreed with EU leaders on the overall EU budget, which is expected to be in force by 2021.

The IPA 3 legal framework is set by the NDICI regulation, from which the IPA 3 regulation will be derived. The IPA 3 regulation will be operationalized by implementing rules, which in turn, will set the boundaries for the IPA 3 programming framework. This time there will be a single programming strategy for the region and Turkey, without the previous country envelopes. The programming will also innovate in terms of objectives and priorities – it will strategically steer interventions by priorities and

themes. The result will be a more dynamic and efficient programme with accelerated implementation and better alignment to the enlargement process. The programming will also be guided by the fair share principle, ensuring the needs of all beneficiaries are addressed. The programming will have 5 thematic windows (corresponding to the objectives of the regulation), each with its own budgetary allocation and guided by a focus on results. One of the windows will be the Green Agenda and Sustainable Connectivity. There will also be cross cutting themes: climate change, civil society, gender, rights-based approach, and public administration reform.
One novelty is that actions will be selected in 2 stages. The first through the policy relevance for the enlargement agenda and the second through a maturity assessment to determine if the actions are ready for adoption by the countries.
The beneficiaries will be asked to prepare a strategic response to the IPA 3 programming outlining how the beneficiaries' overall policies and sectoral strategies will contribute to the objectives of the IPA III Programming Framework, including a description of how IPA III funding opportunities are planned to be used over three programming years, in each window, per thematic priority. National IPA Coordinators are expected to prepare the strategic response based on inputs received from stakeholders, and they will also be the main point of contact when proposing ideas for funding.
Ms. Guillemette Vachey continued the presentation with the funding opportunities under IPA3 Green Agenda and Sustainable Connectivity window. The Green Agenda will reflect the EU Green Deal in its external dimension. The Green Agenda is still under preparation and in consultation with stakeholders. It is planned to be formally announced in the Fall of 2020. The Green Agenda will be structured in 5 pillars: decarbonization, circular economy, pollution of air, water and soil, rural areas and sustainable food system, and natural capital.
In addition to IPA, there will be the Western Balkans Investment Framework (WBIF) that seeks to address the extensive infrastructure needs of the Western Balkans. The WBIG is a blending facility, leveraging funds from other international institutions, such as IFIs, EU Member States and Western Balkan economies. The WBIF provides technical assistance to prepare and implement infrastructure projects, investment grants to co-finance mature investment projects and investment facilities to offer interest rate subsidies and other forms of support. So far biodiversity was not in focus, but rather on wastewater, solid waste, river basin management, flood protection, and water management. In the context of the Green Deal there might be an opportunity to increase the share of funding available for biodiversity investments.
Ms. Guillemette Vachey concluded with the advice to liaise with the National IPA Coordinators (NIPACs) to feed in the strategic response of your country and SPP. They are responsible to define the single project pipeline. NIPACs are key for IPA3. In addition, she encouraged the beneficiaries to use the technical assistance available through TAIEX and Twinning, both being quick to respond to requests and mobilize resources.

In the discussion that followed, the event chair, Mr. Nicholas Hanley, asked if the other IPA3 windows, especially the cross-border cooperation window, could also finance environment related actions. He mentioned that EPPA study on Green Infrastructure proposes joint planning, implementation, and management of cross border nature areas. These Peace Parks have a tradition around the world and have shown to be good cooperation instruments. They can also showcase the region's commitment to reform and approximation to the EU and its Member States. Ms. Guillemette Vachey confirmed that the other windows can also cover environment topics. Current CBC projects already have a high percentage of interventions in the environment policy area. She further encouraged the beneficiaries to be in contact with the NIPACs and the EUDs to better make the link between the needs and the tools available for support.

3.8 Mapping, assessment, and valuation of the ecosystem services (MAES) – case study from Bulgaria

Ms. Sylvia Rangelova presented the Bulgarian experience with the mapping, assessment and valuation of ecosystems and ecosystem services. The legal basis for the mapping is the EU biodiversity strategy

2020 (action 5), and more recently the strategy for 2030, that requires Member States to assess the state of their ecosystems, their economic value, and to integrate those values into their reporting to the EU.

Bulgaria started the planning in 2009, with the support of EEA grants, when a programme for ecosystem services was designed. Bulgaria relied on expertise from the donor countries and associated its own knowledge base through the Bulgarian Academy of Sciences. The main outcome was the mapping and assessment of ecosystems and services they provide. That process was done for the territory outside Natura 2000, which covers around 35% of the country. The mapping and assessment of Natura 2000 ecosystems was to be done under cohesion and structural funds and has yet to be completed. This approach is not recommended: the mapping and assessment should be done together for all the territory.

Under that programme there were 9 simultaneous projects with strict coordination. Everything started with an update to the national monitoring system to use the data available. All results since then are consolidated into that system. It was accompanied by a methodology defining project, and 7 smaller mapping projects mapping different ecosystem types, which resulted in an update to the methodology.

The national information system[4] for biodiversity is central to the management of biodiversity, its monitoring and reporting. Bulgaria upgraded the system, including a module for mapping and assessment. It needed a specially designed software. For each type of ecosystem, there were maps created. Information is also available to the public, but not in its entirety.

In terms of methodology for the mapping, it was implemented horizontally. Every ecosystem type had its sub-methodology. The methodology definition was done in parallel with the mapping, allowing to adapt the methodology to adapt to national circumstances. It involved significant coordination work.

The mapping had a common approach to all projects, with several stages. The stages were: identifying source dates, defining rules for mapping and assessment, creation of a GIS database, result validation, preparation of the digital maps, generation of metadata, and, finally, unification of all previous outputs and integration into the monitoring system.

Ms. Sylvia Rangelova then summarized the mapping outcomes for each ecosystem type: heathland, shrubs and croplands, sparsely vegetated land (coastal areas, sand dunes), freshwater and marine ecosystems, grasslands, wetlands, forests, urban environments. Ms. Sylvia Rangelova noted that urban ecosystems services are essential to ensure sustainable development, mitigate climate change and increase human comfort in urban settings, and should be taken into account in urban planning for its benefits (absorption of pollution, reduction of noise pollution, creation of habitats, reduction of water runoff, recreation, etc.).

In the last Environmental Implementation Review of Bulgaria (2019), the EC stated that Bulgaria has made substantial progress in providing support for mapping and assessment of ecosystems and services, and for valuation and development of natural capital accounting systems.

In terms of next steps, Bulgaria will focus on the valuation of ecosystems (project running between 2020 and 2024) also with EEA Grants support. The Ministry will create a methodology for valuation, and it is expected the ecosystem services valuation will be available by the end of the project.

After the presentation, a question was raised about the conservation status of Turkish and Hungarian oaks in Bulgaria, which has one of the most representative populations. The species are mostly under Natura 2000 protection. Information on the current conservation status can be obtained from the Ministry's website (moew.government.bg), which maintains publicly available data on the conservation status of species and habitats. The audience also raised a question about the cost of implementing Bulgaria's mapping and assessment of ecosystem services. The total budget was 9 ME, with the methodology costing around 900 thousand, the information system around 2ME and the rest being spent on the mapping, which required large amounts of field work. Another 8ME from cohesion funds were planned to cover the Natura 2000 areas, but they will not be absorbed in time. Bulgaria will have to frame that work within the next MFF. It is important for the beneficiaries to consider the potential

[4]Available at http://eea.government.bg/en/nsmos/index.html

costs of the initial investment, but once the baseline is established further monitoring will be significantly less costly.

3.9 Status and trends of the populations of large carnivores in South-Eastern Europe

Mr. Marian Dragoi presented the status and trends of the populations of large carnivores in South Eastern Europe. Mr. Marian Dragoi started by making considerations about a new developmental paradigm that inverts the pyramid from economy-society-nature to nature-society-economy. Nature is part of the solution for a sustainable development path.

Large carnivores in Europe are fluctuating between least concerned/near threatened to vulnerable/endangered (IUCN classification system). Conservation objectives should seek to harmonize living conditions between large carnivores and human populations to avoid going up the extinction threat scale. Umbrella species, like large carnivores, serve as a policy, monitoring and intervention proxy to ensure that other species also obtain or maintain a favorable conservation status. In this regard, corridors are important to ensure population connectivity, diversity of habitats, and genetic diversity. As a policy tool, green infrastructure then becomes key. Through the implementation of green infrastructure one can enhance, manage and protect existing habitats, reduce habitat fragmentation and disturbance to sensitive areas, offer a setting to implement biodiversity conservation plans and to support natural resilience, which, in turn, enhances social resilience.

Umbrella species (wolf, lynx, bear) are subject to low social acceptance in Europe, which poses a risk for the management and conservation of their populations. This implies a necessary debate for biodiversity conservation. In Romania, for instance, there are issues with bears and wolves because of damages they cause to local populations.

Country	Brown bear population				Lynx population				Wolf population	
	Carpathian	Dinaric-Pindos	Alpine	Eastern Balkan	Carpathian	Dinaric	Alpine	Balkan	Dinaric-Balkan	Alpine
Albania		180-200 (officially 686)						5-10	200-250 (officially 2,370)	
BiH		550				70			650	
Croatia		1,000				~50			168-219	
Macedonia		160-200						23	267	
Montenegro		270						N/A (see [1])	N/A	
Serbia	8	60 ±10		50	50±10			15-25[1]	800±50	
Slovenia		440	5-10			10-15	5-10		32-43	Occasional disperses
Approximate TOTAL				±2,700				±250		±2,200

Figure 4 - Estimated large carnivores' population (Vasilijevic, Prokojac and Erg 2018)

In Serbia, for instance, there are fragmented habitats for bear and lynx mainly due to agricultural practices. There is also a lateral boundary in the Morava river that deters migration. The species population is also threatened by poaching and inadequate game management resulting in lack of wild prey. In addition, the species suffer disturbances during their reproduction period, and overhunting. The lack of historical and current data makes it difficult to manage the populations.

There are factors of endangerment related with human interactions, such as the lack of compensation for kills done by the large carnivores leading to poisoning, road-kills (lack of green infrastructure), the golden jackal that depletes food sources and weak law enforcement for conservation.

However, there are good indications. In Romania, for instance, a Natura 2000 site in the Carpathians it has been noted an improvement of human-carnivore coexistence. The opinions of farmers were found to be improving.

Mr. Marian Dragoi concluded, from the literature available, that conservation viability depends on the effectiveness of ecological corridors, effectiveness of policies and support to avoid inbreeding, and policy conflicts. For instance, in the Danube Delta, incentives to increase tourism, but also incentives for nature conservation, are sometimes contradictory. Moreover, scientific methods to assess populations and carrying capacities, as well as available data, are insufficient. In the future, more flexible policies

per specie and habitat will be needed, as well as the control of other predatory species that may be depleting the large carnivores' food sources.
There are some cost-effective ways to reduce the friction in the interaction between large carnivores and human settlements, for instance the creation of enclosures for livestock and crops and use of traditional warning systems (watch dogs).
Mr. Marian Dragoi concluded his presentation with the following conclusions:

- Only by involving multiple levels of government, NGOs, experts, and residents, can central norms and local prejudices be eventually reconciled. Definition of roles and responsibilities is also essential: public agencies need to have a clear mandate to manage bears
- Sheer cost-benefit analysis on indicators like sheep/dog, sheep/shepherd kills/wolf or bear are not relevant for making up a sustainable policy; the social fabric in remote areas cannot be reduced to CBAs
- Hunting is a "hot potato" in the sense that involves stakeholders with differing interests
- There is not a one-size-fits-all solution for the three species
- The landscape dynamics and traditional land-use make the difference
- between a suitable habitat for wild species and livestock
- Too much politics and not enough environmental policy
- Despite the patchy and wild landscape of the area there are a lot of barriers that hinder migration of the three large carnivores
- The most threatened species is Eurasian lynx, which demands large, quiet areas
- The brown bear adaptability to human settlements might be underestimated because its behavior depends to a large extent to the food residues that might be found close to small rural communities

After the presentation, a representative of Bosnia and Herzegovina informed the audience that the country is developing a management plan. He was interested in knowing about the experience of such plan in Romania and what were its benefits. Mr. Marian Dragoi believes the results of the management plan in Romania could be better. The population is controlled by licensed hunting of problematic bears (those who do 3 kills per year). However, there is no control on the actual hunting numbers and whether the bears killed are those to which the license was issued. In addition, population management based on culling is not a sufficient measure. He also noted that the success of a management plan is based on the accuracy of the information that supports it. He advised Bosnia and Herzegovina to be aware of the statistical methods used and be consistent with the approach throughout the preparation and implementation of the management plan.
A representative from Serbia corrected some of the information given during the presentation. Since 2010, Serbia has a mechanism to compensate kills caused by strictly protected species, like the brown bear. The compensations reach around 100 000 euros per year, where 90% of them are related to brown bears. He also informed the audience that some of those compensations are likely fraudulent as farmers found a way to play the system. Serbia needs new management measures for the brown bear, lynx, and wolf, which are already under adoption process.

3.10 Challenges at the crossroads of grey and green infrastructure: Best practice from The Netherlands

Mr. Edgar van der Grift made a presentation on the challenges at the crossroads of grey and green infrastructure, with best practice examples from the Netherlands. Roads constitute a sizable area of the territory of the Netherlands – 2.5%. Constructing grey infrastructure must consider how it intersects with green areas and how it impacts their natural functions and existing species. Fragmentation of natural habitats has led to a panorama where populations become isolated, and smaller, increasing chances of species population decrease or disappear. The alternative is to reconnect habitats so that populations can interact, move, and replenish areas where there might have been drastic reductions creating species viability.

Although the logic is simple, the implementation of green infrastructure is difficult. Roads, for instance, destroy habitats through its construction, but also reduce surrounding habitat quality, they create barriers and increase mortality significantly. Roads can be long and wide, also through bundling with railroads. Roads became difficult barriers to cross. Species learnt to avoid them creating another layer of fragmentation of habitats.

Therefore, action is urgent to save affected populations. Grey and green must be planned in an integrated way, which causes some difficulties because different species have different needs in terms of the potential green infrastructure being offered.

The first stage is to avoid impacts. Is a new road needed? Can it be rerouted or bundled with other grey infrastructure? Is it possible to replace the road with other transportation systems? However, this step is easily ignored and not seriously considered by planners.

The second step is to mitigate impacts by reducing wildlife mortality, reducing the barrier effect or the loss of habitat quality. The third step is to compensate the remaining negative effects by restoring the lost habitat somewhere else. Mitigation is one of the most popular measures. Some are, for instance, road signs. However, they tend to be ineffective. Wildlife detection systems, in comparison, have a better success rate by automatically spotting approaching wildlife and triggering dynamic signs on the road. This system shows measurable impacts on the behavior of drivers. Another solution are wildlife tunnels, they can be relatively small or large depending on the species being targeted. Finally, green bridges offer an efficient mitigation measure for the impact of large roads, like motorways. They can be used by many species and even set up habitats on them. There are over 80 such overpasses in the Netherlands.

One of the challenges at the beginning of green infrastructure planning is the large amount of existing barriers, raising the question of where and how to begin. In the beginning, in the Netherlands, multiple stakeholders, from public authorities to civil society, had different takes on the measures needed, making a non-consensual starting point. The response was to develop a common method to identify mitigation measures and sites, and to prioritize those sites. The effort result in a national defragmentation programme with a dedicated task force. Discussion orbited on how to identify problematic sites. Earlier road kill was used as the best proxy indicator, but it was found not to be a reliable indicator because it does not measure the populations around the problem area making the number of kills void of context and urgency. The new approach assesses locations based on population viability and especially how crossing structures can improve that viability.

This was done by doing habitat maps based on population viability, with and without infrastructure, clearly demonstrating those areas where the grey infrastructure has the highest negative impacts. These are the potential sites where reconnecting habitats will have the greatest positive impact in species. The model can also distinguish several levels of impacts, making it possible to prioritize interventions.

The results have been positive. Animals accept and use crossing structures quickly and the number of animals is often higher than expected. Small amphibians and reptiles also use these corridors.

Permanent evaluation is important to maintain success. In the case of an area where tunnels for toads were built, only 31% were using them to access their breeding grounds. Simultaneously, it became visible that the population was declining. It was found that the tunnels were too far apart and that a higher density of tunnels was needed. It is therefore important to monitor and evaluate the impacts of measures to ensure they are fit for purpose.

Mr. Edgar van der Grift recommended the audience to look for further information about the topic in the “Handbook of Road Ecology”[5].

3.11 Mitigation measures of habitat fragmentation: Prioritization of green bridges and planning process for national ecological corridors in Austria

Mr. Gebhard Banko presented the mitigation measures for habitat fragmentation in Austria through the prioritization of green bridges and planning process for ecological corridors.

[5] https://www.wiley.com/en-hu/Handbook+of+Road+Ecology-p-9781118568187

Setting the context, Mr. Gebhard Banko introduced why green bridges are necessary: fragmentation is a serious biodiversity threat already documented in political settings such as the EU, and other national and international initiatives like the Sustainable Developments Goals and the Convention on Biodiversity. The location of green infrastructure should be led by scientific knowledge. The spatial (blue and green) corridors need to be identified and standards for existing and new infrastructure should be developed. The stakeholders involved are diverse – the political level, spatial planning, nature conservation, agriculture, and hunting, etc. Finally, it is important to acknowledge that progress cannot be made without setting the issue in the political agenda and by raising awareness and public acceptance.

In Austria, the identification of ecological corridors went through a decades' long development. In the 1980's it started with biotope networks, mostly at regional level, and hunting driven approaches. In the 1990's, through a WWF initiative, the idea of ecological corridors was introduced, and the first GIS based analysis work on connectivity was made. On the 2000's, green bridges were prioritized for existing infrastructure (out of which few were built due to the cost of 2 to 6 ME per bridge, 20 are expected to be built until 2027), and standards for new roads construction was introduced, including mitigation measures. The first GIS model on connectivity was developed in 2005 for lack of land cover data until then. It was a resistance-based model combining remote sensing and in-situ observations. Based on that Austria developed draft ecological corridors, also connecting to neighboring countries, for large carnivores. The draft was only a national overview not appropriate for site management. 2018 saw a reengineering of the draft corridors with better data. The GIS outcomes were verified with in-situ verifications and local expertise for valley crossings.

The corridors had a recent change of focus from mere wildlife pathways to connectivity of living spaces, even for human beings. The main priorities are to ensure the connectivity is created or maintained, with a minimum distance from settlements and further urbanization. For planning purposes, was important to go down in the level of scale to provide planning tools on a local and regional levels.

The construction of green bridges has been slow for the past 30 years. The idea started with 57 priority bridges, later reduced to 20 due to cost. Only 4 are built so far. The progress is partially delayed by the need to coordinate the bridges with local planning to avoid a spatial use of nearby areas that might make the bridges redundant, but also by the road company that delays the investment, perhaps waiting for a more favorable political climate where the investment will be scrapped (although the legal deadline for construction of 20 green bridges is 2027).

Another issue is the connection of green bridges and spatial planning. The green bridges require that surrounding areas be kept clear of development. Stakeholders like farmers are resistant for fear of new conservation measures. Since spatial planning is kept at federal level, Austria is attempting to develop planning maps and related information so that further steps downstream, from civil servants,must take them into account, thus maintaining the green bridges viability. The corridor plans are also present in the forest development plan, an important vector since a large area of Austria is forested.

Regarding bottlenecks, Austria is facing the biggest difficulties in the valleys. All the infrastructure, rivers and settlements are in the valleys causing a major disruption to continuity of habitats. This shows a disconnection of the local planning process. Austria found that dividing the corridors into segments helped identifying the bottlenecks. The potential solutions to transport infrastructure tend to be green bridges, but settlements pose a bigger challenge. They enlarge the roads and provide a substantial interruption.

In parallel, there is an initiative to enlarge the scope of ecological corridors in Austria by aligning them with other initiatives like the European Green Belt, the Common Agricultural Policy (promotion of flowering strips), climate change mitigation and adaptation measures, UNESCO's network of primary beech forests in Europe covering 12 countries.

Communication of results is essential to raise acceptance of green infrastructures measures. Austria maintains a geodata portal to keep the public informed[6]. Other initiatives include education and an app for children to identify animal tracks, creating custodians of wildlife in the area.

[6] http://www.lebensraumvernetzung.at/en/pages/home

In conclusion, the discussion process can take a long time, integrating various sectors, and with considerable investment cases. It is necessary to use integrated spatial planning to demonstrate positive results to stakeholders, such as political actors, landowners, and other users of the space.

3.12 Ecological connectivity in transboundary context and challenges, related to the regional coordination of the management of protected areas

Mr. Nicholas Hanley noted that the interventions so far in the workshop showed many of the pressures on biodiversity that we face at all levels. Even in the EU, where significant progress was made, for instance through Natura 2000, there are problems. Natura 2000 is made of many individual sites, covering around 18% of the territory of Member States, and it has been recognized as one of the most significant nature conservation efforts in the world. In addition, the work done on green infrastructure and the pickup it is receiving in the EU Green Deal and the Biodiversity Strategy, demonstrates the EU is committing itself to establish more connectivity and protection in the wider landscape. However, the situation remains that the Natura 2000 network is still fragmented. As it was established in the workshop, isolated populations have questionable sustainability. More corridors are needed for migration, and some species, like the lynx, need more space.

The EU is looking at the applicants in the West Balkan region to join it in those efforts. The countries have been making efforts for years to implement the EU's environmental law and, in particular, Natura 2000. During the workshop, it was possible to hear about the encouraging progress achieved. A solid basis of Natura 2000 is essential. And just like in the EU, there is still much to be done. The conflict between pressures for development and the ambition to protect biodiversity cause a dilemma. The West Balkans phenomenal biodiversity, and its significant area of natural landscapes, is under threat.

It is important to recognize this, and to consider that the region is made up of relatively small countries, whose borders crisscross biodiversity values. It is therefore important to have more cooperation and to identify the connectivity bottlenecks within and between the countries.

It becomes essential to identify common priorities for action and agree on what connectivity mechanisms are needed. The work being done in EUSAIR is inspiring. The participating countries are showing that it is possible to cooperate and to link coastal and terrestrial issues. There have been other initiatives as well. For instance, the GIZ funded project around Skadar Lake, involving Albania and Montenegro, brough forward a successful cooperation to preserve blue biodiversity resources. This is especially remarkable, considering the high conservation importance of the river systems in the region and the increasing pressure from many hydropower developments without adequate environmental impact assessment, which are seriously prejudicing the conservation of the critical value of these rivers.

Finally, it is essential that there is more political buy in. The will to join the EU necessitates that implementation of the EU acquis is taken seriously. It requires the countries to demonstrate ambition in terms of the policy goals put forward by the EU Green Deal and the Green Agenda for Enlargement.

3.13 EPPA GI Study identified priority areas for ecosystem restoration and green infrastructure deployment, aimed at contributing to the goals of EU Nature Legislation

Mr. Ventzislav Vassilev presented the priority areas, recommendations and proposed follow-up actions in the West Balkan region put forward in the draft study.

The identification of priority areas in the study had 2 steps. The first step sought to define nature protection sites with transboundary importance based on the collection and review of country-specific information about the networks of PAs, EMERALD sites, and identification of potential Natura 2000 sites. The criteria below were used to select and prioritizing the sites:

Criteria	Description
National importance	National designation category of the PA (equivalent IUCN category)
Size (area)	Larger PAs are of higher priority. Thresholds defined using the methodology for defining core areas for the umbrella species.
Relevance for the umbrella species	Presence of the umbrella species mentioned in various documents, based on official documents (e.g. management plans and national action plans) or recent studies.
Coverage by the ecological networks	Preliminary identified Natura 2000 sites and/orofficially nominated EMERALD sites.
Transboundary importance	Location near the national borders and especially those, naturally connected with similar PAs or important natural areas in neighboring countries. Higher priority is given o the internal borders between the EPPA countries in the scope of the study.
Core areas and migration corridors according to the spatial analysis	Availability of core areas (with habitat suitability >75% according to the model) and main migration corridors for the target umbrella species, identifiedduring the GIS spatial analysis.

Figure 5 - Criteria for site selection

The second step refers to the identification of priority areas for ecosystem restoration and GI deployment based on the following criteria:

- Transboundary clusters of protected areas, EMERALD sites, and/or potential Natura 2000 sites
- Core areas and connection corridors for the umbrella species, identified in result of the spatial analysis (Brown bear and Lynx are used as species with more demanding habitat requirements)
- Spatial analysis of the land cover potential to provide ecosystem services

Based on the above, the priority areas identified are:

1) Mavrovo (MK) – Korab Koritnik (AL) – Munella Mountain (AL)
2) Mali me Gropa-Bize-Martanesh (AL) - Shebenik-Jabllanice NP (AL) – Mavrovo NP (MK)
3) Tara NP (Serbia) – Drina NP (BiH)
4) Durmitor NP (ME) – Sutjeska NP (BiH)
5) Prokletije NP (ME) – Valbona Valley NP (AL) – Gashi River Reserve (AL)
6) Buna River-Velipoja Protected Landscape (Albania) - Lake Skadar Nature Park (AL) – Lake Skadar National Park (ME) – Lovcen NP (ME)
7) Mariovo - Kozuf – Jakupica (MK)
8) Sutjeska NP – Gornji Tok Neretve – Rama (BiH)
9) Djerdap NP – Stara Planina Nature Park (RS)

Based on the study findings, and on the discussions of the workshop, Mr. Ventzislav Vassilev identified the following challenges and needs in the EPPA beneficiaries:

- Closing the gaps in scientific information and knowledge – GI mapping, habitats mapping, research on the distribution and population status of the key protected species, monitoring
- Complete the development of Natura 2000 – define the boundaries of the proposed sites, ensure coherent network, finalize the legal harmonization, introduction of AA, harmonization with EIA and SEA procedures
- Improve the regional cooperation – Establish regional sub workgroup on Ecological Connectivity
- Regional activities for species conservation – LIFE + project on Broun Bear conservation
- Capacity building – Strengthen institutional capacity at all levels; Training in GIS and information systems; Expert teams and trained staff must be kept engaged and supported
- Awareness raising: Natura 2000 has legal and economic consequences for the local communities; the preparation process is underestimated; engaging stakeholders and general public in planning and management of Natura 2000
- Funding: long-term sustainability of the actions, mainstream the GI and ecological connectivity in IPA III national programming

The EPPA project, through the study, is proposing the beneficiaries to consider the following, proposed actions to address the green infrastructure and connectivity gaps:

- Action 1: Strengthen the regional cooperation for development of GI and ecosystem connectivity: establishment of a regional task force; or a working group
- Action 2: Development of joint population level management plans for the large carnivores
- Action 3: Support the development of Natura 2000 network
- Action 4: Mapping and assessment of ecosystem services for identification of the main elements of the Green Infrastructure at national and regional level
- Action 5: Integrate GI and ecological corridors into the spatial planning and sector policies
- Action 6: Strengthen the capacity of the national authorities in the areas of i) enforcement of the existing nature conservation legislation and ii) compliance with the environmental standards and permit procedures, related to the impact of the infrastructure projects

3.14 Discussion on the technical, policy and legislation, socio-economic and communication recommendations; identification of common follow-up actions

One representative from Bosnia and Herzegovina took the floor to express his support to the study and the proposals therein. He requested that one pre-condition be inserted in the follow-up actions proposed in the study, namely that the countries of the region should commit to achieve a good environmental status by reducing pollution and taking initiative to clean the environment. The representative felt that a wide clean-up effort will be essential to ensure the viability of any nature conservation, green infrastructure, and connectivity measures. In addition, there should be efforts to educate people and change their behaviour towards nature.

Mr. Sasko Jordanov as a representative of North Macedonia proposed that the study findings and recommendations regarding green infrastructure be integrated possibly in a dedicated project, or through the creation of a regional working group. To make the recommendations operational, he also suggested that an action plan should be prepared for the development of green infrastructure and connectivity.

Mr. Dusan Ognjanovic as a representative from Serbia supported the study, which provides momentum to reflect on the importance of green and blue infrastructure in the context of the post 2020 biodiversity framework championed by the EU. Serbia supports the establishment of a regional working group to improve transboundary cooperation on the matter. Furthermore, the study will become an important tool for the Western Balkan efforts to further align with the EU nature acquis. It improves knowledge about large carnivores as priority species and, in the case of Serbia, it will be used as input to the new law on spatial planning until 2035. The findings will allow Serbia to include ecological connectivity in its spatial planning concerns and help to mainstream nature protection into other sectoral policies. More generally for the region, the study will also accelerate the countries efforts to implement the ambitions of the EU Green Deal.

Ms. Klodiana Marika as a representative from Albania affirmed the importance of nature protection, biodiversity, and green infrastructure for the country. Albania welcomes assistance to keep transposing the EU acquis, drive implementation efforts, develop the Natura 2000 network and habitat mapping, and further guidance on how to conserve and restore habitats. Albania supports the establishment of a task force to increase regional cooperation and drive collaborative action.

Mr. Nicholas Hanley closed the meeting by praising the rich discussion and relevant technical inputs to the subject. In addition, he called to attention the biodiversity significance of the Western Balkan river systems and the need to ensure adequate environmental impact assessment of the many hydroelectric developments in the region, which are seriously prejudicing the conservation of the critical value of these rivers. In terms of the finalization of the EPPA study and pursuing its recommendations, he highlighted the following steps:

1) The EPPA project team will prepare a draft workshop report summarizing the main conclusions agreed by the participants, which will be used as input into the study
2) The participants are invited to submit to the project team, by mid-July, further comments to the study presented, especially regarding the recommendations

3) After that, the project team will work with the contact group established in November 2019 during EPPA's previous workshop on biodiversity, in Brussels, to further finetune the study and include in it the priorities of the beneficiaries as a base for future action
4) The final version of the report will be submitted to the EPPA project steering committee in mid-September, containing the recommendations and follow up actions agreed with the beneficiaries. The study will also be presented to the EC as a basis for future decisions and programming.

Mr. Nicholas Hanley concluded that it is of the utmost importance to keep the momentum for biodiversity and green infrastructure. Future discussions, also during the EPPA project steering committee, will point the way either through a dedicated new structure or by grafting it into the mandate of existing initiatives like EUSAIR. EUSAIR has made relevant progress and it may be a particularly suitable interface to create a single delivery mechanism making use of existing resources.

4 Conclusions

The workshop gave an important contribution to the biodiversity debate in the Western Balkans by putting to the countries' attention and comments the Study on ecological connectivity and green infrastructure deployment in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. The focus fell on the need to develop green infrastructure and ecological corridors between the region's biodiversity hotspots as an effective way to conserve species and habitats, in addition to the development of the Natura 2000 network.

The participants had the opportunity to learn about the pillars of the EU's new Biodiversity Strategy for 2030, focusing on protecting nature, enabling transformative change, restoring nature, and setting an ambitious global agenda. In addition, funding opportunities under the EU's Multiannual Financial Framework for the period 2021-2027 were presented, with special attention to IPA III.

There was also a strong technical component offering the experience of EU Member States in the development of green infrastructure and ecological connectivity. Slovenia brough forward its experience with the identification, mapping, and implementation of green infrastructure. Bulgaria offered its experience with the assessment and valuation of ecosystem services. The Netherlands and Austria offered concrete examples of the development of some types of green infrastructure and the promotion of connectivity via, for example, green bridges and other tools to invert habitats fragmentation.

At the macro-level, the beneficiaries had the opportunity to interact with EUSAIR and its work supporting the development of green and blue corridors, integrating both coastal, maritime, and inland habitats and species. EUSAIR provides a key regional forum for cross border cooperation driving the issue of connectivity in the region and in partnership with EU and non-EU states.

The beneficiaries also had the opportunity to update each other on the state of play regarding protected areas and the development of the Natura 2000 network, as well as their main challenges and priorities. Summarily, they are:

- Closing the gaps in scientific information and knowledge – GI mapping, habitats mapping, research on the distribution and population status of the key protected species, monitoring
- Complete the development of Natura 2000 – define the boundaries of the proposed sites, ensure coherent network, finalize the legal harmonization, introduction of AA, harmonization with EIA and SEA procedures
- Improve the regional cooperation – Establish regional sub workgroup on Ecological Connectivity
- Regional activities for species conservation – LIFE + project on Broun Bear conservation
- Capacity building – Strengthen institutional capacity at all levels; Training in GIS and information systems; Expert teams and trained staff must be kept engaged and supported
- Awareness raising: Natura 2000 has legal and economic consequences for the local communities; the preparation process is underestimated; engaging stakeholders and general public in planning and management of Natura 2000
- Funding: long-term sustainability of the actions, mainstream the GI and ecological connectivity in IPA III national programming

Finally, the beneficiaries welcomed and supported the EPPA Study on ecological connectivity and green infrastructure deployment in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia. It was considered that the study provides momentum to reflect on the importance of green and blue infrastructure in the context of the post 2020 biodiversity framework championed by the EU. Furthermore, the study can be a catalyst for the countries' efforts to match the EU ambitions as expressed in the Green Deal, and soon to be reflected in the Green Agenda for Enlargement. The study was also seen as a milestone to launch a deeper, regional cooperation around green infrastructure and cross border ecological connectivity. The beneficiaries agreed to continue discussions in 2020 on how to implement such cooperation based on the study's recommendations and follow up actions. The next key date will be EPPA's Steering Committee Meeting in September 2020.

Workshop outputs

The workshop's main outputs were:

- Endorsement of the EPPA Study on ecological connectivity and green infrastructure deployment in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia
- Review of the state of alignment and implementation with the EU nature protection acquis in the beneficiaries
- Enhanced understanding of the challenges and tasks connected with the implementation of green infrastructure and connectivity
- Enhanced exchange of experiences, and knowledge, between the beneficiaries and EU Member states regarding green infrastructure and connectivity.
- Consensus on the need for further regional cooperation to advance the cause of nature protection, green infrastructure, and connectivity

5 Evaluation

The participants were asked to evaluate the workshop by TAIEX using an online survey after the event. The evaluation results are presented below in a summary table.

Evaluation Type	Question / Expert name / Comment	No. Responses	Expert Score	Yes / Excellent	No / Good	Partially / Satisfactory	Do not know / Poor
Workshop - participant - A. Questions	1. Was the workshop carried out according to the agenda	8		8 (100%) Yes	No	Partially	Do not know
Workshop - participant - A. Questions	2. Was the programme well structured?	8		7 (88%) Yes	No	1 (13%) Partially	Do not know
Workshop - participant - A. Questions	3. Were the key issues related to the topics addressed?	8		8 (100%) Yes	No	Partially	Do not know
Workshop - participant - A. Questions	4. Did the workshop enable you to improve your knowledge?	8		6 (75%) Yes	No	2 (25%) Partially	Do not know
Workshop - participant - A. Questions	5. Was enough time allowed for questions and discussions?	8		6 (75%) Yes	No	2 (25%) Partially	Do not know
Workshop - participant - A. Questions	7. Do you expect any follow-up based on the results of the workshop (new legislation, new administrative approach, etc.)?	8		7 (88%) Yes	1 (13%) No	Partially	Do not know
Workshop - participant - A. Questions	8. Do you think that further TAIEX assistance is needed (workshop, expert mission, study visit, assessment mission) on the topic of this workshop?	8		8 (100%) Yes	No	Partially	Do not know
Workshop - participant - C. Logistic Ratings	1. Conference venue	5		3 (60%) Yes	1 (20%) No	1 (20%) Partially	Do not know
Workshop - participant - C. Logistic Ratings	2. Interpretation	4		3 (75%) Yes	No	1 (25%) Partially	Do not know
Workshop - participant - C. Logistic Ratings	3. Hotel	1		Yes	1 (100%) No	Partially	Do not know
Workshop - participant - C. Logistic Ratings	4. Flight	1		Yes	1 (100%) No	Partially	Do not know

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Workshop - participant - C. Logistic Ratings	5. Catering	1	Yes	1 (100%) No	Partially	Do not know
Workshop - speaker - A. Questions	1. Did you receive all the information necessary for the preparation of your contribution?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	2. Has the overall aim of the workshop been achieved?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	3. Was the agenda well structured?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	4. Were the participants present throughout the scheduled workshop?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	5. Was the beneficiary represented by the appropriate participants?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	6. Did the participants actively take part in the discussions?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	7. Do you expect that the beneficiary will undertake follow-up based on the results of the workshop (new legislation, new administrative approach etc.)	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	8. Do you think that the beneficiary needs further TAIEX assistance (workshop, expert mission, study visit, assessment mission) on the topic of this workshop?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - A. Questions	9. Would you be ready to participate in future TAIEX workshops?	5	5 (100%) Yes	No	Partially	Do not know
Workshop - speaker - D. Comments	This is my first participation in an online conference and apart from a few slight delays as some participants had connection problems it went very smoothly. As chair of the meeting I was very well supported by the technical staff. No answers to the last set of questions as do not apply to this format.					

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Endnotes

* This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

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