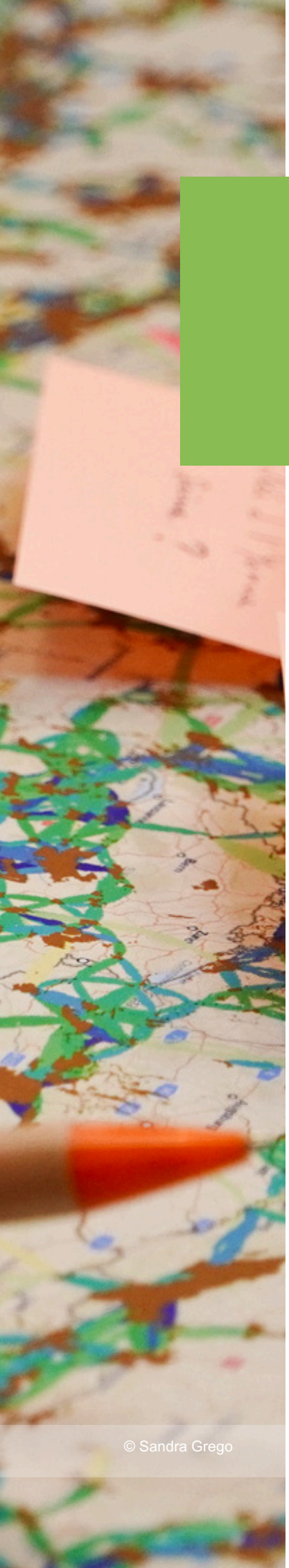

Workshop Report

From Science to Action

Strategic Planning for the Trans-European Nature Network (TEN-N)

This NaturaConnect event in Brussels (20-21 January 2026) brought together stakeholders from across Europe to discuss the importance of ecological connectivity and protected areas in achieving a coherent and effective Trans-European Nature Network (TEN-N).

Main Objectives

- Sharing research results and improving understanding of the status of connectivity in Europe, protected area expansion priorities and corridor design, methods to assess and improve resilience against climate change and future expected land-use change and monitoring programs to inform protected areas planning and management.
- Receiving feedback on the spatial maps and other results from participants, and how these can better support conservation planning at different scales (recommendations).
- Discussing the key challenges for the implementation of area-based conservation measures and pathways of change to improve their feasibility and management effectiveness.

Link to the presentations

Link to the photo album

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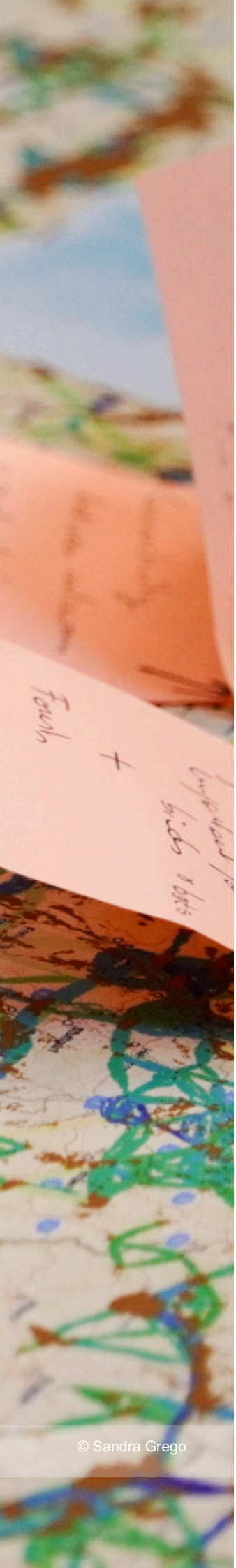

Conclusions from the event

Messages from NaturaConnect

1. **Protected area networks need to be comprehensive, adequate, resilient and effective (CARE).** Europe's current protected area network, while extensive, scores lowly in all of these parameters and evidence shows that unless the quality of protection increases, this will not deliver long-term positive biodiversity outcomes. CARE principles can be promoted through systematic analysis and planning, accounting for the entire geographic range of species and habitats, their conservation needs, and the national responsibilities in contributing to EU-level biodiversity protection targets.

2. By considering pan-European biodiversity data, coordinated expansion of the existing Natura 2000 network could **more than double the protected share of suitable species ranges**, for a relatively small expansion of total area (~11% of European surface area).

3. **Many of Europe's protected areas are small** (~80% of Natura 2000 sites are smaller than 10 km²), and **climate change is forcing species to shift their ranges.** Therefore, we need to ensure ecological connectivity across landscapes to support the long-term persistence of threatened species and habitats under current and future environmental conditions. This requires strategically extending protected areas to preserve key areas for connectivity and restoring effective ecological corridors. This is especially true for transboundary regions that are highly important continent-wide for maintaining ecological connectivity.

4. **Land-use change, including changes in agricultural and forestry area and management intensity and expansion of built infrastructure, is among the most important drivers of biodiversity change in Europe.** Addressing the primary drivers of these changes requires novel pathways towards sustainable economic policies, market dynamics and sectoral planning. TEN-N planning and implementation should integrate economic land use change dynamics and socio-economic scenarios in order to minimise displacement of impacts and trade-offs between conservation objectives. Conservation planning should also integrate the contributions of nature to people, reducing trade-offs and conflicts among conflicting conservation and sustainability objectives.

Conclusions from the event

Participants' perspectives on NaturaConnect spatial outputs for TEN-N

1. The NaturaConnect spatial **outputs on protected area expansion and connectivity are ecologically well grounded,** they are spatially consistent, and hold promise and relevance for decision-making across scales (from local to EU-level conservation planning). Some important connectivity areas, identified as missing by national and regional experts, were noted, and in most cases, they reflected potential scale mismatches between EU-level analyses and sub-national objectives.

2. In the context of protected area expansion, the **quality of protection** (protecting underprotected habitats and species, addressing connectivity and fragmentation), and management effectiveness**, matter more than percentage-based targets** (e.g. 30% protection), with fair responsibility-sharing needed across countries.

3. Going forward, identification of areas of importance for connectivity should also consider other factors such as **important topographical features, bird migration routes, and large intact habitat patches outside of protected areas.** Prioritising stepping stones, restoration potential, coastal habitats and unprotected important sites (e.g. KBAs) is key.

4. **The integration of riparian connectivity results** to help identify priority areas for connectivity in floodplains would be useful. Integrating thematic layers (e.g. species-specific, riparian) as part of a multi-layer portfolio for connectivity will improve usability for planning, communication and implementation across Europe.

Conclusions from the event

Participants' perspectives on NaturaConnect spatial outputs for TEN-N

5. **Priority areas for conservation should also be informed by the urgency to act.** Therefore, priorities established based on species and habitat rarity and conservation gaps should be overlaid with existing and likely future threats, e.g., land-use change and pollution, to understand which are the areas that need the most urgent protection.

6. To maximise the usefulness and uptake of NaturaConnect results, **there is a need for well-maintained, accessible data (e.g., via the EEA) available in GIS formats or dedicated viewers**.

7. **Simplified outputs**, trainings, clear guidance, and transparency on the methods and data used are needed.

8. **Results should be translated into clear, practical tools for policy and planning**, terminology should avoid negative framing (e.g., replace “burden sharing” with “responsibility/effort sharing”), and site prioritisation should account for threats that protected areas can realistically mitigate.

9. It is important to **improve communication around connectivity concepts**, overlaying NaturaConnect maps with European and national datasets, and ensuring that lessons learned are integrated into policy and investment decisions.

How feedback will be taken into account

Participant feedback obtained during the event and bilateral follow-ups will be consulted and integrated to the extent possible into the following remaining outputs of the project. Below, we outline how:

- A strategy document detailing **recommendations for future EU and Member State action for TEN-N** will be shared with the event participants for revision. The document will also be circulated to the EU Commissions and EU Member State representatives (NADEG).

- Importance will be given to the geographic scale of the feedback from participants, making recommendations for local, national, and international conservation policies. This will be integrated into the ***Recommendations for Policy*** **section of a report on the comparison of TEN-N implementation across case studies**.

- The Discussion section of a **report analysing land use consequences of implementing TEN-N** will provide clarity on land use outcomes and offer a science-based discussion linked to policy goals and ambitions, and will incorporate feedback received at the respective table on day 2 of the workshop.

- The dissemination of **spatial prioritisation of protected area expansion, strict protection and restoration will focus on species and habitats only**, as recommended by many participants. They pointed out that it is already quite difficult to understand why a priority area is selected, and we need to make our approach and results easy to understand and interpret. Other dimensions (e.g., ecosystem services, climate resilience) will also be analysed, but primarily communicated as co-benefits that are assessed ex post.

How feedback will be taken into account

- Some participants were concerned by the lack of priority areas for conservation in certain regions, typically with larger fractions of highly modified landscapes. Project partners confirmed that these will be addressed through **strategic planning of Green and Blue Infrastructure and priorities for ecological restoration** in our upcoming deliverable report on area-based conservation and restoration priorities and associated dissemination efforts.

- Some areas identified as potentially important for future protected area expansion by national experts will be further investigated to understand if these **isolated mismatches** were due to data or parameters set in the NaturaConnect prioritisation that require revision, or are genuine differences, i.e., national priorities that do not qualify as of pan-European importance using commonly agreed criteria.

- **The project will produce country factsheets** to document the expansion of priorities and their benefits in terms of achieving conservation targets for under-protected habitats and species, as well as other relevant metrics.

- National protected areas identified as missing by participants and most large habitat patches identified as important for connectivity **will be included in future Pan-European connectivity analyses and maps**.

- **Descriptions of connectivity methods and results** will be provided at different levels of expertise to aid in the understanding and application of connectivity maps.

Day 1 - Welcome Notes

Bárbara Pais
University of Évora

The workshop began with a warm welcome by the facilitator, and **gratitude was expressed to all participants for joining the event**. The NaturaConnect project was briefly introduced, with its mission to design a resilient and coherent Trans-European Nature Network (TEN-N), a cornerstone of the EU Biodiversity Strategy 2030. The importance of stakeholder inputs throughout the project was also highlighted.

Participants were invited to engage in an interactive icebreaker activity. In pairs, they reflected on the question: **"What does connectivity mean to you?"** The discussion quickly revealed a shared understanding of connectivity as a vital pillar for biodiversity conservation, climate change mitigation, and a foundation for building resilient landscapes.

The lively exchange set a collaborative tone for the workshop, and the group was ready to dive deeper into research results, tools and actions needed.

"We share similar challenges across provinces, and
we need **exchange and cooperation across borders** to
create connectivity at national and international levels."
(Workshop participant)

Day 1 - Welcome Notes

Frank Vassen
DG Environment and Advisory Board Member of NaturaConnect

In this presentation, the **EU Biodiversity Strategy targets for 2030 were highlighted**, which aim at 30% protected areas of which one third (10%) are to become strictly protected areas. These are EU and biogeographical region-level targets that Member States are not required to meet individually. Two major challenges were outlined:

1. **Data gaps:** The EU27 still lacks reliable information on how much land and sea are actually protected, including strictly protected areas. The EEA reporting system on protected areas (NATDA) that was updated in early 2026 will, from now on, enable Member States to report on strict protection and OECMs. Member States can also indicate whether some of the areas they have reported so far do not qualify as Protected Areas within the meaning of the Strategy. Some long-reported "protected areas" may not qualify, meaning current estimates (e.g., 26% protected) may be over-optimistic.

2. **Political context:** Establishing new PAs is becoming increasingly difficult, though some progress is happening quietly at national levels (e.g. Belgium). There is, however, only limited visibility of such efforts across Europe.

It was stressed that these uncertainties were making it difficult to track progress towards the 2030 goals. The **NaturaConnect project was well-timed to support policy implementation**, though Member States had been slow to adopt scientific recommendations. Improved, meaningful EU-level data presentation could strengthen support for achieving the targets.

Day 1 - Setting the scene: context and priorities

Néstor Fernández
German Centre for Integrative Biodiversity Research (iDiv/MLU)

The presentation set the context of the NaturaConnect project by outlining the global and European biodiversity crisis and explaining why new, integrated approaches to conservation were needed.

Global context and new biodiversity ambitions. Over several decades, international biodiversity agreements have aimed to halt biodiversity loss, but evidence shows that single, isolated actions are insufficient. Scientific research demonstrates that biodiversity decline can only be slowed or reversed through combined measures, including:

- Expanding protected areas,
- Improving ecological connectivity,
- Scaling up ecosystem restoration,
- Addressing broader drivers such as human consumption patterns.

These insights underpin the **Global Biodiversity Framework**, which introduces several important conceptual shifts:

- Connectivity as a central conservation objective,
- Ecosystem integrity as a core principle,
- Expansion and better management of protected areas.

European policy framework. These global goals are linked to the EU Biodiversity Strategy for 2030, highlighting three key elements that NaturaConnect supports:

1. Protection of at least 30% of EU land, with 10% under strict protection.
2. Implementation of the Nature Restoration Regulation, requiring measures on 20% of EU land.
3. Development of ecological corridors to prevent genetic isolation, support species migration, and maintain ecosystem functioning.

To ensure practical relevance, NaturaConnect works across different governance levels:

- Local: Doñana National Park in Spain, and urban areas in Halle-Leipzig, Germany
- National: case studies in Portugal, France, and Finland
- Transboundary: the Danube Carpathian region

Link to the case studies

Day 1 - Connecting the pieces: What does a resilient network look like in practice?

Piero Visconti
International Institute for Applied Systems Analysis (IIASA)

Europe protects roughly 18–26% of its land, but existing protected areas (including Natura 2000 and some national parks) are often small, isolated, uneven in ecological coverage, and under-resourced. As a result, current protection does not reliably deliver long-term biodiversity outcomes.

NaturaConnect's goal is to transform this fragmented system into a **Trans-European Nature Network (TEN-N) by improving what already exists and strategically expanding it**. The project defines "good protection" through the CARE principles.

A key finding is that **planning at transnational and biogeographical scales is more effective** than national-only approaches, since many priority areas and ecological corridors cross borders. Coordinated expansion from the existing Natura 2000 network could more than double the protected share of suitable species ranges.

Connectivity is central. Many protected areas lie less than 10 km apart but remain functionally isolated. NaturaConnect identifies cross-border ecological corridors across landscapes and riverscapes to enable species movement, gene flow, and ecosystem services such as pollination, carbon storage, and recreation.

Climate resilience and future land-use changes are incorporated through modelling, helping anticipate where conservation opportunities or conflicts will arise and enabling proactive planning.

Effectiveness and financing are critical. Meeting EU biodiversity goals requires an estimated €10 billion per year for management, restoration, staffing, and long-term operation. NaturaConnect evaluates how funding can be better targeted to support representative, connected, and resilient conservation.

The next step is working with stakeholders to use these methods to inform policy, regulation, financing, and real-world implementation.

Day 1 - From data to design: Mapping priority corridors and nodes for a resilient TEN-N

Néstor Fernández
German Centre for Integrative Biodiversity Research (iDiv/MLU)

This presentation explained how NaturaConnect translated connectivity science into practical design for a Trans-European Nature Network (TEN-N).

Because most Natura 2000 sites are very small: **~80% of Natura 2000 protected areas are less than 10 km² and over 60% smaller than 1 km²**. In addition, climate change is forcing species to shift their ranges, and biodiversity conservation must rely on connected landscapes beyond protected areas.

Ecological connectivity can be distinguished between **structural connectivity** (landscape structure and fragmentation) and **functional connectivity** (where species likely move and maintain gene flow), both of which are needed for effective planning under future land-use and climate scenarios.

In addition, future-oriented connectivity analysis must consider land-use and climate change scenarios, as well as different societal visions of what should be preserved.

NaturaConnect compiled and analysed existing connectivity projects across Europe. A public repository of these projects has been created and is open for submission of additional initiatives.

Link to the projects' public repository

Link to the results of the analysis

The project aims to provide a blueprint for implementing connectivity, recognising the need for flexible, non-top-down approaches. **Key outputs related to connectivity include:**

1. European-scale models of functional connectivity and priority corridors based on multiple species archetypes.
2. Structural connectivity assessments for over 230 EU habitat types.
3. Habitat persistence probability models considering future conditions.
4. River connectivity analyses, including fragmentation by dams and riparian degradation.
5. Comparisons between EU-scale modelling and local case studies, enabling refinement using finer ecological and stakeholder knowledge.

Day 1 - Protected Area Connectivity: Prioritising Trans-European Ecological Connections

Jeremy Dertien
German Centre for Integrative Biodiversity Research (iDiv/MLU)

This presentation outlined the **NaturaConnect workflow and data products for functional connectivity modelling across Europe**, including:

- Integrating species distribution data covering 953 terrestrial vertebrate species in the EU.
- Grouping these species into 30 species archetypes, based on biological/ecological characteristics.
- Building a unified modelling workflow that draws from multiple global connectivity modelling approaches.

Key Steps of the Modelling Workflow include:

1. Creating species archetypes,
2. Creating resistance rasters,
3. Integrating connectivity modelling techniques.

Three different modelling techniques were combined:

1. Circuit Theory Models,
2. Graph Theory Metrics,
3. Randomised Shortest Path Models.

Outputs and Findings: Models were run for all 30 archetypes, generating thousands of functional corridors. Roughly 76,000 corridors were computed.

Results allow the visualisation at different scales and the analysis of individual archetypes or combined patterns.

Link to the report on functional and structural connectivity

Day 1 - Protected Area Prioritisation for the EU 30% & 10% Targets

Louise O'Connor
International Institute for Applied Systems Analysis (IIASA)

Where in Europe should new protected areas be added, and where should ecosystems be restored or sustainably managed?

- To identify priority areas, the team uses **spatial prioritisation**, which selects areas that are irreplaceable, complement existing protected areas, maximise biodiversity gains relative to area, and reduce coverage gaps for species and habitats.

- Changing key inputs, such as responsibility sharing, cost constraints, baseline protected areas considered, etc., produces **different spatial configurations of priority areas and different levels of biodiversity benefit**.

- The design of the TEN-N depends strongly on which policy priorities and targets are emphasised.

- Prioritisation of the project focuses on biodiversity of conservation concern, including species & habitats listed in the Nature Directives, threatened species (IUCN Red List), endemic species, threatened ecosystems, primary & old-growth forests (for strict protection), and carbon-rich ecosystems.

Link to the Science Brief that explains the methodology

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Participatory Session I
Spatial Planning Workshop

Participants explored the spatial maps across sub-continental groups. Feedback was collected on sticky notes, directly on the maps and digitally by a project internal note taker. The groups stayed together and rotated between three different tables (three rounds):

1. Connectivity analysis
2. TEN-N PA expansion priorities
3. TEN-N with connectivity overlay

Guiding questions for the discussion:

- Q1: Do the expanded PA and corridors make spatial sense to you? Anything that jumps out to you as odd on the maps?
- Q2: Are there clear problem areas in the results, or where a correction needs to be made?
- Q3: Does this spatially and methodologically reflect other conservation planning exercises you have seen?
- Q4: Are the methodology and the implications of our modelling choices clear?
- Q5: Are there any plans to protect any of the highlighted areas for expanded protection?

Participatory Session I - Summary and key messages

National connectivity:

- Participants broadly agreed that the connectivity modelling results are promising but highlighted several improvements. They stressed the **need to prioritise small stepping stones, include restoration potential, coastal habitats, and small and unprotected important sites** (e.g., KBAs), and to verify the completeness of the PA database.

- Methodologically, they felt PAs may be overweighted relative to habitat suitability and suggested **grouping corridors more explicitly by habitat types** and testing how results change for different species groups.

- Across regions, participants identified **specific missing or odd corridors** (notably in France, Belgium, Lithuania, the Balkans, Greece, Italy, and the Slovenia–Austria border), noted recent designations not yet captured, and emphasised the importance of river valleys, important bird migration routes (including cross-sea links), and large intact habitat patches as nodes. They also raised concerns about disparities in protection status and new border fences.

National protected area expansion priorities:

- Participants felt the results from the protected area expansion analysis are **ecologically well grounded** and broadly match their expectations, with some positive examples of priority areas identified by the project in Albania recently being proposed for designation. However, the priority shows a **bias toward mountainous regions**, often overlooking lowlands, wetlands, riparian systems, grasslands, and peatlands—especially in northern Europe. Several countries noted mismatches with national realities, like potentially missing priorities and data gaps (e.g., Wallonia).

- Questions were raised about whether the analysis overemphasises forests and why many priorities cluster in southern Europe. These questions were addressed by NaturaConnect partners, and they are broadly explained by the disproportionate amount of threatened and range-restricted species with **insufficient protection in mountain ranges and southern Europe**, and by pointing out that lowland habitats tend to be much more represented in restoration priorities. The project team noted that specific potential omissions identified by workshop participants will be further investigated.

Participatory Session I - Summary and key messages

National protected area expansion priorities:

- Methodologically, participants stressed that **management effectiveness and quality of protection** (protecting underprotected habitats and species, addressing isolation and fragmentation) matter more than percentage targets, highlighted the need for fair responsibility-sharing across countries (possibly reflecting capacity or GDP), and discussed the limited but potential role of OECMs.

Transboundary connectivity and PA expansion priorities:

- There is **strong validation of many high-value areas and corridors in transboundary regions**. Participants expected higher coverage, especially of rivers, lowlands, and some western and transboundary regions. Some of these are areas of high ecological value that are not highlighted for connectivity either because they are quite broad, and connectivity is diffuse, as opposed to channelised (which is what the corridors prioritised) or because they do not connect existing Natura 2000 sites. It is likely that several areas identified as ecological corridors by workshop participants would have also been identified by the project analyses had the project also accounted for all national designations.

- Participants pointed out that **floodplains entirely miss corridors**. The project team explained that this is because these are entirely impermeable at the scale at which the analyses were done and may emerge as priorities for restoring connectivity once we account for riparian vegetation, something we have done separately. The group agreed that this would be a useful addition.

- Participants suggested incorporating **more thematic layers** (riparian, species-specific, restoration potential, climate velocity) to complement the terrestrial connectivity map. A multi-layer “connectivity portfolio” will improve usability for planning, communication, and implementation across Europe.

Participatory Session II
Usage of TEN-N maps and workflows

Participants provided feedback on methods and results from NaturaConnect in three different groups across three different tables. Feedback was collected on sticky notes and digitally by a project internal note taker. The groups stayed together and rotated between three different tables (three rounds):

1. National and sub-national priority areas for connectivity
2. International/cross-border priority areas for connectivity and PA expansion
3. Priority areas for expansion of 10% and 30%, national and sub-national

Guiding questions for the discussion:

- Q1: How are connectivity assessments done in your context? How do you plan corridors and PAs across borders? How is PA expansion planned in your context?
- Q2: How do you envisage using the NaturaConnect approach in your connectivity assessment?
- Q3: How can we make our approach and results more useful for you?
- Q4: What immediate next steps can we take to facilitate the uptake?

Participatory Session II - Summary and key messages

National and sub-national priority areas for connectivity:

- Connectivity in the EU is guided by the Nature Directives that provide broad but largely non-binding direction, leaving **implementation often voluntary**, e.g., within National Restoration Plans. Assessments are mainly expert-driven and species-specific, focusing on terrestrial migration and river connectivity, but their translation into spatial planning is uneven and frequently hindered by legal, bureaucratic, and political constraints (example: Italy). Some countries, such as the Netherlands, apply more targeted and practical approaches. From a global perspective, connectivity assessments and monitoring remain fragmented. Private landowners often feel stewardship responsibility.

- To maximise its usefulness and uptake of NaturaConnect results, participants emphasised the **need for well-maintained, accessible data (e.g., via the EEA), available in GIS formats or dedicated viewers.** Participants also highlighted the need for simplified outputs, trainings, clear guidance, and transparency on the methods and data used. It is important to improve communication around connectivity concepts, overlaying NC maps with European and national datasets, and ensuring that lessons learned are integrated into policy and investment decisions.

Participatory Session II - Summary and key messages

International/cross-border priority areas for connectivity and PA expansion:

- Transboundary planning of corridors and PAs is often driven by project-based cooperation such as LIFE and INTERREG initiatives, with a strong focus on flagship species and joint management, and information sharing. While some coordination exists between neighbouring countries and specific transboundary protected areas, **corridors are often not systematically integrated into planning frameworks**, and existing tools and assessments are inconsistently applied or outdated. Scientifically driven planning is most effective when embedded at the local level to enable implementation.

- Participants highlighted the need to translate results into clear, practical tools for policy and planning, e.g., **interactive maps** that show why each site was selected based only on species and habitats and an explanation of broader conservation benefits such as recreation and ecosystem services. Terminology should **avoid negative framing** (e.g., replace “burden sharing” with “responsibility/effort sharing”), and site prioritisation should account for threats that protected areas can realistically mitigate. The results could support compliance with Nature Directives, transboundary corridor planning, and collaboration with national park authorities. Immediate **next steps** include engaging park managers, contributing to international assessments and forums (IPBES, WCPA, CMS, IUCN World Parks Congress), and exploring scenarios beyond the 30% target to quantify additional biodiversity gains.

Participatory Session II - Summary and key messages

Priority areas for expansion of 10% and 30%, national and sub-national:

Approaches across countries vary. In several contexts (e.g., Albania, North Macedonia, Spain, Latvia, Finland, Slovakia, Slovenia, Serbia), habitat mapping, gap analysis, spatial prioritisation, and species data produced by universities, NGOs, or scientific projects inform national or regional decision-making. In many cases, including France, Italy, Portugal, Belgium/Flanders, and increasingly others, the designation of new PAs is often opportunistic, driven by political timing and the need to meet the 30% target, sometimes with less strict reliance on ecological value. **Bottom-up initiatives** from local actors or conservation organisations can trigger designation pathways (e.g., France, Belgium, Serbia), but final decisions typically remain national or regional. Overall, PA planning reflects a tension between scientific prioritisation, policy obligations, and pragmatic or political considerations to reach coverage targets quickly.

Participants noted that **NaturaConnect outputs would be highly valuable for supporting PA expansion, corridor implementation, and climate-sensitive planning** but emphasised the need for usability. They highlighted the need for:

- Multiple scenarios (not a single map)
- Clear explanations of methods and data choices
- Maps that show why areas are selected based on species, habitats, connectivity, and future climate impacts
- Results that can be adapted, compared, and re-applied at national and regional scales, including alignment with existing national analyses or KBAs
- Open GIS data
- Multilingual methodological guidance, sensitivity analyses, and communication materials tailored to specific target groups.
- Simplifying the corridor outputs into a few named, representative European corridor types and clearly linking maps to practical options (PA, OECM, strict protection, restoration, green infrastructure) would make the results more actionable for ministries, regional authorities, and park managers.

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Day 1 - A strategy for TEN-N

Piero Visconti
International Institute for Applied Systems Analysis (IIASA)

The first day was finalised by an outline of the process for creating **a TEN-N strategy.** It was highlighted that **scientific results alone were not enough:** practical guidance, economic knowledge, and collaboration with practitioners and stakeholders were essential.

Looking ahead, the project aims to **co-design a TEN-N strategy with stakeholders** by translating key findings from the project into concrete planning tools, regulatory improvements, capacity building, and incentives that support sustainable development.

The overall goal is to move from traditional, feature-based conservation efforts towards a more integrated, process-oriented approach that builds upon support across sectors.

This was the focus of Day 2, working together to identify recommendations for the TEN-N strategy, building on the knowledge and experience from participants.

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Day 2 - Welcome Notes

Bárbara Pais
University of Évora

The day focused on **the governance and implementation side of conservation**.

An introduction was given to the work conducted by NaturaConnect on the Pathways of Change. During the participatory exercise, participants examined concrete recommendations for a TEN-N strategy, which linked scientific findings from the project to practical recommendations.

The session began with a short conversation among participants, who were asked: Where would they liked to be at that moment, if not in that room? **What perspective or contribution do you bring to the discussions on protected areas and connectivity?**

"What I bring to this group is a strong focus on connectivity between national parks, especially connecting protected areas across borders, from the south to the north. This is very important for us as a national park, because while our parks may be small, they are highly valuable. We see connectivity not only at the national level, but also at a broader European scale. Cross-border cooperation is essential for effective conservation"
(Workshop participant)

Day 2 - Pathways of Change towards TEN-N

Evelyn Underwood
Institute for European Environmental Policy (IEEP)

During this presentation NaturaConnect's work on governance and funding was illustrated.

The team applied a **Political Economy Analysis (PEA)** framework to understand why changes in ecological connectivity and protected areas occur or do not, focusing on power dynamics, actors, incentives, and institutions.

Their evidence is based on a literature review, ~70 interviews, two surveys, workshops, and NaturaConnect case studies across 14 EU and five non-EU countries.

The analysis mapped how protected areas are designated and governed, existing ecological planning tools and policies, and key funding sources.

The PEA framework guided them to define the problem, identify drivers and root causes and to examine the "rules of the game" (policy, actors, organisations).

Four **Pathways of Change** were identified:

1. Legal and policy approaches,
2. Economic drivers and incentives
3. Knowledge, capacity and data
4. Empowerment and collaborative learning.

Link to the full analysis

Finally, the team examined EU funding instruments for protected areas and connectivity.

Link to the funding instruments

To ensure practical relevance, NaturaConnect developed the training modules based on research findings:

- Financial Instruments
- Political Economy Analysis (PEA)

Link to the NaturaConnect Learning Platform

Day 2 - From Pathways of Change to practical recommendations

Piero Visconti
International Institute for Applied Systems Analysis (IIASA)

In this presentation a few examples were shown of **how empirical findings from NaturaConnect, linked to the Pathways of Change, could be used to develop strategic recommendations for land use, policy, and planning**.

Empirical findings show, for example, that **protecting new and existing areas could significantly enhance climate regulation and ecosystem services**, including major contributions to carbon sequestration and storage, pollination, pest control, soil retention, and the protection of lives and infrastructure in vulnerable regions.

Based on these results, policies could focus on better assessing ecosystem services in planning, fairly paying land managers for the benefits they provide, and bringing different sectors together to plan in a more integrated, biodiversity-friendly way.

The main message and next step are the need to translate the scientific findings from NaturaConnect into practical, collaborative actions and recommendations that guide long-term, biodiversity-inclusive decision-making.

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Participatory Session III
Recommendations for TEN-N Implications

Participants provided feedback on TEN-N implications at three different scales (groups): beyond national, national, and regional, across four tables. Feedback was collected on sticky notes and digitally by a project internal note taker. The TEN-N implication themes considered by each group on a rotating basis were:

Guiding questions for the discussion:

- **Data & scenarios:** Should TEN-N be integrated within wider landscape-level planning, to avoid risks such as leakage (displacement of impacts to other areas)? Is the integration of ecosystem service considerations into protected area (PA) networks and conservation planning important?
- **TEN-N monitoring:** What are the main challenges to monitoring outside protected areas? What should funding prioritise?
- **Planning for connectivity:** What connectivity aspects need to be considered in a TEN-N regulatory and governance framework? What are transboundary priorities? What should be funding priorities to maximise connectivity? What data, tools and capacity are missing?
- **Protected area prioritisation:** How could EU and national regulatory frameworks better support systematic and coordinated PA expansion, rather than opportunistic or nationally isolated approaches? For transboundary PAs, could these help identify areas of international cooperation? What governance mechanisms and funding schemes are needed to operationalise them? What capacities are lacking, and who should be trained?

For each theme, key findings from the project were presented.

Participatory Session III
Main project findings presented

Data & scenarios

1. Effective conservation strategies should account for wider land use change dynamics.
2. Integrating ecosystem services into conservation strategies allows multiple values of nature and human-nature relationships to be considered.
3. Mismatch between ecosystem service supply and demand should be considered when identifying conservation priorities.
4. Accounting for climate change substantially improves conservation outcomes.

TEN-N monitoring

1. A core network stratified across environmental gradients is efficient, but not sufficient.
2. Assessing TEN-N effectiveness requires monitoring across conservation efforts, both inside and outside protected areas and ecological corridors.

Planning for connectivity

1. Multi-taxon corridor overlap enables efficient connectivity planning.
2. Some of the most important ecological connectivity is concentrated in transboundary and mountainous areas and within the Mediterranean bioregion.
3. Connectivity deficits are habitat-specific, with grasslands and freshwater systems being most at risk.

Protected area prioritisation

1. Systematic protected area expansion can more than double biodiversity representation.
2. Expansion priorities reinforce existing protected areas and connectivity.
3. Coordinated national contributions outperform uncoordinated expansion.
4. Protected area expansion has strong transboundary potential.

Participatory Session III
Summary and key messages

Data & scenarios

- **Integrating TEN-N within wider landscape-level planning** is a good approach; a good biodiversity strategy is more than protected areas (PAs), especially if we want to preserve ecosystem services (ES), of which a majority are produced outside PAs.
- **How much leakage poses a risk varies**; in some cases, displacement of degradation to other areas was not perceived as a big problem, given that priority areas would be more preserved and less valuable areas would be damaged, thus resulting in conservation success. In other cases, degradation in the neighbourhood of PAs could also damage the integrity of the PA network. Consideration of leakage should not be on a European scale but rather include a global perspective. However, instruments for biodiversity in the wider landscape are often difficult to implement.
- Spatial planning is a key instrument to achieve a **wider landscape biodiversity-inclusive perspective,** but requires guidelines for different administrative levels, more legal basis (currently overruled by sectoral policies in many cases, or does not sufficiently account for biodiversity), and professional capacity building. ES offer the possibility of coherence in spatial planning, as the supply of ES can overlap with the objectives of spatial planning.
- There is a need to **be more specific in NaturaConnect's key findings** and recommendations, e.g., how to deal with the conflicts between different uses of land.
- At the local scale, the wider landscape and the **needs of people** in these landscapes need to be taken into account and acknowledged. This is often already happening not only to create a buffer for the protected area, but also to manage disservices from the PA in the surrounding landscape (for example, through higher water tables). Both the need and practice are much more familiar to those working more locally with good examples.
- **The ES concept is already being used** and has enabled discussions with administrations that normally do not consider nature, although communication between different ministries can be difficult. In cases where resources for conservation are limited, extending to ecosystem services may spread resources even thinner.
- Green corridors through urban areas could allow a certain extent of human use while still providing ES, which **should be reflected in conservation strategies**.
- ES benefits can be complex and **depend on the timespan** being considered – some ES (e.g., peatland restoration) are a carbon source during the medium term (20-50 years) but a carbon sink in the long term (100 years).

Participatory Session III
Summary and key messages

TEN-N monitoring

- It is persistently **difficult to monitor biodiversity**, probably even more so outside PAs. Institutional barriers, unclear allocation of responsibilities, limited access to land, particularly private property, and insufficient incentives for sustained monitoring efforts contribute to this gap.
- **Funding constraints are a challenge**: monitoring efforts are often dependent on short-term, project-based funding, which undermines continuity and the development of long-term time series. Long-term, stable funding mechanisms are essential, particularly to maintain existing monitoring sites, ensure data infrastructure and storage, and embed monitoring into routine public policy and reporting processes.
- There is also a **need for shared funding responsibilities**, combining international or EU-level support with sustained national or regional investment beyond project lifetimes.
- Shortages exist in taxonomic, ecological, and technical expertise, and practitioners and spatial planners have **limited capacity to interpret and apply monitoring data in decision-making.**
- **Capacity building is needed**, both in terms of training people to use existing tools and platforms and in strengthening institutional knowledge. Lack of expertise is a limiting factor for adopting innovative approaches, such as advanced remote sensing or AI-based tools.
- It is neither feasible nor efficient to monitor all species and habitats everywhere. **The focus should be on rare, declining, or data-deficient species and habitats**, while relying more on citizen science and proxy indicators for common species and broader habitat patterns.
- **Existing monitoring networks** should be maintained and strategically expanded, rather than creating new ones.
- **Trust, cooperation, and institutional coordination** are enabling factors across scales. Effective monitoring depends not only on technical solutions but also on strong relationships between conservation authorities, scientists, landowners, and other stakeholders, as well as coordination across administrative boundaries.
- A successful **TEN-N monitoring framework** includes: clear responsibilities, long-term funding, strengthened capacity, reliable and harmonised data systems, and a strategic, prioritised approach to monitoring that balances field-based data collection with technological solutions.

Participatory Session III
Summary and key messages

Planning for connectivity

- A **comprehensive EU land strategy is needed** so that connectivity can fit within a broader strategy rather than being solely a responsibility for landowners.
- **Incentives for conservation actions** (e.g., tax incentives, conservation easements) must operate at a long-term scale, and projects should include funding continuation to deliver sustainable solutions.
- **Fragmented funding** across ministries and administrative bodies makes it difficult to have a coherent strategy and streamlined process.
- **Bureaucratic barriers** need to be simplified so that projects can move quicker/be achieved.
- **Governance structures for connectivity** are needed at national planning levels.
- Connectivity should not be implemented for "connectivity's sake"; an integrated, **cross-taxon corridor planning** should be the basis, with implementation focusing on species or ecosystem services, or a combination, depending on the context.
- There is a need for more targeted explanation and inclusion of connectivity within related **policies and regulations** (e.g., those for marine spatial planning, climate adaptation planning, freshwater, and transportation), as well as scientific information on connectivity for regulators.
- The **Nature Restoration Regulation** provides a large opportunity for freshwater connectivity, but other articles are much more limited in the impact that they will have.
- There needs to be **better conversations** on the cost-benefit aspects of different connectivity actions.
- Increasing transitional **buffer zones around parks** could be used to increase sustainable use and management.
- **Cross-border coordination** is important for alignment on strategic planning for transboundary connectivity, with implementation remaining on a national level and ideally, funding being available in each country.
- **Increased funding for PAs** is needed to allow for cooperation on transboundary connectivity.
- To support more **systematic and coordinated PA expansion**, include corridor identification and management as a legal obligation (currently, there are no obligations outside PAs.
- Help **Article 12/17** assessors in identifying how connectivity helps recover FRVs and where increased connectivity is needed.

Participatory Session III
Summary and key messages

Protected area prioritisation

- **Establish principles for what comprises the 30%** (i.e., what is a park). The European level can establish principles, but can't go deeper because every region is different.
- **Biosphere reserves** are an effective mechanism to achieve cross-border PA cooperation. Assigning an international designation to bordering PAs could help make them transnational.
- **Public enterprises** (wholly or partly owned by a public authority) are an example of possible governance mechanisms to operationalise cross-border PAs, which can be more efficient in handling cooperation across multiple jurisdictions
- To increase political and stakeholder buy-in, utilise **NGOs as important drivers** of expansion, communicate and disseminate results through EU platforms (e.g., EU/EEA State of Nature report).
- **Systematic and coordinated PA planning** is hampered by large workloads, a lack of strategy, difficulty in establishing new PAs, and a lack of stable funding
- **Conservation trust funds** are an example funding scheme that could be applied to transboundary PAs. They provide long-term financing with co-financing required. This can finance local actors in various countries. Another funding scheme could include payments into a compensation fund by land users managing their land in unsustainable ways relative to the desired functions of corridors.
- There is a **capacity gap in spatial planning professionals** with ecological and conservation backgrounds (typically coming from spatial planning degrees or civil engineering, environmental engineering, or landscape architecture).


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Day 2 - Closing

Néstor Fernández
German Centre for Integrative Biodiversity Research (iDiv/MLU)

The event was closed with a short summary and acknowledgement for the participants and their strong engagement during the two days. It was extremely valuable to work with such a **diverse group of stakeholders, from local practitioners to European-level actors.** The discussion was seen as highly useful, particularly in helping translate project results into practical implementation while also considering how these findings can be scaled up.

Next steps: Looking ahead, the project will continue by comparing the pan-European analysis results with the results from the case study areas, with a final stakeholder event in Brussels in September, building up on the climate change and land use scenarios and the protected area expansion analysis.

These efforts will feed into a set of draft **recommendations for a TEN-N strategy**, which will be shared with the participants for feedback.

Bárbara Pais
University of Évora

Main reflections on the day's discussions, highlighting key themes such as the **need for capacity building, sustainable funding, and stronger attention to the human dimensions of conservation, were shared.**

The discussions at the working tables emphasised challenges and solutions for expanding protected areas, ecological corridors, and green and blue infrastructure. Participants were thanked for their engagement and motivation during the session, and acknowledgement was given to the organisers and the venue staff.

The session concluded with an **invitation to stay connected, to attend the final project event in Brussels**, and to continue contributing to the development of practical recommendations for a **Trans-European Nature Network (TEN-N).**

The project team invites participants to stay involved through our stakeholder community.

Link to the NaturaConnect Stakeholder Community

From Science to Action:

Strategic Planning for the Trans-European Nature Network (TEN-N)

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