

CONNECTING NATURE TO SUSTAIN LIFE

Ecological connectivity is one of the most effective pathways to halt and reverse biodiversity loss, increase resilience to climate change and reverse land degradation to safeguard the delivery of ecosystem services and secure a sustainable future for all.

We are facing a planetary crisis that threatens our ecosystems, economies and shared future. Biodiversity loss, climate change and land degradation are interconnected consequences of a fragmented planet which are accelerating faster than our collective response.

The increasing fragmentation of terrestrial, inland waters¹ and coastal² and marine ecosystems across the world disrupts the movement of species, limits genetic exchange, and weakens the ability of ecosystems to adapt to environmental stressors, including climate impacts. It also inhibits essential ecological processes such as pollination, seed dispersal, water regulation and nutrient cycling. Smaller, isolated ecosystem patches are less stable, productive and able to support both nature and humans. Addressing this challenge requires a unified response, one that recognises connected land- and seascapes as fundamental to achieving our common global objective of a thriving planet.

Transitioning towards a more connected planet is not only an environmental priority but also an economic and social one, given its role in supporting human livelihoods and food security, enhancing climate change resilience and disaster risk reduction and through the benefits connected nature provides for human health and well-being. Maintaining, enhancing and restoring ecological connectivity offers a practical solution to simultaneously advance biodiversity conservation, climate change resilience and the provision of the ecosystem services on which humans depend.



There is overwhelming evidence that we have reached a critical turning point, where our actions will determine the future health and resilience of all life on Earth.

While significant action is already taking place across the globe, there is an urgent need to shift from fragmented to coordinated actions that respond to the crisis through collective and integrated solutions. Recognising that achieving a thriving planet for all requires strong political will, collective ambition, coordinated action and strategic investment that recognises ecological connectivity as fundamental to all life on Earth, the Global Partnership on Ecological Connectivity encourages the infrastructure sector to contribute to a healthy and connected planet through the voluntary sector-specific actions outlined in this guide to action.

¹ Aquatic-influenced environments located within land boundaries and can be fresh, saline or a mix of the two (brackishwater). They include lakes, rivers, ponds, streams, groundwater, springs, cave waters and floodplains, as well as bogs, marshes and swamps, which are traditionally grouped as inland wetlands.

² Intertidal wetlands and ecologically associated habitats including intertidal flats, seagrass beds, mangroves, bivalve (shellfish) reefs and associated coastal (littoral) habitats ecologically linked to these areas.

The **Agriculture, Extractive, Fishery, Forestry, Energy and Other Sectors** can contribute to maintaining, enhancing and restoring ecological connectivity across the areas of land, inland waters and coastal marine ecosystems they manage. These sectors have an important opportunity to reduce fragmentation, maintain ecological processes and facilitate the movement of wild species through targeted actions such as:

1. Providing Technical and Scientific Support

- 1.1 Support the identification of ecological connectivity, networks, corridors, flyways and swimways by providing the best available science, technology and data.
- 1.2 Recognise complementary assessment processes, such as those for Protected Areas, Other Effective Area Based Conservation Measures (OECMs), Key Biodiversity Areas (KBAs), Ecologically or Biologically Significant Marine Areas (EBSAs), Important Marine Mammal Areas (IMMAs) Important Shark and Ray Areas (ESRAs) and Important Marine Turtle Areas (IMTAs), as well as recognised networks of sites of international importance for migratory species, including flyway site networks, which can support the identification of terrestrial, freshwater and marine ecological corridors, flyways and swimways.
- 1.3 Prioritise, share knowledge and strengthen capacity for conservation or sustainable development actions in identified terrestrial, freshwater and marine ecological networks and corridors, flyways and swimways.

2. Enhancing Knowledge on Ecological Connectivity

- 2.1 Provide new knowledge to understand the importance of ecological connectivity to biodiversity conservation and ecosystem services.
- 2.2 Develop innovative approaches to safeguard ecological connectivity.

3. Engaging Stakeholders

- 3.1 Support planning, stakeholder mapping and engagement to achieve integrated land, river and seascape approaches that minimise cumulative impacts.
- 3.2 Recognise the vital role of Indigenous Peoples and local communities as stewards of connected land, river and seascapes.
- 3.3 Recognise and secure the rights, territories and governance systems of Indigenous Peoples and Local Communities, ensuring their full and effective participation and leadership in the identification, designation, governance and management of ecological corridors and networks.
- 3.4 Respect and integrate Indigenous and local knowledge systems, alongside scientific approaches, to guide the design, restoration and monitoring of ecological connectivity.
- 3.5 Ensure Free, Prior and Informed Consent (FPIC) in all actions affecting Indigenous Peoples and Local Communities and support equitable benefit-sharing mechanisms linked to connectivity conservation and restoration.
- 3.6 Support practical cooperation among local governments, communities, site managers and civil society organisations across ecologically connected sites, including through site-to-site partnerships, knowledge exchange and other collaborative mechanisms that strengthen conservation along ecological corridors, flyways and swimways.

4. Increasing Awareness of the Importance of Ecological Connectivity

- 4.1 Strengthen awareness and advance knowledge and education about the importance of ecological connectivity for nature and human development among public and private actors in their areas of influence.



The cross-cutting importance of ecological connectivity has been increasingly recognised and incorporated into a range of global commitments and serves as an implementation bridge across the Rio Conventions.

Key Global Commitments Relevant for Ecological Connectivity

CMS -Resolution 14.16(Rev.COP15) on *Ecological Connectivity*

CBD - *Kunming-Montreal Global Biodiversity Framework*- Goal A, Target 1.Target 2, Target 3 and Target 12

UNCCD - *Land, Life and Legacy Declaration*

The Convention on Wetlands - *Fifth Strategic Plan of the Convention on Wetlands 2025-2034* (Resolution XV.3-Goal 3)

Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement) - *Annex 1 of agreement-*

Ecological connectivity as a criterion for identifying important areas

International Union for the Conservation of Nature – Resolutions *Wildlife-friendly linear infrastructure and Recognising and Reporting Ecological Corridors*

Ecological Corridors

An ecological corridor is defined as a clearly defined geographical space that is governed and managed over the long term to maintain or restore effective ecological connectivity (Hilty *et al.*, 2020).

Corridors can be continuous or discontinues in the case of stepping stones and horizontal or vertical in the case of aquatic ecosystems. They may consist partly or entirely of natural areas managed primarily for connectivity



Learning Platforms

Connectivity 101: Ecological Connectivity for People and Planet (Learning4Nature)

<https://www.learningfornature.org/en/courses/connectivity-101-ecological-connectivity-for-people-and-planet/>

A self-paced course teaching the basics of ecological connectivity conservation. The course presents general and replicable best practices for connectivity conservation and context-sensitive case studies worldwide.. A certificate is awarded to those who complete the course. Currently, the course is offered in English only.

NaturaConnect Learning Platform (2026)

<https://tinyurl.com/ENA-NC>

This self-paced training course developed by the NaturaConnect project offers a range of resources and training modules to enhance professional competences for planning and implementing the Trans-European Nature Network (TEN-N). Key connectivity-specific modules include Module 1.4. Connectivity Conservation, covering core concepts and methods, and Module 3.3. Connectivity Analyses focusing on least-cost path and circuitscape models commonly used in conservation planning



USEFUL RESOURCES

- 2025:** Legislative Guidance for Maintaining, Improving, and Restoring Ecological Connectivity. (CMS)
- 2024:** Global Land Outlook Thematic Report Ecological Connectivity an Essential Component in Ecosystem Restoration. (UNCCD & CMS)
- Handbook to Mitigate Road and Rail Impacts on Asian Elephants. (AsETWG IUCN)
- Systematic Conservation Planning with Connectivity. (CMS & CLLC)
- Guidelines for Connectivity Planning in Europe. (NaturaConnect Project)
- 2023:** Guidelines for Conserving Connectivity (IUCN WCPA CCSG)
- Ecological Connectivity and Nature-Based Solutions in the Carpathian Region (UNEP & IIED)
- 2022:** Protecting Blue Corridors Report (WWF)
- 2021:** Marine Conservation Connectivity Rules of Thumb for MPA Network Design. (IUCN WCPA CCSG)
- Global guidelines for peatland rewetting and restoration. Ramsar Technical Report 11 (Convention on Wetlands)
- 2018:** Implementing environmental flows with benefits for society and different wetland ecosystems in river systems. Ramsar Policy Brief 4. (Convention on Wetlands)
- 2015:** Guidelines for Addressing Linear Infrastructure in Central Asia. (CMS)
- 2012:** Determination and implementation of environmental water requirements for estuaries. Ramsar Technical Report 9. (Convention on Wetlands)

The time is now, the science is clear and the solutions are available.



The **Ecological Connectivity Challenge** is an initiative of the Global Partnership on Ecological Connectivity (GPEC) where all actors are encouraged to voluntarily commit to quantifiable targets in response to this Guide to Action.

Register your commitments and become a **Catalyst for Connectivity**. Discover more information on our website



Let's Connect!

The Global Partnership on Ecological Connectivity

The Global Partnership on Ecological Connectivity (GPEC) was launched at CMS COP14 in Samarkand, Uzbekistan. The purpose of GPEC is to provide a multistakeholder collaborative platform for collective and coherent action that maintains, enhances and restores ecological connectivity to support biodiversity and ecosystem services across the globe.

The partnership includes a Steering Committee and Collaborative Partners. The Steering Committee helps shape the strategic direction of the Partnership. Collaborative Partners are organizations, institutions or initiatives responsible for executing or contributing to specific areas of work or projects across the Partnership's four core areas: Data & Knowledge; Policy & Legislation; Uptake & Implementation and; Awareness & Outreach.

<https://gpec-partnership.com/>



Disclaimer: This document has been co-authored and endorsed by the participating partners of GPEC as indicated by the inclusion of their logos. Please note individual partner views may vary, and the publication does not imply endorsement by all GPEC Partners.