Introducing the World Database on Ecological Corridors

This document introduces the World Database on Ecological Corridors: its background, vision and rationale, and gives an overview of the pilot testing process.

Background

Habitat loss, degradation, and fragmentation are major drivers of biodiversity decline globally, but cascading impacts can be avoided and mitigated by conserving ecological connectivity. Improvements in ecological connectivity – or '*the unimpeded movement of species, connection of habitats without hindrance and the flow of natural processes that sustain life on Earth*' (CMS, 2024) - can be achieved by establishing ecological corridors.

Defined by IUCN as '*clearly defined geographical spaces that are governed and managed over the long term to maintain or restore effective ecological connectivity*' (IUCN, 2020), ecological corridors complement protected and conserved areas by facilitating species movement between them and maintaining ecological processes across the wider landscape.

Countries are already identifying and designating ecological corridors to strengthen connectivity within their own borders. What is missing is a means of tracking this progress at a global scale. Under the Protected Planet Initiative, protected areas and other effective area-based conservation measures (OECMs) are tracked through the World Database on Protected and Conserved Areas (WDPCA), but ecological corridors have no equivalent.

World Database on Ecological Corridors (WDEC)

Since 2022, UNEP-WCMC, in collaboration with members of the IUCN WCPA Connectivity Conservation Specialist Group (CCSG)[1], has been building the World Database on Ecological Corridors (WDEC). The WDEC aims to track the location and characteristics of ecological corridors globally. This tool forms part of the Protected Planet Initiative, extending its role to build evidence on ecological connectivity.

The WDEC's vision is to be a global, spatial, open-access tool that consolidates national-level information on ecological corridors, building an evidence base of current connectivity conservation efforts.

What will the WDEC contribute to?

Once the WDEC is publicly available, its online interface will help visualise and quantify countries' efforts to enhance connectivity, which may help drive regional and global

[1] The CCSG includes representatives from the Center for Large Landscape Conservation (CLLC), Yellowstone to Yukon Conservation Initiative (Y2Y), Worldwide Fund for Nature (WWF), and UNEP-WCMC.

ambition. The evidence generated through the WDEC may also strengthen the case for broad recognition of ecological corridors in international agreements.

Data on ecological corridors will complement information reported to Protected Planet, supporting research into the current state of ecological connectivity globally and strengthening the evidence available to assess advances towards connectivity commitments.

Pilot Testing

The pilot testing has two key components:

1. **Refine existing prototypes.** A prototype of the database has been developed and is now being tested with a small number of pilot countries to assess the system and gather feedback on its design and usability. An online interface mock-up has also been developed and is ready for feedback from pilot countries.
2. **Populate the database with country data.** Pilot testing also covers data reporting to the WDEC. Reporting mirrors the process for submitting data to the WDPCA via Protected Planet. Pilot countries are invited to submit both spatial and attribute data, and UNEP-WCMC will provide continuous support throughout the reporting process.

If of interest, and subject to permission from the developers of the indicator scripts, UNEP-WCMC can also provide insights into the current connectivity of landscapes at national and sub-national levels using connectivity indicators such as ProtConn and ProNET. With this information, and with support from UNEP-WCMC, pilot countries will be able to assess progress towards well-connected systems of protected and conserved areas (KMGBF Target 3) using both WDEC and WDPCA data.

Pilot testing has been carried out in Canada, and it is expected to run through 2026 and 2027, ahead of an anticipated 2028 launch.

Frequently Asked Questions about the pilot testing

How will governments benefit from participating in the pilot testing?

By participating in the pilot testing stage of the WDEC and reporting data on ecological corridors, governments will benefit from:

- Increased visibility and global recognition of their efforts to enhance connectivity conservation.
- Assessing progress towards well-connected systems of protected and conserved areas (KMGBF Target 3) through national-level connectivity indicators derived from WDEC and WDPCA data.
- Positioning their national efforts within an evidence base that aims to help strengthen the case for broad recognition of ecological corridors in international agreements.

Who in the pilot country should be involved in the pilot testing?

Since the reporting process is very similar to the WDPCA, ideally, we would be looking to work with the current focal points for WDPCA data reporting, along with the technical experts on ecological corridors within the corresponding national environmental agencies. However, we understand if this is not possible or appropriate. In such cases, we are happy to work with whoever the government decides is best placed to be involved.

Do pilot countries need to report all their ecological corridors or gather new data to participate?

Apart from refining the database and online interface, the purpose of the pilot testing is to begin building a picture of ecological corridors at the national level. Countries can report data they currently have available for their ecological corridors. It does not need to be extensive, and they don't need to report all the corridors they have.

If the available data doesn't easily fit in the database prototype, or if there's data that the pilot country would like to include but there is not an available field for it, our team can help countries to accommodate the data they want to report, whether by refining the database structure or finding other ways to report specific cases, for example, through a case study.

What if reporting is too time-consuming?

If reporting data proves too time-consuming, we could also invite direct feedback on the prototype and online interface. Pilot countries are encouraged to share their national context, so our team can better understand their specific circumstances and consider refining the database to make reporting easier.

Who owns the data we report, and can it stay confidential?

Pilot countries retain ownership of the data they report. Before any corridor data is made publicly available through the WDEC, the reporting government will have the opportunity to review what will be published, and specific corridors can be withheld from public release where sensitivities exist.

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