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**Plenary of the Intergovernmental Science-Policy
Platform on Biodiversity and Ecosystem Services**

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Item 10 of the provisional agenda*

**Requests, input and suggestions for additional elements of
the rolling work programme of the Platform up to 2030**

External communication: proposed assessment on connectivity

Note by the secretariat

The annex to the present note sets out information on a proposed assessment on connectivity, prepared by the secretariats of the Convention on the Conservation of Migratory Species of Wild Animals and of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, and by the World Heritage Centre of the United Nations Educational, Scientific and Cultural Organization. This external communication is presented as submitted by them, without formal editing.

* IPBES/9/1.

Annex*

Proposed Assessment on Connectivity

This document has been presented by the Secretariats of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and of the United Nations Convention to Combat Desertification (UNCCD) and the UNESCO World Heritage Centre (WHC).

I. Background - from IPBES-7 to the present

1. The IPBES Global Assessment on Biodiversity and Ecosystem Services (2019) found that while the numeric components of Aichi Target 11 were on a path to being achieved, other important aspects of the target, including the connectivity and ecological representativeness of protected areas, had made little or no progress.
2. In 2019 in preparing for [IPBES-7](#), several requests, inputs and suggestions for an assessment on the topic of connectivity were made by CMS and its Agreements, WHC and UNCCD; the Governments of France and Colombia; and the Institute of Geography at the Russian Academy of Sciences.
3. While the IPBES Multidisciplinary Expert Panel (MEP) and the Bureau considered the topic of connectivity to be of great importance and ranked it as among the four top priorities (in particular in the light of its relevance to these multilateral environmental agreements (MEAs) and governments), IPBES-7 decided to proceed with an initial round of assessments covering the first three priorities.
4. Consideration of an assessment on connectivity as well as of the fifth topic prioritized by the MEP and Bureau *i.e.* a second global assessment of biodiversity and ecosystem services, were deferred to IPBES-9.

II. Current situation- Proposed actions by IPBES-9

5. Document [IPBES-9.12](#) *“Requests, input and suggestions for additional elements of the rolling work programme of the Platform up to 2030”*, in paragraph 18, notes that the Plenary may wish to consider postponing its consideration of both assessments to its tenth session (IPBES-10), together with any further requests, inputs and suggestions which may be received by then.
6. The same document, in section I and Annex I, already seems to suggest that a second global assessment (i) will be undertaken (ii) between 2023 and 2028. No such indication has been given for the assessment on connectivity.

III. General considerations on the importance on an assessment on connectivity

7. An assessment on connectivity would advance the overall objective of IPBES to strengthen the science-policy interface for biodiversity and ecosystem services, to provide policy-relevant knowledge and catalyze the implementation of knowledge-based policies.
8. Some of the requests for such assessment had been submitted by three global conventions as well as several regional multilateral treaties, which IPBES was set up to serve, and are the result of extensive consultations among their Secretariats, scientific bodies and Parties of such treaties which have identified connectivity as a priority issue.
9. The assessment responds and/or contributes to some of the specific mandates of these multilateral agreements thus making the outcomes of the assessment relevant to different intergovernmental processes and promoting synergies among them.

* The annex has not been formally edited.

IV. Scientific and policy relevance of connectivity and a dedicated assessment to multiple global processes

10. In line with [IPBES-7-inf-21](#) “Overview of requests, inputs and suggestions regarding short-term priorities and longer-term strategic needs for the next work programme of the Platform”, further considerations are provided on ecological connectivity as well as on the relevance, urgency and prospected impacts of a dedicated assessment on it.

11. Ecological connectivity:

- is an essential feature of nature. It is necessary for the functionality of ecosystems, underpinning key ecological processes and features such as maintenance of genetic diversity, flow of energy and organisms, hydrological processes, nutrient cycling, pollination, seed dispersal and disease resistance across all biomes and spatial scales. It is key for the survival of wild animals and plant species and is crucial to ensuring their migration.
- has an intergovernmentally agreed definition: “Ecological Connectivity is the unimpeded movement of species and the flow of natural processes that sustain life on Earth.” [UNEP/CMS/Resolution 12.26 (Rev.COP13)].
- underpins actions designed to achieve targets for Land Degradation Neutrality, which is integral to SDG target 15.3, by maintaining or enhancing the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security.
- is an element of internationally coordinated nature-based solutions for supporting sustainable development (UNEP/EA.4/Res.5).
- is a holistic and essential component of the overall global efforts for climate change mitigation, resilience and adaptation.
- is directly related to the resilience of socio-ecological systems and the potential success of interventions designed to achieve transformative and sustainable development.

12. While considerable scientific information is available on the numerous and important aspects of connectivity, a dedicated assessment would provide a globally-relevant scientific foundation and policy implications that would benefit both policy-makers and the scientific community by:

- supporting international and transboundary cooperation for the conservation of biodiversity as called for by the United Nations General Assembly Resolution 75/271;
- helping shape contributions to many elements of the post-2020 Global Biodiversity Framework (e.g. Goal A and Targets 1, 2, 3 and 12) concerning spatial and urban planning; development of protected and other conserved areas, wildlife management, climate change adaptation, and others;
- assisting sustainable infrastructure development that minimizes ecosystem fragmentation in line with provisions of the UNEA 5.2. Resolution 9 on Sustainable and Resilient Infrastructure;
- guiding restoration interventions in the context of the UN Decade on Ecosystem Restoration for 2021-2030 as underpinned by the UNEA5.2 Declaration, UNCCD COP15 “Land, Life and Legacy” Declaration and Second Edition of the Global Land Outlook;
- helping policy makers, land use planners and land managers navigate environmental and socio economic trade offs associated with competing demands being placed on land resources in line with the 2030 Agenda for Sustainable Development (SDG Target 15.3. with multiple benefits extending to SDG goals 2, 6, 11, 12, 13 and 14, among others);
- guiding countries in implementing relevant MEA commitments and undertaking projects through funding from the eight replenishment of the Global Environment Facility (GEF-8) which gives strong emphasis to the implementation of area-based conservation measures integrated into the wider landscapes and seascapes that also aim at restoring, maintaining and improving ecological connectivity.

V. Proposal for alternative action for consideration by IPBES-9

13. The development of a thematic assessment on connectivity is not only timely but urgent as it will address relevant aspects of global processes and decisions as described above.

14. In line with considerations made in section I of document IPBES-9.12, the Plenary may wish to conduct the thematic assessment on connectivity, which has a narrower scope than the second global assessment, as a fast-track assessment with only one review period, and based on an initial scoping report prepared by the MEP rather than a full scoping process assisted by additional scoping experts. The assessment could be completed before the second global assessment and work on the scoping report could be started between IPBES- 9 and 10 (*i.e.* 2022-2023).

Annex

Draft elements related to a thematic assessment of connectivity

1. This document contains elements taken from the original requests submitted to IPBES-7 which complement those elements included in Annex III of Document [IPBES-9.12](#).

(a) Among the many facets of connectivity, there are six interacting considerations that should be taken into account:

- 1) landscape connectivity – the degree to which the landscape facilitates or impedes movement among resource patches,
- 2) ecological connectivity – connectedness of ecological process across multiple scales including process related to highly dispersive species, highly interactive species, disturbance regimes and hydro-ecological flows,
- 3) habitat connectivity – connectedness of between patches of suitable habitat for an individual species,
- 4) migratory connectivity - the spatial and temporal linkages of individuals and populations between seasons or different stages of the migration cycles that result from migratory movement. This definition covers to some extent both the structural and functional aspects of the other types of nature connectivity,
- 5) evolutionary processes connectivity - including the degree of habitat fragmentation, the presence of remnant habitat, stepping stones and opportunities to rehabilitate connections in the context of climate change and other threats,
- 6) socio-ecological connectivity – the interaction between humans and their choices about how to manage the land and ecological systems, and

(b) The assessment could:

- (i) Consider both the species and community levels, when and where in a cycle, certain aspects, such as reproduction, trophic interactions and energy flows, from local to regional scales are being affected;
- (ii) Improve understanding of how landscapes can promote the linkage and flows among fundamental components of ecological networks (for example, soil, water and biota) from local to regional scales;
- (iii) Inform land-use and spatial planning in the development of networks of sites or protected areas managed for conservation purposes;
- (iv) Evaluate the sufficiency and coherence of ecological networks in functional and qualitative terms, as well as in terms of extent and distribution, including best practices;
- (v) Identify opportunities to improve connectivity by correcting the most obvious instances of problematic discontinuity in migration systems, such as barriers to migration, fragmented resources, disrupted ecological processes, genetic isolation, altered behaviour patterns, disconnections in distribution caused by climate change or depletion of food or water resources, or inconsistencies in management across and beyond national jurisdictions;
- (vi) Assess the effectiveness of the protection and management of areas and networks, including requirements for connectivity conservation of international site designations, for example under the Convention on Wetlands of International Importance, especially as Waterfowl Habitat and the Convention for the Protection of the World Cultural and Natural Heritage, with a view to providing the scientific basis for large-scale connectivity conservation initiatives through the biodiversity-related conventions;
- (vii) Review the scope for existing major databases to support relevant analyses and syntheses of information on connectivity, and identifying options, among others, for ensuring sustainability and enhanced operability and coordination of such databases for this purpose;

- (viii) Evaluate options for creating relevant data- and knowledge-holding capabilities and for enhancing analysis capabilities;
 - (ix) Investigate and report on the linkages between connectivity and ecosystem resilience and hopefully help in identifying areas where connectivity should be addressed;
 - (x) Assess the needs and developing focused objectives for new research on key connectivity issues, including but not limited to climate change, which affect the conservation status of each of the major taxonomic groups of migratory wild animals.
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