

## **Ecological Connectivity in Updated NBSAPs**

*As of September 2024*

The 15<sup>th</sup> Conference of the Parties (CoP-15) to the Convention on Biological Diversity (CBD) adopted the Kunming-Montreal Global Biodiversity Framework (KMGBF) as decision 15/4 on 18 December 2022.<sup>1</sup> This milestone agreement, along with its Global Monitoring Framework, now serves as the strategic plan for implementation of the Convention for 2022-2030. The KMGBF emphasizes the fundamental contribution that ecological connectivity<sup>2</sup> makes to healthy functioning ecosystems and species, and its benefit to people, by including connectivity in a number of goals and targets to be advanced globally by the 196 signatory countries.<sup>3</sup>

As per decision 15/4, successful implementation of the KMGBF is to be supported by effective mechanisms of planning, monitoring, reporting, and review, which includes National Biodiversity Strategies and Action Plans (NBSAPs). Further, in decision 15/6, CoP-15 requests Parties to revise and update their NBSAPs, aligned with the GBF and its goals and targets, “including those related to means of implementation” and to submit them by CoP-16.<sup>4</sup> Parties “not in a position” to submit their revised NBSAPs by CoP-16 are requested to “communicate national targets reflecting, as applicable, all the goals and targets of the Kunming-Montreal Global Biodiversity Framework” as a standalone submission by CoP-16.

As of 25 September 2024, there are 20 countries (in order of most recent: Malta, Mexico, Republic of Korea, Burkina Faso, Jordan, Cuba, Malaysia, Afghanistan, Suriname, Italy, Canada, Uganda, Austria, China, France, Hungary, Ireland, Japan, Luxembourg, and Spain) and the European Union that have submitted revised or updated NBSAPs since adoption of the KMGBF in 2022.<sup>5</sup> Almost all of these submissions contain the terms “ecological connectivity”, “ecological corridors”, or “ecological networks” and/or specific objectives for maintaining, enhancing, and restoring connectivity, including through avoidance and mitigation of the impacts of linear infrastructure.

The following pages provide a compilation of the related sections, specific language, and direct links to the submitted NBSAPs.

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<sup>1</sup> CBD/COP/DEC/15/4 <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>.

<sup>2</sup> Ecological connectivity has been defined as “the unimpeded movement of species, connection of habitats without hindrance and the flow of natural processes that sustain life on Earth” by the Convention on Migratory Species (*Ecological Connectivity*, UNEP/CMS/Resolution 14.16. [https://www.cms.int/sites/default/files/document/cms\\_cop14\\_res.14.16\\_ecological-connectivity\\_e.pdf](https://www.cms.int/sites/default/files/document/cms_cop14_res.14.16_ecological-connectivity_e.pdf)).

<sup>3</sup> Brief: Ecological Connectivity in the Kunming-Montreal Global Biodiversity Framework [https://conservationcorridor.org/wp-content/uploads/Brief\\_Results-of-Ecological-Connectivity-in-Post2020-GBF.pdf](https://conservationcorridor.org/wp-content/uploads/Brief_Results-of-Ecological-Connectivity-in-Post2020-GBF.pdf).

<sup>4</sup> CBD/COP/DEC/15/6 <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-06-en.pdf>.

<sup>5</sup> See latest updates at: <https://www.cbd.int/nbsap/post-cop15.shtml>.

- **Canada's** plan features the Parks Canada National Program for Ecological Corridors quite prominently, including the commitment "by 2025, priority areas for ecological corridors will be identified at the national scale, and 4-6 ecological corridors will be recognized that maintain or improve ecological connectivity between protected and/or conserved areas and unprotected habitat. Additionally, safe passageways for wildlife, such as over and underpass structures, are being explored on PC roads within national priority areas for corridors." Description of the PC program includes statement "Ecological networks allow species and processes to move freely across large landscapes, which can include urban and near-urban areas."<sup>6</sup>
- **China's** plan (via translation by members of the IUCN WCPA Connectivity Conservation Specialist Group), includes:
  - Under Strategic plan (page 19): "Enhance the spatial *network for biodiversity conservation*: by prioritizing the development of a nature reserve system centered around national parks, and rigorously enforcing ecological protection red lines. Refine protection guidelines for critical ecological functional areas and high-priority biodiversity conservation zones, aiming to mitigate the negative impacts of overexploitation of resources and production on biodiversity. Improve the infrastructure for rescue and relocation efforts across all levels and types. Expedite the establishment of *ecological corridors* to address gaps in the protection of key regions and species."
  - Under Priority Action 8: Ecosystem Restoration (page 31): "Adopt near-natural engineering measures for habitat restoration and ecological corridor construction to enhance habitat connectivity and expand the range of suitable habitats. These measures help mimic natural processes, improving the effectiveness of restoration efforts and ensuring that restored areas support biodiversity more sustainably."
  - Specifically, they provide an example of ecological corridor connectivity: "Ecological corridor connectivity should be strategically developed based on the distribution and population diffusion trends of important wild animals. By identifying priority areas for ecological corridor construction, these pathways can be established using near-natural engineering measures. It is also crucial to assess the effectiveness of existing important corridors, pinpoint issues and gaps, and refine restoration and protection strategies to boost connectivity efficiency. Additionally, removing physical obstructions such as fences and barriers is essential to facilitate the normal migration and communication of animals, ensuring uninterrupted movement and dispersal across landscapes."
  - Under Priority Action 18: Urban diversity (page 46): "Developing ecological corridors, enhancing the service function and self-sustaining capability of urban ecosystems to bolster local biodiversity, ecological connectivity, and integrity. These improvements can significantly enhance human health and well-being by fostering a closer connection between urban residents and nature." Specifically, they provide an example of urban diversity and ecological corridor: "Implement urban species habitat restoration and water shoreline restoration, focusing on enhancing the ecological and water environment of urban wetlands such as rivers, lakes, and coastal areas. It's important to address these restorations from an urban-rural integration perspective, considering the diverse needs and spatial connectivity of species habitats."
  - Under Priority Action 22: biodiversity assessment (Page 53): "Biodiversity impact assessment of major engineering projects: In the environmental impact assessment of significant projects such as water conservancy, hydropower, transportation, and mineral resource development, a biodiversity impact assessment should be conducted in accordance with relevant technical guidelines and standards. This

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<sup>6</sup> <https://www.cbd.int/doc/world/ca/ca-nbsap-v3-en.pdf>.

assessment is crucial for identifying potential impacts on biodiversity and for ensuring that these major projects incorporate targeted protection and restoration measures.”<sup>7</sup>

- **Cuba’s** plan includes the priority action to “Redelimit declared protected areas and establish effective area-based conservation measures (OECMs), including biological corridors, that increase and maintain connectivity in areas identified as high priority for the conservation of terrestrial biota in the context of climate change, in order to ensure the continuity of key ecological and evolutionary processes, as well as the conservation of populations of many species.”<sup>8</sup>
- The **EU** plan includes the key commitment by 2030 to legally protect a minimum of 30% of the EU’s land area and 30% of the EU’s sea area and integrate ecological corridors, as part of a “truly coherent and resilient Trans-European Nature Network”.<sup>9</sup>
- **France’s** plan released in December 2023 includes Measure 20 to strengthen actions in favor of ecological networks and to remove barriers, including through Action 2 to set quantifiable objectives for reducing fragmentation of natural spaces at national and regional scale.<sup>10</sup>
- **Hungary’s** strategy has so far been released in Hungarian only.<sup>11</sup>
- **Ireland** has Actions 2A7, 2B3, 4C11 to identify areas within/connected to Natura2000, Biodiversity Corridors, enhancing “Ecological connectivity” in agriculture, rural, development, forestry, etc.<sup>12</sup>
- **Italy’s** plan highlights objectives “1. The strengthening of protected areas” and “2. Restoration of marine and terrestrial ecosystems with a high carbon absorption rate, renaturalizing ecological corridors with nature-based solutions” ... “As highlighted by the European Biodiversity Strategy, the current network of protected areas is not sufficiently extensive and interconnected to adequately guarantee the protection of biodiversity. Therefore, by 2030, this network must be expanded to ensure the conservation of species, habitats and ecosystems that are rare, at risk of degradation, or in an unfavourable state of conservation and must integrate ecological corridors that improve the permeability of the territory and increase resilience to climate change...”<sup>13</sup>
- **Japan’s** strategy was released but only a “Flier” has been prepared in English.<sup>14</sup>
- **Jordan’s** plan includes a Theory of Change which structures strategic actions into four areas, including “Spatial Management: enhancing protected areas, connectivity, and ecosystem integrity.”<sup>15</sup>

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<sup>7</sup> <https://www.cbd.int/doc/world/cn/cn-nbsap-v3-zh.pdf>.

<sup>8</sup> <https://chm.cbd.int/api/v2013/documents/BE653F43-714F-0412-EA17-4698C29B8473/attachments/615471/PNDB%20ver.FINAL.docx>.

<sup>9</sup> <https://www.cbd.int/doc/world/eur/eur-nbsap-v4-en.pdf>.

<sup>10</sup> <https://www.cbd.int/doc/world/fr/fr-nbsap-v3-fr.pdf>.

<sup>11</sup> <https://www.cbd.int/doc/world/hu/hu-nbsap-v3-hu.pdf>.

<sup>12</sup> <https://www.cbd.int/doc/world/ie/ie-nbsap-v4-en.pdf>.

<sup>13</sup> <https://www.cbd.int/doc/world/it/it-nbsap-v2-it.pdf>.

<sup>14</sup> <https://www.cbd.int/doc/nbsap/NBSAPJapan2023-2030-Flier-English.pdf>.

<sup>15</sup> [https://chm.cbd.int/api/v2013/documents/361B2473-FAB7-F8C5-533C-FAEBB101D66B/attachments/615564/Jordan's%20Biodiversity%20Strategy%206th%20Draft\\_8\\_August\\_2024.pdf](https://chm.cbd.int/api/v2013/documents/361B2473-FAB7-F8C5-533C-FAEBB101D66B/attachments/615564/Jordan's%20Biodiversity%20Strategy%206th%20Draft_8_August_2024.pdf).

- The plan describes “Strategic Instrument A1: Ecosystem integrity and connectivity, including their natural processes and their adaptive potential, their capacity to undergo disturbance while maintaining both their existing functions and controls and their capacity for future change, are maintained through mainstreaming ecosystem resilience and biodiversity within the national land use planning framework, institutions and policies affecting land use, coastal areas and the marine environment.”
- **Korea’s** plan includes a commitment to “incorporate spatial environmental data into plans and projects to restore key spatial ecological axes from 2024, in order to ensure connectivity between areas of high ecological value.”<sup>16</sup>
  - Specifically, plans are “By 2025, develop a connectedness index for key terrestrial ecological axes and areas of biological and ecological importance and use it to designate protected areas and identify target areas for ecosystem restoration... By 2025, integrate all data related to marine ecosystems and environments and build a connectedness assessment system to manage the Marine Ecological Axes.”
- **Luxembourg** commits to “Put in place or re-establish ecological corridors within and between protected areas” and “Designate 10 ecological corridors currently located outside the zone of protected networks”.<sup>17</sup>
- **Malaysia’s** plan recognizes the challenge of linear infrastructure to support population growth: “In certain circumstances, new roads and highways may cut through forested areas, which increases habitat fragmentation pressures. If not planned responsibly, new roads and highways will increase wildlife mortality rates and result in increased human-wildlife conflicts.”<sup>18</sup>
  - Malaysia’s Goal 3 clearly states the importance of connectivity: “Protected areas and biodiversity conservation as a whole, should be integrated into the management of the larger landscapes and seascapes which they are a part of. Ecological connectivity between habitat patches should be maintained, or re-established where required, through a network of functional ecological corridors.”
  - Target 10 pertains entirely to ecological corridors: “By 2030, important ecological corridors have been secured and ecosystem resilience is enhanced across terrestrial, freshwater, and marine realms.”
- **Malta** commits to form a “comprehensive and ecologically representative National Ecological Network” and to “Action 2.3: Mapping exercises are carried out for the assessment of ecosystems and their services (MAES) and the identification of ecological corridors.”<sup>19</sup>
- **Mexico’s** plan (written in 2016 but cited in 2024 in a new assessment of alignment with the GBF) includes “Action 2.1.7. Promote the connectivity of ecosystems to assure the continuity of ecological processes” and the specific suggestion to “strengthen and replicate successful experiences with biological corridors.”<sup>20</sup>

<sup>16</sup> <https://www.cbd.int/doc/world/kr/kr-nbsap-v5-en.pdf>.

<sup>17</sup> <https://www.cbd.int/doc/world/lu/lu-nbsap-v3-fr.pdf>.

<sup>18</sup> <https://www.cbd.int/doc/world/my/my-nbsap-v3-en.pdf>.

<sup>19</sup> [https://s3.amazonaws.com/km.documents.attachments/914a/8130/80c93886a859d71925a2f05b?AWSAccessKeyId=AKIAT3JJQDEDLXMBJAHR&Expires=1727297043&response-content-disposition=inline%3B%20filename%3D%22Malta-NBSAP-to-2030\\_final.pdf%22&response-content-type=application%2Fpdf&Signature=13mPh8pSYNOwSteelScl1QYQakU%3D](https://s3.amazonaws.com/km.documents.attachments/914a/8130/80c93886a859d71925a2f05b?AWSAccessKeyId=AKIAT3JJQDEDLXMBJAHR&Expires=1727297043&response-content-disposition=inline%3B%20filename%3D%22Malta-NBSAP-to-2030_final.pdf%22&response-content-type=application%2Fpdf&Signature=13mPh8pSYNOwSteelScl1QYQakU%3D).

<sup>20</sup> <https://www.biodiversidad.gob.mx/pais/estrategias-sobre-biodiversidad/enbiomex-2022/alineacion-enbiomex-km>.

- **Spain's** plan includes ample reference to the importance of ecological connectivity, including reference to the country's National Strategy for Green Infrastructure, Ecological Connectivity, and Restoration. The plan includes the objective to address climate change by "strengthening the adaptive capacity of green infrastructure and ecological connectivity, including the conservation and expansion of ecological corridors, to promote adaptive responses of species." Spain also commits to contribute to the future Transeuropean Nature Network through protected areas and ecological corridors, in terrestrial and marine environments. Finally, the plan makes specific commitment to improve management of the Mediterranean Cetacean Migration Corridor.
  - Specifically pertaining to linear infrastructure, the plan notes another "strategic line of action" being the "adoption in 2024 of a Strategy for Permeability and Defragmentation of Transport Infrastructure that will improve territorial connectivity and better integrate biodiversity in the development of transport infrastructure. Progress will be made in identifying the stretches of transport routes and other infrastructure with the greatest conflict with species and habitats, as well as areas that present the best opportunities to maintain or restore ecological connectivity."<sup>21</sup>
- **Suriname's** plan includes Target 2.4 Integrating ecosystem services and nature-based solutions: "Opportunities to integrate ecosystem services and enhance benefits could for example include policies and measures for managing urban ecosystems (i.e. urban green and blue spaces) in light of extreme weather, for conserving native fruit trees in light of food security, adequate coastal zone management in light of risks from sea-level rise and loss of land, or green infrastructure planning (e.g. through corridors) in light of fragmentation" as well as action 2.4.3. "Assess and provide recommendations on how relevant ecosystem services and nature-based solutions can be incorporated in policies for urban planning, infrastructure development, pollution management, climate adaptation and other relevant planning processes."<sup>22</sup>
- **Uganda's** plan includes National Goal 3.1 to conserve 17% of land and water by 2020; including as a national indicator "trends in the coverage connectivity/corridors of protected areas"<sup>23</sup>

Additionally...

- The **Philippines** NBSAP, written in 2015, in effect up to 2028 includes:
  - The target "A plan for fully implementing the Programme of Work on Protected Areas, including increased protection and landscape/seascape connectivity (on-going)"
  - Activity Outcome 3: "Implementation of nature-based solutions (NbS) scaled-up"
  - Priority programs in short-term: "1. Integrated Approach in the Management of Major Biodiversity Corridors in the Philippines"
  - Target 10: "The use of [Strategic Environmental Assessment] SEA as appropriate is promoted, [Free Prior and Informed Consent] FPIC is secured and sound [Environmental Impact Assessments] EIAs are conducted for infrastructure development (e.g., roads/highways, irrigation canals, tourist facilities inside PAs) in and around PAs and forested area"
  - Indicator "3.10.4 Design guidelines for infrastructure in and around PAs and forested areas"<sup>24</sup>

<sup>21</sup> <https://www.cbd.int/doc/world/es/es-nbsap-v4-es.pdf>.

<sup>22</sup> <https://www.cbd.int/doc/world/sr/sr-nbsap-v3-en.pdf>.

<sup>23</sup> <https://www.cbd.int/doc/world/ug/ug-nbsap-v3-en.pdf>.

<sup>24</sup> <https://www.cbd.int/doc/world/ph/ph-nbsap-v3-en.pdf>.