UN environment programme

CMS

CONVENTION ON MIGRATORY SPECIES

UNEP/CMS/COP15/Doc.21

23 October 2025

Original: English

15th MEETING OF THE CONFERENCE OF THE PARTIES
Campo Grande, Brazil, 23 – 29 March 2026
Agenda Item 21

ATLAS ON ANIMAL MIGRATION

(Prepared by the Secretariat)

Summary:

This document reports on progress to implement Decisions 14.17–14.19 *Atlas on Animal Migration* and Decision 14.196 (a) *Ecological Connectivity*. The document proposes new draft Decisions and the deletion of Decisions 14.17–14.19 and 14.196 (a).

The attached draft Decisions would support the achievement of Targets 2.1, 2.2, 2.3, 3.2, 4.1 and 6.1 of the Samarkand Strategic Plan for Migratory Species 2024–2032.

ATLAS ON ANIMAL MIGRATION

Background

1. The Conference of the Parties at its 11th meeting (COP11, 2014) adopted the development of an Atlas on Animal Migration as an activity within the CMS Programme of Work for 2015–2017. The production of the Atlas was foreseen as a long-term initiative, expected to be continued in future triennia and to be implemented through a modular approach. A mandate for continued work on the Atlas was adopted at COP12, COP13 and COP14, underscoring the fundamental need for this work.

2. The following Decisions were adopted by COP14:

Decision 14.17: Directed to Parties

Parties are encouraged to make use, as appropriate, of the numerous modules of the atlas on animal migration prepared thus far in their policies, decision-making and management, and in implementing the provisions, Resolutions and Decisions of the Convention on Migratory Species.

Decision 14.18: Directed to the Scientific Council

The Scientific Council is requested, subject to the availability of external resources, to:

a) provide advice and guidance to the Secretariat on updating existing and developing additional modules of the atlas;

b) provide advice and guidance to the Secretariat on improving the usability of the atlas, if required;

c) work closely with the Secretariat and relevant stakeholders in promoting the knowledge and use of existing modules through appropriate means, such as webinars; and

d) provide recommendations to COP15 on future development of the atlas.

Decision 14.19: Directed to the Secretariat

The Secretariat should, subject to the availability of external resources, and in cooperation with the Scientific Council:

a) further develop the modules currently underway;

b) promote the knowledge and use of existing modules through appropriate means, such as webinars;

c) consider the need for any update of existing modules, and improvement of their usability;

d) explore options for the development of additional modules, in consultation with the Scientific Council;

e) explore options for improving the availability of the various modules of the atlas, e.g., through a global database;

f) promote information on the atlas on the CMS website; and

g) clarify the type and content of the information to be provided by Parties in relation to the experience with using the modules of the atlas, and request feedback from Parties through notification for future development of the atlas.

3. In addition, Decision 14.196 (a) on *Ecological Connectivity*[1] also refers to the Atlas on Animal Migration:

> ***14.196 Directed to the Secretariat***
>
> *The Secretariat, subject to the availability of resources, shall:*
>
> *a) drawing on the most appropriate data sources and with the advice of the Scientific Council, identify the habitats, areas, corridors and networked sites that are of greatest global importance for the conservation of migratory species including through modules of the CMS Atlas on Animal Migration;*

Implementation of Decision 14.18

4. The Scientific Council, through the Working Group on Ecological Connectivity, considered the experience of developing and using the Eurasian-African Bird Migration Atlas and discussed the current state of play of the Atlas on Animal Migration, including the availability of data and possible future modules. The Working Group recommended that the Secretariat, with support from the Scientific Council, convenes an expert workshop to share methodologies across taxa and strengthen the policy relevance of movement data. This recommendation is reflected in draft Decisions presented in UNEP/CMS/COP15/Doc.28.2.

5. The continued work on existing and new modules of the CMS Atlas on Animal Migration (see Annex 2) requires the expert advice and guidance of the Scientific Council, for which draft Decisions are contained in Annex 1.

Implementation of Decision 14.19

6. The Secretariat, together with the Global Initiative on Ungulate Migration (GIUM), launched a new module of the Atlas in 2024: the Atlas of Ungulate Migration. As of September 2025, the Atlas covers 25 populations, including seven CMS-listed species, and continues to be updated. The first Global Assessment of Ungulate Migrations is under preparation for 2026. More detailed information on the module can be found in Annex 2.

7. An existing module of the Atlas, the Central Asian Mammals Migration and Linear Infrastructure Atlas (CAMI Atlas), was updated to improve usability and published in May 2025 within the Central Asian Mammals and Climate Adaptation Project. An online interactive tool was launched at the 3rd meeting of Range States to CAMI (Tashkent, June 2025), enhancing accessibility for stakeholders.

8. The Secretariat promoted the knowledge and use of existing modules of the Atlas through side events and webinars, including at a side event organized by WILDLABS, the Smithsonian Movement of Life, and GIUM at the Convention on Biological Diversity COP16 in Cali, Colombia, in October 2024 ('Harnessing animal movement data to meet biodiversity goals'). The side event highlighted the importance of animal movement data for species conservation and its relevance to global biodiversity targets.

[1] Implementation of Decisions 14.196(b-d) are considered in document UNEP/CMS/COP15/Doc.28.2 *Ecological Connectivity*.

9. The Secretariat has explored options for cooperating with the Animal Movement Biodiversity Observation Network (MoveBON) and other stakeholders on animal movement data and their use in conservation. The Secretariat attended the MoveBON Planning Workshop in March 2025, which discussed how to bridge the science–policy gap and bring networks together with regard to data on animal movement. The Workshop highlighted the value of interoperability standards and the translation of movement data into policy-relevant indicators. An expert workshop on animal migration is planned for the post-COP15 triennium to share methodologies across taxa and guide future development.

10. Furthermore, MiCO[2] (Migratory Connectivity in the Ocean) has developed a Marine Migratory Atlas. Discussions are under way to incorporate this atlas into the Atlas on Animal Migration as an additional module.

11. The Secretariat is working with several other partners in support of developing additional modules of the Atlas.

12. To implement Decision 14.19 (g) (and other Decisions related to animal movement and connectivity), the Secretariat issued Notification 2025/013: *Survey for Parties Implementing COP14 Decisions on Connectivity, Infrastructure and Atlas on Animal Migration,* on 17 March 2025. The notification calls on Parties to share their experience of using the modules of the Atlas on Animal Migration. While a number of responses to the survey on connectivity and infrastructure have been received – analysis of these is available in documents UNEP/CMS/COP15/Doc.28.2 *Ecological Connectivity* and UNEP/CMS/COP15/Doc.28.10 *Infrastructure* – Parties have not shared any observations about using the modules of the Atlas, or its future developments.

Implementation of Decision 14.196 (a)

13. Progress has been achieved in identifying priority areas for conservation of migratory species – for example, IMMAs, ISRAs and IMTAs, as presented in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species*. Further work, however, is still needed to fully implement Decision 14.196 (a) to identify the habitats, areas, corridors and networked sites that are of greatest global importance for the conservation of migratory species, including through modules of the CMS Atlas on Animal Migration. It is therefore proposed that the Scientific Council, through its Working Group on Ecological Connectivity, and in collaboration with the Secretariat and external partners, provides further guidance on this topic, as reflected in the new draft Decision in Annex 1.

14. Additional information and draft Decisions on marine area-based conservation, including the identification of Important Marine Mammal Areas (IMMAs), Important Shark and Ray Areas (ISRAs) and Important Marine Turtle Areas (IMTAs), can be found in UNEP/CMS/COP15/Doc.25.3.1.

[2] MiCO is a consortium of more than 50 organizations, led by the Marine Geospatial Ecology Lab (MGEL) of Duke University. It is developing an extensive open-access system with the end goal of connecting global processes with actionable knowledge on migratory connectivity to inform worldwide conservation and sustainable use efforts. Through the creation of this accessible geospatial knowledge hub, migratory connectivity can be factored into area-based planning processes, and contribute to environmental assessments.

Discussion and analysis

15. Mapping animal movements and habitats remains essential for the conservation of migratory species. Identifying important sites for migratory species and understanding migration patterns will directly contribute to achieving the objectives of the Convention, as well as other global policy priorities, including the Kunming-Montreal Global Biodiversity Framework. Recent research on migratory species and climate change further underscores the urgency of understanding migratory pathways and how they may be shifting.

16. The expansion and refinement of the CMS Atlas on Animal Migration has continued in the last triennium and was only possible thanks to generous financial and in-kind support from Parties and organizations: the Ministry of the Environment and Protection of Land and Sea of the Government of Italy, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany (BMU), International Climate Initiative (IKI) of the German Government, the Swiss Government, Queensland's Department of Environment and Science (DES), and the Global Initiative on Ungulate Migration (GIUM).

17. The information provided through the Atlas has proven extremely pertinent to other CMS work, including on infrastructure development, connectivity and migratory species conservation. At the same time, recent rapid developments in data availability and analysis, including the use of artificial intelligence, represent new challenges and opportunities, which make it possible to develop the Atlas beyond the current independent modules, into a larger, dedicated concept. Therefore, together with continued efforts to update the existing modules and develop new ones, a strategic discussion is needed on the future concept of the Atlas to further improve its usability for conservation policies, enabling the translation of movement data into policy/conservation action. A draft Decision to this effect is proposed in Annex 1.

Recommended actions

18. The Conference of the Parties is recommended to:

    a) adopt the draft Decisions contained in Annex 1 of this document;

    b) note the *Overview of current modules of the CMS Atlas on Animal Migration* contained in Annex 2 of this document; and

    c) delete Decisions 14.17–14.19 and 14.196 a)

    .

ANNEX 1

DRAFT DECISIONS

ATLAS ON ANIMAL MIGRATION

Directed to the Scientific Council

15.AA The Scientific Council is requested, subject to the availability of resources, to:

a) through its Working Group on Ecological Connectivity, make recommendations on the future development of the Atlas, including on:

i. sharing experience from the Atlas of Bird Migration in the Eurasian-African Region and other existing Atlas modules with experts on other taxonomic groups regarding data hosting, methodology, analytical tools and the use of the best available data for the Atlas,

ii. options for a more comprehensive and effective approach to ensure the Atlas fulfils its purpose, including for enhancing the interoperability of the various data sets, and for improving its usability for conservation policies and translating movement data into policy/conservation action,

iii. how the existing and future modules of the CMS Atlas on Animal Migration can contribute to identification of key habitats, areas, corridors and networked sites that are of greatest global importance for the conservation of migratory species, taking into account the progress made in identifying Key Biodiversity Areas and other important habitats, such as Important Marine Mammal Areas (IMMAs), Important Shark and Ray Areas (ISRAs) and the List of internationally important sites for migratory birds of prey in Africa and Eurasia;

b) promote the knowledge and the use of existing modules of the Atlas; and

c) provide advice and guidance to the Secretariat on implementing Decision 15.BB a).

Directed to the Secretariat

15.BB The Secretariat shall, subject to the availability of resources:

a) further develop additional modules of the Atlas, and update existing modules, as appropriate;

b) support the Scientific Council in implementing Decision 15.AA; and

c) promote dissemination of the Atlas including on the CMS website.

ANNEX 2

OVERVIEW OF CURRENT MODULES OF THE CMS ATLAS ON ANIMAL MIGRATION

New or updated modules of the Atlas

Global Atlas of Ungulate Migration

In 2024, the Global Initiative of on Ungulate Migration (GIUM) launched the Atlas of Ungulate Migration, which aims to serve as a global tool to support migration conservation with publicly available migration maps that can inform conservation planning and infrastructure development. Created from tracking data and expert knowledge, corridor maps are being used to target fences for modification or removal, site road-crossing structures, adjust energy development footprints, and focus conservation efforts on working lands.

As of September 2025, the interactive Atlas currently covers 25 global populations, including seven CMS-listed species ranging from the African elephant to the saiga antelope of the Central Asian steppe. The maps detail high-, medium- and low-use migration corridors, and illustrate where critical migration routes intersect with linear barriers like roads or railways. The Atlas is being continually updated and its maps and factsheets are freely available and downloadable.

In the process of compiling and mapping the ungulate movement data, experts from GIUM became aware of the continuous dwindling of migration patterns and options for these animals. Thus, GIUM is preparing the first *Global Assessment of Ungulate Migrations* report, to be completed by 2026. The report will provide a global synthesis of where migrations occur, which are most at risk, and the main knowledge gaps. Developed through regional expert groups, it will map known migrations, assess urgent threats, and identify priority cases for inclusion in a curated global list. The assessment aims to raise awareness of the ecological importance and growing imperilment of ungulate migrations, and to mobilize stronger action from policymakers, funders and conservationists.

Atlas of Central Asian Mammals Migration and Linear Infrastructure

The CAMI Atlas was developed to implement mandates under Resolution 11.24 (Rev. COP13) *The Central Asian Mammals Initiative* (CAMI) and its associated Programmes of Work for 2014–2020 (1st edition) and 2021–2026 (2nd edition).

The 1st edition of the CAMI Atlas was developed with funding from the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany (BMU) and the Swiss Government. The CAMI Atlas aimed to map the distribution and movement corridors of migratory mammals, and threats from linear infrastructure such as fences, railways, roads, pipelines and canals. Published as CMS Technical Series Publication No. 41 in 2019, it covered nine CAMI species across eight countries in Central Asia, namely argali sheep, Asiatic cheetah, Asiatic wild ass, Bukhara deer, goitered gazelle, Mongolian gazelle, saiga antelope, snow leopard and wild camel, as well as chinkara, which is not listed under CMS but shares the same range as the CAMI species.

The 2nd edition of the CAMI Atlas was developed within the framework of the Central Asian Mammals and Climate Adaptation (CAMCA) project, funded by the International Climate Initiative (IKI) of the German Government, and published in May 2025. The updated CAMI Atlas features an online interactive web tool to facilitate greater accessibility and usability for decision makers and other stakeholders. The tool was launched at the 3rd meeting of Range States to CAMI in Tashkent, Uzbekistan, 24-26 June 2025.

Other existing modules of the Atlas

Atlas of Bird migration in the Eurasian-African Region

Development of this module, funded by the Ministry of the Environment and Protection of Land and Sea of the Government of Italy and undertaken by the European Union for Bird Ringing (EURING) in collaboration with the Max Planck Institute of Animal Behavior under an agreement with the CMS Secretariat, has been completed. The Atlas was launched at an event at the Museum of Migration on the Italian island of Ventotene in May 2022 (a press release concerning the launch can be accessed here). The interactive Atlas is publicly accessible on this website: Bird Migration Atlas. The Executive Summary provides a brief description of the Atlas and its practical applications.

Marine Turtle Breeding and Migration Atlas 'TurtleNet'

This online interactive atlas developed by Queensland's Department of Environment and Science (DES) in collaboration with CMS, brings together decades of Australian and global data on nesting, courtship, feeding and migration routes of marine turtles. It was launched on 16 June 2021 on World Sea Turtle Day. It can be accessed here.