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INFRASTRUCTURE DEVELOPMENT AND MIGRATORY SPECIES

(Prepared by the Secretariat and the Scientific Council Working Group on Infrastructure)

Summary:

This document reports on progress to implement Resolution 07.02 (Rev.COP14) *Impact Assessment and Migratory Species* and Decisions 14.201–14.203. It proposes amendments to Resolution 07.02 (Rev.COP14), the adoption of new draft Decisions and the deletion of Decisions 14.201—14.203.

This document should be read in conjunction with UNEP/CMS/COP15/Doc.28.9 *Cumulative Effects Assessments,* which provides the background for additional proposed amendments to Resolution 07.02 (Rev.COP14).

Implementation of the new draft Decisions would support the achievement of Targets 2.3 and 3.2 of the Samarkand Strategic Plan for Migratory Species 2024–2032.

INFRASTRUCTURE DEVELOPMENT AND MIGRATORY SPECIES

Background

1. The impacts of infrastructure development on migratory species were first explicitly taken up by the CMS Conference of the Parties at its 13th meeting (COP13) in 2020. Based on Decision 13.131, the 5th meeting of the Sessional Committee of the Scientific Council established a multi-stakeholder Intersessional Working Group on Linear Infrastructure and Migratory Species. The Group was mandated to discuss the impact of linear infrastructure development on migratory species and options for mitigation (UNEP/CMS/ScC-SC5/Outcome 13).

2. A meeting of the Intersessional Working Group took place in 2022, organized by the Secretariat in collaboration with the Government of Germany on the Isle of Vilm, Germany. The meeting focused on 'Identifying Approaches for Mitigating the Effects of Infrastructure Development on Migratory Wildlife' and discussing region-specific needs, including the implementation of the *Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia*. The findings of the Working Group are contained in UNEP/CMS/LI-IWG/Report.

3. Based on the recommendations of the first Intersessional Working Group, COP14 adopted Decisions 14.201–14.203 *Infrastructure Development and Migratory Species*, as follows:

14. 201 Directed to Parties

Parties are requested to:

a) submit tracking and tagging data of CMS-listed species, including data resulting from public and private research and monitoring to publicly accessible databases, as identified by the Scientific Council in line with Decision 14.202 (d);

b) submit spatial data on existing, planned and foreseen linear infrastructure, including data held by multilateral development banks, bilateral donors, private investors and development finance institutions to publicly accessible databases identified by the Secretariat;

c) identify opportunities for mitigation of barriers to migration, mortality hotspots and bottlenecks caused by existing linear infrastructure;

d) identify, in collaboration with experts, border fences and walls that pose significant threats to migratory species, and facilitate dialogue among Parties, with support of the Secretariat, on mitigating their effects;

e) identify actions to plan and project new linear infrastructure using the green infrastructure approach, and taking into account ecological connectivity and ecological restoration; and

f) promote the participation of infrastructure companies in national and regional Business and Biodiversity initiatives and encourage the contribution of these initiatives to the CBD's Global Partnership for Business and Biodiversity.

14.202 Directed to the Scientific Council

The Scientific Council is requested to establish a working group, consisting of experts identified in cooperation with the Secretariat, to advise the Scientific Council and Secretariat on issues of infrastructure and migratory species, including to:

a) provide advice on possible actions that could be taken to address the impacts of dams and urban sprawl and development on CMS-listed species;

b) assess whether current methodologies and criteria for the definition of "critical habitat", as used by financial institutions and the impact assessment community, are an appropriate trigger to undertake further assessment on risks to and impacts on migratory species and their habitats; and if these methodologies and criteria are deemed not appropriate, make proposals on how they can be improved, including actions to ensure ecological connectivity and restoration;

c) assess whether current best practice strategic environmental assessment and environmental impact assessment methodologies, including the preparation of environmental/biodiversity management plans, sufficiently address the impact linear infrastructure projects have on migratory species throughout the infrastructure´s lifecycle;

d) develop guidance, based on the above assessments, on:

  i. the scoping process which includes migratory species in the tasks and scope of investigations;

  ii. scientifically robust and cost-effective means of monitoring, evaluation and reporting on the effectiveness of mitigation measures in linear infrastructure developments; and

e) identify reliable data on and databases containing the movements, habitats and occurrence of CMS-listed species as a body of knowledge in support of planning, assessment and decision-making,

f) and, with the support of the Secretariat, establish relationships with institutions holding that data;

14.203 Directed to the Secretariat

The Secretariat shall:

a) include in its communication strategy engagement with the financial and infrastructure-related sectors;

b) subject to the availability of external resources, organize regional and national workshops to raise the awareness and increase the capacity of government representatives who are working in sectors concerned with linear infrastructure development of the needs and requirements of migratory species, in close collaboration with public and private sector stakeholders, multilateral development banks, bilateral development banks, donors and other organizations and institutions that are involved in linear infrastructure development;

c) develop and circulate among Parties a questionnaire on the availability of data on migratory species and linear infrastructure and repositories of this data, and report the results to the Scientific Council;

d) identify databases for spatial data on existing and planned linear infrastructure in cooperation with relevant experts;

e) establish an online library of:

  i. existing databases on the movements, habitats, and presence and absence of migratory species, such as Movebank, EURING and IBAT and those identified by the Scientific Council,

  ii. guidelines, and

  iii. learning resources;

f) review the implementation of Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia by Parties and update the

Guidelines on the basis of the lessons learned from their review and other sources;

g) *develop guidelines for preparing and using ecological connectivity plans as tools for migratory species conservation;*

h) *subject to the availability of external resources, develop and circulate among Parties impact assessment (including strategic environmental assessment) screening guidelines, taking into consideration existing regional or national tools, including requirements of migratory species, ecological connectivity and ecological restoration in linear infrastructure development, as guidance materials for the implementation of CMS Resolution 7.2 (Rev.COP14) Impact Assessment and Migratory Species;*

i) *subject to the availability of external resources, develop guidelines, including checklists, on the impact of infrastructure sectors (e.g., transport, energy, water) on migratory species for all geographic regions on the basis of the lessons learned from the Central Asian Mammals Initiative (CAMI) infrastructure guidelines review and other sources; and translate CMS guidelines into national languages;*

j) *compile available information, in cooperation with partners, on the effectiveness of CMS-listed species-specific mitigation solutions, including lessons learned, for landscapes and types of barriers in the CAMI region and beyond; and identify those species that need further analysis/research;*

k) *subject to the availability of external resources, update the Central Asian Mammals Migration and Linear Infrastructure Atlas (CAMI Atlas) through improving resolutions and making the maps more user-friendly and accessible online; updating range delineation and linear infrastructure information, where necessary; and extending it to include all CAMI species and countries; and*

l) *subject to the availability of external resources, include in its communication programme:*

   i. *development of fact sheets and policy briefs based on CMS guidance materials; and*

   ii. *visualization of species distribution, and existing and planned infrastructure extracted from interactive online tools (including the CAMI Atlas and Bird Migration Atlas).*

Activities of the Scientific Council (Decision 14.202)

4. In accordance with Decision 14.202, the Scientific Council established a new Working Group on Infrastructure and Migratory Species for an open-ended period, which would report on its activities to the 8th meeting of the Sessional Committee of the Scientific Council. In line with its Terms of Reference (*Outcome 4 of the 7th meeting of the Sessional Committee of the Scientific Council*), the new Working Group built on existing efforts under CMS related to linear infrastructure, such as the outputs of the Energy Task Force, the *Guidelines for Reducing the Impact of Linear Infrastructure on Migratory Mammals in Central Asia*, and the CMS *Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities*.

5. The Working Group nominated Barry Baker (COP-appointed Councillor of the ScC) as Chair and, with the support of the Secretariat, met online three times in July 2025. The Working Group is comprised of experts who are members of the following: the Scientific Council; environmental ministries and wildlife agencies; development, energy and transport ministries and agencies; CMS Family working groups and task forces; the infrastructure sector; the impact assessment community, including the International Association for Impact Assessment; international financial institutions; the scientific community involved in migratory species and infrastructure issues; biodiversity data portals; relevant multilateral environmental agreements and intergovernmental organizations; and international NGOs. The members either participated in the previous Scientific Council Working Group or expressed an interest in joining the Group during the 7th meeting of the Scientific Council's Sessional Committee in 2024.

6. With regards to paragraph (a), the Group identified several possible actions that could be taken to address the impacts of dams and urban sprawl and development on migratory species. These are included in Annex 1 of this document as draft amendments to Resolution 07.02 (Rev.COP14).

7. With regard to paragraph (b), the Group reviewed current methodologies and criteria for the definition of 'critical habitat' as used by multilateral development banks (e.g. International Finance Corporation (IFC) Performance Standard 6, European Bank for Reconstruction and Development (EBRD) Performance Requirement 6, Asian Development Bank (ADB) Environmental and Social Standard 6) and the wider impact assessment community. The Group agreed that while these frameworks are widely applied, their reliance on fixed numerical thresholds (e.g. >1% of the global population for congregatory species) and geographically discrete habitat definitions limits their suitability for migratory species, particularly for:

   i. nomadic or irruptive species – whose movements are irregular and unpredictable, often driven by sudden changes in resource availability or environmental conditions (e.g. prey shortages, extreme weather), and which therefore do not follow consistent migration routes;

   ii. small, nationally significant subpopulations that fall below global percentage thresholds;

   iii. habitats that serve as migratory corridors, stepping stones or ecological bottlenecks; and

   iv. marine and freshwater species whose movement patterns do not align with endpoint definitions.

8. The Group noted that these criteria can result in important movement areas being excluded from further assessment, and that ecological connectivity and ecological function are often underrepresented. The Group discussed possible proposals for improvements to the standards, including:

   i. integrating 'areas important for movement' and functional connectivity into definitions and triggers;

   ii. applying the precautionary principle in data-poor contexts;

   iii. recognizing small-scale but critical features as potential triggers; and

   iv. using population or subpopulation significance in addition to global percentages.

9. With regards to paragraphs (c) and (d)(i.), the Group discussed scoping processes for environmental impact assessments (EIAs) / strategic environmental assessments (SEAs) to ensure migratory species are consistently included in terms of reference and baseline studies. Points raised included the following, which have also been integrated into Resolution 07.02 (Rev.COP14):

   i. the need for systematic use of CMS species lists, movement data (e.g. Movebank, WhaleTrack) and other authoritative sources at screening;

   ii. survey protocols that reflect seasonal and inter-annual variation in species presence and habitat use, ideally over multiple years;

   iii. integration of ecological connectivity assessments at appropriate spatial and temporal scales, including transboundary linkages; and

   iv. explicit inclusion of migratory species in baseline studies and impact predictions, even where population-level data are limited.

10. As regards paragraph (d)(ii.), the Group agreed that scientifically robust research, monitoring, evaluation and reporting is critical in both quantifying the impacts of linear and transport infrastructure (LTI) on biodiversity as well as assessing the effectiveness of strategies to avoid, minimize, mitigate and offset those impacts. Without careful study design, adequate funding, sufficient time and robust evaluation and reporting, the outcomes of research and monitoring can be misleading, incorrect and lead to perverse outcomes. The focus here is on research and monitoring that is undertaken by project proponents as opposed to academic research that is more unconstrained and often not practically focused.

11. Most LTI projects are likely to require some form of monitoring and evaluation, especially projects traversing sensitive landscapes, with potentially significant impacts and when the outcomes of mitigation are uncertain. Research and monitoring are vital to inform decision-making and ensure proponents, regulators and funders have reliable information to assess the specific impacts of a project. The Group proposes the following approaches to assess development proposals and evaluate their subsequent implementation, to be captured in a separate guidance document:

    i. Develop, plan, fund and commence research and monitoring at the start of projects, and ideally during concept and design stages. Leaving it to the end will almost always result in poor quality results due to inadequate funds and time, as well as an inability to collect data before the project commences.
    ii. Clearly articulate the question to be investigated or answered, such as: “To what extent has mitigation on this project maintained connectivity or increased population viability?” Ideally, studies assessing mitigation effectiveness should be formulated around SMART goals (i.e. specific, measurable, achievable, realistic, time-framed) as part of project approvals. Where relevant, studies should also assess the effectiveness of other actions in the mitigation hierarchy, such as avoidance, minimization, rehabilitation and offsets.
    iii. Use robust scientific study designs – which typically involves the collection of data before, during and after the intervention, at both numerous control and impact sites, often referred to as a B(D)ACI study design. Collecting sufficient data before construction commences provides a robust baseline or reference point against which future changes can be compared.
    iv. Be aware that investigations conducted to inform the planning and approval of a project are rarely suited to providing baseline or reference data in a long-term monitoring programme. However, if well planned and executed, they can be.
    v. Consider the difference between the ‘use’ and ‘effectiveness’ of a mitigation measure, such as a wildlife crossing structure. Just because a species is observed using a crossing structure does not mean the impacts of the project have been effectively mitigated and the project has achieved no net loss. Other relevant questions may consider rates of wildlife-vehicle-collisions, population size, gene flow, dispersal and migration, etc., which ultimately leads to questions about population viability and species persistence.
    vi. Be prepared to work outside the project boundaries and include study sites in different areas or on other projects. Consider collaborating across projects and jurisdictions to increase sample sizes of impacted sites and/or control or reference sites. This should be viewed as a strategic investment – both in terms of cost and effort – that is essential for generating robust conclusions about effectiveness.
    vii. Engage experts (e.g. statisticians, species experts) to ensure the proposed research questions and monitoring protocol will achieve the objectives. Involving them from the planning stages helps guarantee that the necessary data are collected using an appropriate study design.

viii. Collect and analyse research and monitoring data using appropriate methods that are consistent over time. Care should be taken when new and emerging methods or technologies are adopted during a project to ensure data are comparable over the long term.

ix. Although it varies between projects, ensure that monitoring involves at least three to five years of post-construction data collection (to allow time for habitat rehabilitation and for animals to find the structures), sometimes up to ten years depending on the species and when the impacts are expected to occur and be measurable.

x. Ensure the results are promptly published and widely shared, enabling others to learn from the results and build the outcomes into future projects.

xi. Ensure the collected data is stored securely and made available for others to use, such as for meta-analyses.

xii. Integrate post-construction monitoring within an adaptive management framework to ensure the results are used to improve outcomes on the project. This includes analysing data progressively throughout the life of the project, ensuring negative impacts can be identified and rectified as early as possible.

12. The Group made the following additional recommendations, which have also been integrated into Resolution 07.02 (Rev.COP14):

i. Select species-specific and connectivity-related indicators (e.g. use of crossing structures, movement corridor functionality, migration timing);

ii. Incorporate cumulative effects assessment to capture additive, synergistic and antagonistic impacts;

iii. Use cost-effective technologies (acoustic monitoring, camera traps, drones, satellite tags) alongside targeted field validation;

iv. Ensure clear, adaptive management thresholds and transparent reporting to inform future projects.

13. In relation to paragraphs (e) and (f), the Secretariat published the Online Library of Existing Databases on Movements, Habitats, and Presence and Absence of Migratory Species on the CMS website (see also paragraph 15 below) and engaged with a variety of institutions described in document UNEP/CMS/COP15/Doc. 28.2 *Ecological Connectivity*.

Activities of the Secretariat (Decision 14.203)

14. As mandated by paragraph (c), the Secretariat developed and circulated among Parties a questionnaire on the availability of data on migratory species and linear infrastructure as well as repositories of this data, and reported the results to the Scientific Council. The survey was merged with a questionnaire on Ecological Connectivity, eventually entitled 'Survey on Ecological Connectivity and Infrastructure' (see also UNEP/CMS/COP15/Doc. 28.2 *Ecological Connectivity)*. Seven closed and seven open-ended questions were devoted to infrastructure. The analysis of the survey highlighted the lack of information on the impact of infrastructure on migratory species and on CMS-listed species specifically; the paucity of publicly available data or opportunities for sharing data with CMS; the use of predominantly external (non-governmental) sources in compiling linear infrastructure data; the scarcity of data on green linear infrastructure and on planned linear infrastructure; and the lack of consideration of measures aimed at ensuring connectivity for wildlife in planning processes such as EIAs and SEAs.

15. In line with paragraph (d), the Secretariat published the Online Library of Existing Databases on Movements, Habitats, and Presence and Absence of Migratory Species on the CMS website.

16. Additionally, in accordance with paragraph (k), the Secretariat published the updated *Central Asian Mammals Migration and Linear Infrastructure Atlas* (CAMI Atlas) on the CMS website.

Implementation of Decision 14.204–14.206 on *Cumulative Effects Assessments*

17. The implementation of Decisions 14.204–14.206 on *Impact Assessment and Migratory Species* is reported in UNEP/CMS/COP15/Doc.28.9 *Cumulative Effects Assessments.* Results included the report, *Cumulative Effects Assessment for Migratory Species,* and recommendations for future work on cumulative effects assessments, including draft amendments to Resolution 07.02 (Rev.COP14) *Impact Assessment and Migratory Species*. These draft amendments are contained in Annex 1 of this document, together with the other proposed amendments to the Resolution.

Discussion and analysis

18. Thanks to its substantial expertise, the Scientific Council Working Group was able to advance its work significantly. As set out in the draft amendments to Resolution 07.02 (Rev.COP14) and the draft Decisions, the Group is proposing fundamental improvements to the ways in which migratory species are considered in infrastructure development, including in relation to water-related infrastructure and urban sprawl. The Group agreed on the need to make the necessary data on species and their distribution, including on migration corridors, readily available to infrastructure planners and financiers. Cooperation with data providers currently used by multilateral development banks (MDBs) should be sought. Likewise, scoping and screening guidance should be tailored to the professional terminology used by developers and financiers and made available in a concise format.

19. Insufficient time prevented the Group from fully addressing all mandates given by the Council. For example, the Working Group was able to identify the key shortcomings of the definition of 'critical habitat' used by MDBs but was unable to formulate a new definition to propose to MDBs for their revision processes. Likewise, the Group identified the necessary components for scoping/screening guidance but did not have enough time to formulate the guidance. Therefore, it is suggested that the Working Group is renewed by COP15.

20. Similarly, due to a lack of external resources, the Secretariat was only able to fulfil some of the mandates given to it by COP14. It is therefore proposed that some of the activities be extended to the next intersessional period, as reflected in the draft Decisions.

Recommended actions

21. The Conference of the Parties is recommended to:

    a) adopt the proposed amendments to Resolution 07.02 (Rev.COP14) contained in Annex 1 of this document;

    b) adopt the draft Decisions contained in Annex 2 of this document; and

    c) delete Decisions 14.201–14.203.

ANNEX 1

PROPOSED AMENDMENTS TO RESOLUTION 07.02 (Rev.COP14)

NB. Proposed new text is underlined. Text to be deleted is ~~crossed out~~.

IMPACT ASSESSMENT AND MIGRATORY SPECIES

Concerned that avoidable detriment to migratory species often occurs through lack of adequate prior assessment of the potential environmental and social impacts of projects, plans, programmes and policies, carried out in a way that is systematic and formally taken into account in decision-making,

Emphasizing that migratory species are especially in need of international cooperation in this respect owing, inter alia, to their particular susceptibility to impacts which may ~~be~~ manifest far beyond the territory of the country in which they originate, and to cumulative impacts,

Desirous that conservation of migratory species ~~interests~~, their habitats and ecological connectivity be given high priority ~~improved treatment~~ in biodiversity-related aspects of environmental impact assessment, including through cumulative effects assessments, ~~and~~ strategic environmental assessments, and social impact assessments,

Conscious that Article I (1) (c) of the Convention defining favourable conservation status, Article II (2) regarding avoiding endangerment of species and Article III (4) regarding protection of Appendix I species all imply a need to anticipate and predict effects,

Aware that many Parties already operate legal and institutional systems of environmental impact assessment in various forms, but that most would benefit from international harmonization of guidance on principles, standards, techniques and procedures, and confirmation of their applicability to the conservation of migratory species ~~interests~~,

Aware that environmental impact assessment is foreseen in other conventions concerned with biodiversity conservation, including the Rio Conventions and the Ramsar Convention on Wetlands, and in CMS Agreements,

Noting that CBD Decision V/18 on impact assessment, liability and redress specifically encouraged similar cooperation in relation to the development of guidelines for incorporating biodiversity-related issues into legislation and/or processes on strategic environmental assessment, and included the CMS Scientific Council among those with whom cooperation was requested,

Welcoming the endorsement by CBD COP6 of the “Guidelines for Incorporating Biodiversity-related Issues into Environmental Impact Assessment Legislation and/or Processes and in Strategic Environmental Assessment” annexed to its Decision VI/7,

Taking note of the Kunming-Montreal Global Biodiversity Framework and Target 14 requesting governments to ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, and fiscal and financial flows with the goals and targets of this framework, ~~and~~

Welcoming the adoption and entry into force of the 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), which provides a framework for processes, thresholds and other requirements for conducting and reporting on environmental impact assessments, including cumulative effects, in areas beyond national jurisdiction, and

Desiring as always to maximize synergy and joint working efficiencies between all biodiversity-related Conventions,

The Conference of the Parties to the
Convention on the Conservation of Migratory Species of Wild Animals

1. *Emphasizes* the importance of good quality environmental impact assessment (EIA), including a~~n~~ cumulative effects assessment ~~of cumulative effects~~ (CEA), social impact assessment, and strategic environmental assessment (SEA) as tools for implementing Article II (2) of the Convention on avoiding endangerment of migratory species and Article III (4) of the Convention on protection of Appendix I species, and as important elements to include in AGREEMENTS concluded under Article IV (3) of the Convention in respect of Appendix II species, and in agreements concluded under Article IV (4) of the Convention in respect of Appendix II and other species;

1.bis *Requests* Parties to include migratory species systematically in EIA/SEA screening and scoping, using CMS species lists and authoritative movement data;

2. *Urges* Parties to include a~~s~~ complete ~~a~~ consideration ~~as~~ of possible ~~of~~ effects involving impediments to migration, in furtherance of Article III (4) (b) of the Convention, of transboundary effects on migratory species, and of impacts on migratory patterns (e.g. flight paths, swimways, timing, environmental cues and internal biological clocks) or on migratory ranges , and of impacts on animal behaviour and social learning in EIAs and by applying strategic environmental assessment in the early stages of planning and policy development in sectors linked to infrastructure (e.g. transport, energy, water and wastewater, aquaculture of exotic animals (non-indigenous species) in open waters, hydropower dams, dredging, coastal defences and other marine infrastructure), and in planning for economic corridors, ~~and~~ linear and water-related (e.g. dams, culverts, levees, waterways or canals and others including coastal and marine structures) infrastructure programmes (e.g. Trans-European Transport Network (TEN-T), Belt and Road Initiative, etc.) ~~including in order to develop these infrastructures~~ taking into account the ecological connectivity, ~~and ecological~~ restoration ~~aspects~~ and maintenance of key habitats in river sectors (upstream and downstream) and important coastal and marine habitat areas;

2.bis *Requests* Parties to conduct multi-season/multi-year baseline surveys, where feasible, including transboundary connectivity considerations;

2.ter *Requests* Parties, when applying critical habitat criteria, to ensure migratory species habitats are assessed for connectivity and importance for movement, and not solely for population aggregation thresholds, and to apply precautionary triggers in the absence of adequate data;

3. *Requests* Parties, according to national legislation, to publicly disclose and share information on ~~linear~~ infrastructure development plans and impact assessments affecting migratory species, taking as an example the 1997 United Nations Economic Commission for Europe Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and its 2003 Protocol on Strategic Environmental Assessment (Kyiv Protocol), and to share expertise and resources to support other Parties and non-Party Range States in applying EIA methodologies based on the best available science;

3.bis *Encourages* Parties to move beyond minimum flow requirements and consider the full natural flow regime of rivers (magnitude, timing, duration, frequency, and rate of change of flows) when assessing impacts on habitats and migratory species;

4. *Asks* Parties to include migratory species when revising legal requirements for impact assessment and when generating considerations for screening criteria, ~~including~~ inter alia, the construction of barriers such as roads, including waterfront or coastal roads, railways, powerlines, pipelines, fences, ~~and~~ walls and culverts, dams, levees, diversion and dewatering measures, and coastal defences when these might be an impediment for ecological connectivity, including longitudinal connectivity of streams or rivers, longshore and across-shore connectivity, and related impacts such as from underwater noise;

5. *Requests* Parties to consider the recovery potential of CMS-listed species when planning new infrastructure or when mitigating for the impacts of existing ~~linear~~ infrastructure, such as roads, waterways, powerlines, offshore platforms, coastal defences and pipelines transporting oil and gas;

5.bis *Requests* Parties to establish monitoring systems of the effectiveness of mitigation measures in infrastructure that include movement-based indicators and cumulative effects tracking, and to adopt adaptive management approaches in the design of infrastructure projects, including regular review of flow regimes and ecological responses, in order to address uncertainties and account for the impacts of climate change;

6. *Recommends* Parties, when not formally required, to encourage project proponents to prepare and implement biodiversity management plans for linear and water-related infrastructure developments and other activities that may impact CMS-listed species;

6.bis *Encourages* Parties to establish and maintain long-term monitoring systems for cumulative effects on migratory species, with the aim of ensuring the maintenance or achievement of a favourable conservation status in line with Article I of the Convention;

6.ter *Asks* Parties to implement urban growth management strategies to reduce urban sprawl, such as greenbelts, urban growth boundaries, targets and limits to urban sprawl, and the protection of greenspaces within urban areas, in particular those that are used by CMS species;

6.quater *Requests* Parties to consider the relationship between transport infrastructure and urban expansion in order to avoid further increases in urban sprawl and the danger of a locked-in effect, and to better protect the connectivity of habitats within and around urban areas;

7. *Further urges* Parties to make use, as appropriate, of the "Impact Assessment: Voluntary Guidelines on Biodiversity-inclusive Impact Assessment" endorsed by Decision VIII/8 of CBD COP 8;

8. *Requests* the Secretariat to ~~pursue its contacts~~ continue collaborating with secretariats of other multilateral environmental agreements in evaluating ~~with them~~ the potential implications of the decisions of their Conferences of the Parties on the conservation of migratory species;

8 bis. *Urges* Parties and the Scientific Council to promote and support further research into cumulative effects, with particular attention to the interactions between different types of impacts on migratory species and their habitats;

8.ter. *Encourages* the use of best available technologies, including artificial intelligence and machine learning methods, to enhance the accuracy, efficiency and predictive capacity of environmental and cumulative impact assessments;

9. *Further requests* the Secretariat to cooperate with other biodiversity-related conventions and raise the issue of the impact of linear and water-related infrastructure development ~~impact~~ on migratory species, as well as ecosystem services benefiting from migratory species, within the Biodiversity Liaison Group to foster synergies and jointly engage with sectors relevant to infrastructure development to contribute to and influence infrastructure planning and design;

10. *Instructs* the Secretariat to explore opportunities ~~of~~ for engaging with and contributing expertise on migratory species to policies and processes of relevant international and regional forums, such as multilateral development bank~~s~~' safeguard~~s~~ systems ~~working groups~~, G20 Quality Infrastructure Investment Principles, the Belt and Road Initiative, the EU Green Deal, Global Gateway and Green Infrastructure, Blue Dot Network, Regional Economic Communities, UN Economic and Social Commissions, the Scientific and Technical Body to be established under the BBNJ Agreement, International Federation of Consulting Engineers (FIDIC), SOURCE (the Multilateral Platform for Sustainable Infrastructure), infrastructure ecology networks and knowledge-sharing platforms (e.g. IENE, ICOET, www.TransportEcology.info), Local Governments for Sustainability (ICLEI), Task Force for Nature-related Financial Disclosures (TNFD), Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), Future Earth, and the Hydropower Sustainability Standard managed by the Hydropower Sustainability Alliance, among others ~~etc.~~;

11. *Instructs* the Secretariat to engage with the Global Environment Facility, development finance institutions, multilateral development banks, bilateral donors, and commercial banks to explore opportunities for including CMS guidelines in, and sourcing relevant expertise in support of, their policies, guidance materials, strategic plans, periodic country strategies, and performance indices to encourage the consideration of migratory species both at strategic and project levels;

11.bis. *Requests* Parties, the Secretariat and the Scientific Council to seek to align and strengthen impact assessment approaches under the Convention and the BBNJ Agreement;

12. *Encourages* Parties to establish contact with relevant national contact points from within the networks of the International Association for Impact Assessment with a view to identifying sources of expertise and advice for assisting with migratory species-related impact assessment as part of impact assessment procedures in general; ~~and~~

13. *Encourages* project proponents that are designing mitigation measures for the impacts of linear and water-related infrastructure or proposed activities for migratory species, to take into account benefits for associated species and their habitats; and

14. *Invites* multilateral development banks, bilateral donors and commercial financial institutions to integrate CMS guidelines on migratory species and ecological flows into their safeguard systems, project screening procedures and financing criteria, in line with good international practice.

ANNEX 2

DRAFT DECISIONS

INFRASTRUCTURE DEVELOPMENT AND MIGRATORY SPECIES

Directed to the Scientific Council

15.AA The Scientific Council is requested to extend the Working Group as established, focusing its work on the following tasks:

a) develop technical guidance for adapting critical habitat criteria to migratory species, including connectivity and subpopulation considerations;

b) prepare standard scoping checklists for inclusion of migratory species in EIAs/SEAs, with recommended survey methods and data sources; and

c) identify best-practice, cost-effective monitoring methods for linear infrastructure impacts on migratory species.

Directed to the Secretariat

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

a) compile and disseminate examples of adapted critical habitat methodologies incorporating connectivity for migratory species;

b) liaise with multilateral development banks (MDBs) and the International Association for Impact Assessment (IAIA) on updating their guidance, and with relevant bodies maintaining the Global Biodiversity Information Facility (GBIF) and the GEO Portal to ensure alignment and data sharing;

c) update, regularly, the Online Library of Existing Databases on Movements, Habitats, and Presence and Absence of Migratory Species accessible to Parties and practitioners;

d) convene, in cooperation with the Scientific Council Working Group on Ecological Connectivity, holders of databases on migratory species distribution and movements, including those used by MDBs, to explore the potential for harmonizing data standards and optimizing visualization for targeted data users;

e) organize regional and national workshops to raise the awareness and increase the capacity of government representatives who are working in sectors concerned with infrastructure development of the needs and requirements of migratory species, in close collaboration with public and private sector stakeholders, multilateral development banks, bilateral development banks, donors and other organizations and institutions that are involved in linear infrastructure development;

f) identify databases for spatial data on existing and planned linear infrastructure in cooperation with relevant experts;

g) review the implementation of *Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia* by Parties and update the Guidelines on the basis of the lessons learned from their review and other sources;

h) develop guidelines for preparing and using ecological connectivity plans as tools for migratory species conservation;

i) develop and circulate among Parties impact assessment (including strategic environmental assessment) screening guidelines, taking into consideration existing international, regional or national tools, including requirements of migratory species, ecological connectivity and ecological restoration in linear infrastructure development, as guidance materials for the implementation of CMS Resolution 07.02 (Rev.COP15) *Impact Assessment and Migratory Species*;

j) develop guidelines, including checklists, on the impact of infrastructure sectors (e.g., transport, energy, water) on migratory species for all geographic regions on the basis of the lessons learned from the Central Asian Mammals Initiative (CAMI) infrastructure guidelines review and other sources, and translate CMS guidelines into national languages;

k) compile available information, in cooperation with partners, on the effectiveness of CMS-listed species-specific mitigation solutions, including lessons learned, for landscapes and types of barriers in the CAMI region and beyond, and identify those species that need further analysis/research;

l) include in its communication strategy engagement with the financial and infrastructure-related sectors; and

m) include in its communication programme:

   i. development of fact sheets and policy briefs based on CMS guidance materials, and

   ii. visualization of species distribution, and existing and planned infrastructure extracted from interactive online tools (including the CAMI Atlas and Bird Migration Atlas).