

**Meeting of the Intersessional Working Group on
Linear Infrastructure and Migratory Species**

Isle of Vilm, 27 June – 1 July 2022

UNEP/CMS/LI-IWG/Report

MEETING REPORT

Establishment of the Working Group

1. In accordance with the mandate (paragraph 4, [UNEP/CMS/ScC-SC5/Outcome 13](#)) given by the CMS Scientific Council Sessional Committee at its 5th meeting (the 'Committee'), the Secretariat supported the Committee in establishing a multi-stakeholder Intersessional Working Group (the 'Working Group') on linear infrastructure composed of stakeholders with experience and knowledge on the impact of linear infrastructure development on migratory species and options for mitigation. The Secretariat identified participants from among the categories mandated by the Committee:
 - Scientific Council members;
 - Environmental Ministries and Wildlife Agencies;
 - CMS Family Working Groups and Task Forces;
 - Infrastructure sector;
 - Impact assessment community, such as through the International Association for Impact Assessment;
 - International Financial Institutions;
 - Scientific community involved in migratory species and infrastructure issues;
 - Global biodiversity data portals, such as the Convention on Biological Diversity, IPBES and infrastructure platforms;
 - National Governments, preferably represented by ministries responsible for the planning of major linear infrastructure works (e.g. transport or energy department);
 - International NGOs.
2. The complete list of Working Group members can be found in Annex 1 of this Report.

Meeting of the Working Group

3. In accordance with Decision 13.133 of the Conference of the Parties (COP) and the mandate of the Committee (paragraph 4, [UNEP/CMS/ScC-SC5/Outcome 13](#)), the Secretariat organized a meeting of the Working Group in collaboration with the German Federal Agency for Nature Conservation (BfN) and with funding from the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) of Germany.
4. Since the meeting of the Working Group was convened within the framework of the BfN-CMS Work Programme 2020-2023 under the activity "Identifying Approaches for Mitigating the Effects of Infrastructure Development on Migratory Wildlife", and given that the focus of this Work Programme is on Central Asia and the implementation of the CMS [Central Asian Mammals Initiative](#) (CAMI), one component of the meeting was dedicated to discussing the region-specific needs, including the implementation of the *Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia*.

5. The meeting took place from 27 June – 1 July 2022 at BfN's International Nature Academy on Vilm Island, Germany.

Operation of the Working Group

6. As mandated by the Committee (paragraph 3, [UNEP/CMS/ScC-SC5/Outcome 13](#)), the Working Group selected a Chair from among its members: CMS' COP-appointed Councilor for Connectivity, Mr. Fernando Spina.
7. The Working Group was tasked by the Committee in [UNEP/CMS/ScC-SC5/Outcome 13](#) to undertake the following activities:
 - a) *review available information relevant to linear infrastructure development and potential impacts on migratory species, the compilation of responses received under Decision 13.130 as compiled by the Secretariat in accordance with Decision 13.133 (a), and other relevant information;*
 - b) *identify areas where further assistance is needed to enhance the implementation of Resolution 7.2 (Rev.COP12) Impact Assessment and Migratory Species paragraph 2, which urges Parties to include in EIA and SEA, wherever relevant, as complete a consideration as 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 or on migratory ranges;*
 - c) *develop a workplan and identify priority tasks for the Working Group based on the existing information, such as standards, guidelines, best practices related to addressing the impact of linear infrastructure development as well as the review of the compilation under paragraph (a);*
 - d) *provide recommendations on the future direction of work under the Convention to support Parties in addressing the impact of linear infrastructure on migratory species.*
8. The meeting agenda was developed to execute the above activities through plenary sessions and breakout groups. Discussion of all above activities were supported by the findings of the report [Linear Infrastructure and Migratory Species: the role of impact assessment and landscape approaches \(UNEP/CMS/ScC-SC5/Inf.3\)](#) — commissioned by the Secretariat in response to COP Decision 13.131 (the 'Report'). The Report contains an analysis of National Reports submitted by Parties for COP13 and an analysis of existing standards and guidelines; furthermore, it provides a number of best practice cases and proposes a work plan for the Working Group.
 - Activity a): The Working Group completed the tasks by reviewing available information relevant to linear infrastructure development and potential impacts on migratory species including: existing CMS guidance, guidelines and initiatives compiled in [UNEP/CMS/LI-IWG/Inf.2/Rev.1](#); information identified and reviewed in the Report; and available information from Working Group member's own institutions and beyond, compiled in the list of presentations on the [meeting website](#). The Working Group reviewed the responses received under Decision 13.130 as compiled by the Secretariat in accordance with Decision 13.133 (a), and other relevant information through the review of the Report.
 - Activity b): The findings and recommendations of the Report can be classified into two thematic groups: data and species' needs, and standards and governance. On data and species' needs, the Report found that information on screening, scoping and mitigation measures addressing characteristics of (groups of) migratory species, as well as data on the habitats, feeding, breeding and migration areas was not readily nor easily available and accessible. On standards and governance, the Report found that the international and national governance structures that require relevant institutions and authorities to apply the existing guidance and standards were weak.

Based on the findings and recommendations of the Report, the Working Group completed the activity by identifying areas where further assistance is needed to enhance the implementation of Resolution 7.2 (Rev.COP12) Impact Assessment and Migratory Species paragraph 2 through structured discussions in plenary and in three breakout groups on: Data and Species' Needs, Standards and Governance, and Central Asian Mammals Initiative.

- Activity c): The Working Group completed the activity by agreeing on a workplan and identifying priority tasks based on the findings and recommendations of the Report and the review and compilation of information as executed in a).
- Activity d): The Working Group developed and agreed upon a set of recommendations on the future direction of work under the Convention to support Parties in addressing the impact of linear infrastructure on migratory species. The recommendations developed by the Working Group can be found in Annex 2.

Discussions of the Working Group

9. The Working Group found a lack of meaningful consideration for migratory species in infrastructure development planning and limited availability of and accessibility to data and information on migratory species and linear infrastructure. The Working Group identified insufficient awareness on the importance of animal movements among decision-makers of the finance, planning and development sectors and a low capacity for implementing relevant international policy and existing standards and guidelines. Findings from the breakout groups are elaborated below.

A. Data and Species Needs

10. The breakout group on data and species needs:

- underscored that not all CMS-listed species use defined corridors nor have predictable movement patterns.
- found that to better protect migratory species in the context of linear infrastructure there is a need for data and information on:
 - Migratory species movement, presence and absence, and habitat and movement pathways and flyways
 - Protected areas and Other Effective Areas-Based Conservation Measures (OECMs)
 - Critical habitats (overwintering, calving, nursing and feeding habitats, stopovers, etc.)
 - Identification of existing and potential bottlenecks and restrictions to movement
 - Spatial extent of linear infrastructure
 - Locations of mitigation measures on existing infrastructure and their efficacy
 - Locations of existing linear infrastructure which negatively impacts migratory species and could be prioritized for retrofits
 - Accurate fencing mapping
 - Future planned and proposed linear infrastructure
 - Data from outside linear infrastructure projects' footprints, outside the project impact area, species range countries.
- found that the data required for better protecting migratory species in the context of linear infrastructure development was not centralized, easily available nor accessible. The group identified existing databases and sources of information such as the European Union for Bird Ringing (EURING) Data Bank, Movebank, Global Initiative on Ungulate Migration (GIUM), Important Bird and Biodiversity Areas (IBAs), Key Biodiversity Areas (KBAs), and the World Database on Protected Areas (WDPA).

- identified issues related to data availability including:
 - data quality
 - data collection standards and practices (scientific rigor, ethics, etc.)
 - data ownership and intellectual property
 - data sensitivity and national sovereignty
 - data formats and standardization
 - competition
 - conflicts of interest
- identified a need to assess data reliability to ensure confidence.
- considered the mitigation effectiveness for migratory species of mitigation measures used in linear infrastructure. It identified a need for resources outlining the different mitigation measures used for different taxonomic groups – indicating how well studied mitigation measures are, flagging measures that require further research on their effectiveness, and identifying taxonomic groups for whom effective mitigation measures do not exist.
- identified a need for mitigation measures to not only consider movement but also human wildlife conflict, taking, and disturbance of migratory species due to infrastructure development.
- found that when developing mitigation measures for migratory species, impact areas needed to be defined considering migratory species' full range and transboundary implications.
- identified the need to study the definitions of critical habitat used by the financial and impact assessment communities to ensure they are appropriate for migratory species, considering the extensive habitat needs some species have. Additionally, the group found that consideration for historic habitat and recovery potential needs to be considered within these definitions.
- stressed the need for regular monitoring, evaluation and reporting to study linear infrastructure projects and the effectiveness of the mitigation measures they deployed to safeguard migratory species.
- identified the need of integrating data on migratory species into mapping and development tools used by linear infrastructure planners and developers.
- identified the need for networks, for a and knowledge sharing platforms where linear infrastructure planners and developers can exchange with ecologists and conservationists.
- identified the need to integrate the concepts of ecological connectivity into curricula at all educational levels.
- identified that mitigation measures for, and conservation of, migratory species likely have benefits for non-migratory species, as many migratory species are umbrella species.
- identified the need to ensure that guidance materials adequately specify migratory species' needs.

- identified the need to identify, compile and centralize best practice guidelines (including but not limited to national, international, funder, regional, species specific) and make them easily accessible to linear infrastructure stakeholders.
- identified the need to develop the capacity of linear infrastructure planners and developers on the application of best practices and international standards and guidelines through workshops and trainings.
- identified the need for special consideration and research on fencing, including on fencing typology and fencing mapping.
- identified the potential for synergies and opportunities with other multilateral environmental agreements (MEAs) including the Convention on the International Trade of Endangered Species (CITES), on linear infrastructure facilitating the illegal trade in CITES-listed species, and the Convention on Biological Diversity (CBD), on the Post-2020 Global Biodiversity Framework and connectivity.
- identified the need for collaboration with financial institutions involved in linear infrastructure development.
- identified that the Global Environment Facility's next five-year strategy had specific considerations for linear infrastructure.
- identified the need to build relationships and work with the conservation community at all levels, from citizen scientists and grassroots conservation organizations to MEAs.

B. Standards and Governance

11. The breakout group on standards and governance needs:

- agreed that there was a lack of awareness among representatives of the private and public sector, including the planning, engineering and financing sectors of the needs and mitigation options for infrastructure development on migratory species, and proposed to organize trainings both at the national and regional level for representatives of these sectors.
- agreed that existing CMS guidelines were a valuable resource of high quality, but that they were not well-known in the relevant sectors.
- advised that CMS guidance materials were needed to be more visible to infrastructure planners, developers, and decision makers in relevant sectors (e.g. via inserting respective links on the websites of financial institutions in the sections of environmental guidelines, where feasible).
- identified the need to integrate the consideration of migratory species in the relevant policies, guidance materials, strategies, country environmental profiles and performance assessments / indices, etc., of international and regional financial and economic fora and processes, such as bi- and multilateral development banks, UN regional economic commissions (e.g. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)), non-UN groupings (e.g. the G20, European Union or the Central Asia Regional Economic Cooperation Program (CAREC)) and interorganizational bodies (e.g. the Taskforce on Nature-related Financial Disclosures (TNFD)) and suggested that the CMS Secretariat raise migratory species' needs in, and contribute adopted CMS guidance materials to, these fora.

- identified the need to integrate migratory species in standard templates provided by fora of the infrastructure and transport sector such as the International Federation of Consulting Engineers (FIDIC), Infra Eco Network Europe (IENE), SOURCE - the multilateral platform for sustainable infrastructure maintained by the Sustainable Infrastructure Foundation (SIF) in order to allow for an early consideration of migratory species needs and mitigation measures in development planning.
- suggested that biodiversity-related conventions join forces among themselves as well as with UNEP in order to agree on common positions and jointly representing those positions in relevant fora resulting in a stronger voice.
- agreed that there was a need to package scientific data and species requirements into the language of the finance, infrastructure and road sectors by highlighting the economic benefits of conserving migratory species and their habitats, visualizing scientific information such as the distribution of species on maps and providing concrete options of mitigation measures that could be applied in development planning as well as highlighting the costs and consequences of not implementing mitigation measures.
- Agreed that guidance specific to species' needs but also directed to the relevant sectors and ministries was needed that would also take into consideration the context of the region/country where it is meant to be applied.
- discussed that there was need to make both scientific data of species but also data on infrastructure and road planning available so that the planning and development sector could take environmental and species-related issues into their short-, medium, and long-term planning processes while the environmental sector could interact with the planning sector at an early stage to ensure the consideration of species matters in these processes. To that effect, it would be necessary to require national governments to make their data repositories openly accessible.
- agreed that screening and scoping guidance for migratory species was missing within the plethora of existing guidance materials and should be developed by the CMS Secretariat in collaboration with experts so that CMS Parties could tap into this resource.
- discussed that standard software and terms of reference used by the engineering and planning sectors should integrate a requirement to consider migratory species and that the CMS Secretariat should develop materials in collaboration with experts and liaise with professional associations at the international level or through Parties at the national level to encourage the use of these materials.
- agreed on the usefulness of the CAMI *Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia* and proposed that the Secretariat updates these Guidelines, in collaboration with relevant experts, taking into consideration lessons learned and that the Secretariat, likewise in collaboration with experts, develops similar material for other geographic regions or thematic Initiatives covered by CMS.

C. Central Asian Mammals Initiative

12. By decision of the Chair and in agreement with the group members, the CAMI group was split between the two thematic groups A and B for most of the Meeting, as there were many parallels between the issues raised at the global and the regional level. The CAMI group contributed to the two groups above and convened for a short session at the end of the meeting to discuss any outstanding questions.

13. The breakout group on region-specific CAMI needs:

- agreed that the existing *Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia* were not as widely applied as they should have been and an analysis of lessons learned was needed.
- discussed that the CMS CAMI Linear Infrastructure and Mammal Migration Atlas was a valuable resource, but again was not as widely used and known as it could be.
- agreed that both the abovementioned Guidelines and the Atlas needed to be updated and promoted in the relevant sectors and at high-level economic fora, where infrastructure projects were being discussed.
- advised that CMS Secretariat joins forces with other relevant MEAs to promote the cause of migratory species and barrier-free migratory routes with major infrastructure funding initiatives at a high level, such as the Belt and Road Initiative (BRI), Partnership for Global Infrastructure and Investment (PGII) and others.
- agreed that national governments needed to develop clearer regulations on how to implement existing environmental guidelines (e.g. what specific measures are required if construction occurs in the habitat of a CMS-listed species)
- stressed that capacity-building was of key importance, not only for decision-makers, but also for scientists and conservationists to address species-specific infrastructure issues.
- advised that online training modules could be a valuable component of capacity-building on migratory species and infrastructure issues.

Conclusion

14. The findings and conclusions of the breakout group sessions were presented in plenary for the Working Group members to discuss and consider. These findings and conclusions were drafted into recommendations for the consideration of the Working Group. The recommendations were discussed and edited by the group until consensus was reached. The recommendations developed seek to address the identified issues of the plenary and breakout groups. The full set of recommendations can be found in Annex 2 of this document.

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RECOMMENDATIONS OF THE WORKING GROUP

- 1) Requests Parties to:
 - a. avoid negative impacts on migratory species 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 in planning for economic corridors and linear infrastructure programmes (e.g. Trans-European Transport Network (TEN-T), Belt and Road Initiative, etc.);
 - b. submit tracking and tagging data, including data resulting from public and private research and monitoring to publicly accessible databases, as identified by the Scientific Council;
 - c. 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;
 - d. 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);
 - e. include migratory species when revising legal requirements for impact assessment and when generating considerations for screening criteria, including the construction of barriers such as fences and walls;
 - f. identify opportunities for mitigation of barriers to migration, mortality hotspots and bottlenecks caused by existing linear infrastructure;
 - g. 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;
 - h. encourage, when not formally required, project proponents to prepare and implement biodiversity management plans for linear infrastructure developments that impact CMS-listed species;
 - i. ensure the recovery potential of CMS-listed species is considered when planning new infrastructure or when mitigating for the impacts of existing linear infrastructure;
 - j. encourage project proponents that are designing mitigation measures for the impacts of linear infrastructure for migratory species, to take into account benefits for associated species and their habitats.

- 2) Requests the Scientific Council to:
 - a. 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;

- b. 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;
 - c. develop guidance, based on the above assessments, on:
 - the scoping process which includes migratory species in the tasks and scope of investigations;
 - scientifically robust and cost-effective means of monitoring, evaluation and reporting on the effectiveness of mitigation measures in linear infrastructure developments;
 - d. 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, and, with the support of the Secretariat, establish relationships with institutions holding that data;
 - e. establish an expert group to advise the Scientific Council and Secretariat on issues of infrastructure and migratory species.
- 3) Requests the Secretariat to:
- a. cooperate with other biodiversity-related conventions and raise the issue of linear infrastructure development impact on 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;
 - b. explore opportunities of engaging with and contributing expertise on migratory species to policies and processes of international and regional fora, such as multilateral development banks' safeguards 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, 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), Task Force for Nature-related Financial Disclosures (TNFD), Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), etc.;
 - c. engage with 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 indexes to encourage the consideration of migratory species both at strategic and project levels;
 - d. include in its communication strategy engagement with the financial and infrastructure-related sectors;
 - e. 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;

- f. 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;
- g. encourage multilateral development banks, donors and financiers, international NGOs and local NGOs to upload their data on migratory species and linear infrastructure to relevant publicly accessible databases, as identified by the Scientific Council;
- h. 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.
- i. 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;
- j. develop guidelines for preparing and using ecological connectivity plans as tools for migratory species conservation;
- k. develop and circulate among Parties impact assessment (including strategic environmental assessment) screening guidelines including requirements of migratory species and ecological connectivity in linear infrastructure development, as guidance materials for the implementation of CMS Resolution 7.2 (Rev.COP12) *Impact Assessment and Migratory Species*;
- l. 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 CAMI infrastructure guidelines review and other sources; and translate CMS guidelines into national languages;
- m. 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 barrier in the CAMI region and beyond; and identify those species that need further analysis/research;
- n. identify databases for spatial data on existing and planned linear infrastructure in cooperation with relevant experts;
- o. 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;
- p. 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).