



# MIGRATORY SPECIES AND INFRASTRUCTURE

Elephant passing under a bridge © Bored Panda/Pinterest

## WHY DOES INFRASTRUCTURE MATTER?

Infrastructure provides a range of socio-economic benefits. Estimates suggest that by 2030, over US\$90 trillion will be required for infrastructure development to achieve the Sustainable Development Goals and to reduce climate risks in line with the Paris Agreement. Yet, unsustainable practices when developing infrastructure often have significant negative impacts on migratory species and their habitats.

## TYPES OF INFRASTRUCTURE

There are many different types of infrastructure, including the following:

- linear infrastructure: e.g. railways, roads, pipelines, fences, telecommunications cables, canals
- energy infrastructure (may include linear infrastructure): e.g. power plants, hydroelectric dams, wind turbines
- urban/social infrastructure: e.g. buildings, leisure infrastructure
- transport infrastructure (may include linear infrastructure): e.g. airports
- water infrastructure: e.g. wastewater treatment plants, dams
- marine infrastructure: e.g. ports, sea defences, underwater pipelines

## What are the impacts on migratory species?

Infrastructure development fragments and destroys habitat and creates barriers to the movements of animals, thereby isolating populations and preventing access to essential resources such as food and water, causing die-offs and reduced fitness. Infrastructure also causes direct injuries and mortality through collisions as well as disturbance and pollution. The loss of **ecological connectivity** leads to genetic isolation, leaving smaller populations more vulnerable and prone to local extinction. Infrastructure development may cause other indirect impacts such as increased killing of wildlife due to easier access.

## Ecological connectivity

Migratory species are dependent on being able to move freely over long distances to find the best forage or escape harsh weather events. Their movements are a critical element of their ecosystem and disrupting them also puts other species at risk. Ecological connectivity, the unimpeded movement of species and the flow of natural processes that sustain life on Earth, is therefore essential for the survival of migratory species. Through the [Gandhinagar Declaration](#) (COP 13, Gandhinagar, 2020), CMS Parties reaffirmed their commitment to maintaining and restoring ecological connectivity as one of the priorities for the Convention. The Declaration also calls for ecological connectivity to be effectively reflected in the [post-2020 global biodiversity framework](#).

## What should CMS Parties do?

In line with Article III.4.b) of the Convention, CMS Parties shall endeavour to prevent, remove, compensate for or minimize, as appropriate, the adverse effects of activities or obstacles that seriously impede or prevent the migration of the species.

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Marine infrastructure poses threats to marine wildlife © Aaron Crowe

## Actions Under CMS

### Energy infrastructure (e.g. dams, wind farms, powerlines)

- » **Collisions** with energy infrastructure such as wind turbines and powerlines are a threat to many migratory birds and bats. [The Energy Task Force \(ETF\)](#), a multi-stakeholder platform, has been spearheading the discussion on mainstreaming the conservation of migratory species across the energy sector, via innovative and responsible renewable energy solutions. Relevant Guidelines include:
  - [Renewable Energy Technologies and Migratory Species: Guidelines for Sustainable Deployment](#)
  - [Guidelines on How to Avoid or Mitigate Impact of Electricity Power Grids on Migratory Birds in the African-Eurasian Region](#)
  - [Guidelines for consideration of bats in wind farm projects](#)
- » **Dams** can be a barrier to migration movements of freshwater fauna such as salmon and eels.

### Marine infrastructure (e.g. ports, sea defences, offshore wind farms, oil platforms)

- » **Underwater noise** has an impact on marine wildlife, including migratory species, their prey, and commercially valuable fish species.
- » The [Joint Noise Working Group](#) of CMS, [ACCOBAMS](#) and [ASCOBANS](#) provides advice on how to mitigate this threat from offshore developments, including wind farms, seismic surveys and resource extraction.
- » [CMS Family Guidelines on Environmental Impact](#)

[Assessments for Marine Noise-generating Activities](#) provide guidance for practitioners.

- » Beach-front development can cause **habitat loss, and light and noise pollution**, sometimes leading to the loss of marine turtle nesting sites. To address light pollution, CMS Parties adopted Resolution 13.5 [Light Pollution and Migratory Species](#) (COP13, Gandhinagar, 2020), which contains guidelines. Thirty-five countries coordinate their efforts on marine turtle conservation under the [Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia \(IOSEA Marine Turtles MOU\)](#).

### Linear infrastructure

- » Fences, railways, roads, pipelines and canals create significant **barriers to the movements of migratory mammals**. Under the [Central Asian Mammals Initiative \(CAMI\)](#), 14 Central Asian countries are coordinating efforts to implement effective mitigation measures and ensure that species such as the Saiga Antelope, the Asiatic Wild Ass or the Mongolian Gazelle can continue to move freely across the Central Asian steppes and deserts.
- » A **Linear Infrastructure Working Group** will be established under the CMS Scientific Council to review available guidelines and standards and to identify areas for further assistance to the Parties under the CMS framework.

### Other types of infrastructure

- » The Scientific Council will be reviewing the types of infrastructure that have not been addressed under CMS and are of relevance to the conservation of CMS-listed species.

## About CMS

The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as the Bonn Convention, works for the conservation of a wide array of endangered migratory animals worldwide through negotiation and implementation of agreements and species action plans. It has 131 Parties (as of 1 September 2020).

CMS engages all relevant stakeholders in addressing threats to migratory species in concert with all other aspects of wildlife conservation and management.

## CMS Instruments

Animals receive protection under CMS through listing on its two Appendices, through global or regional agreements and through action plans.

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