

PLASTIC POLLUTION & MIGRATORY SPECIES

TWO CMS REPORTS



Report 1

IMPACTS OF PLASTIC POLLUTION ON FRESHWATER AQUATIC, TERRESTRIAL AND AVIAN MIGRATORY SPECIES IN THE ASIA AND PACIFIC REGION



Smalltooth Sawfish entangled in a fishing line. © Gregg Poulakis, Reproduced with permission

Freshwater species at risk of death by entanglement and ingestion

- Air-breathing freshwater mammals are particularly at risk from plastic pollution. Entanglement in plastic waste can prevent them from reaching the surface, leading to drowning.
- The Ganges River Dolphin was recently rated as the second most vulnerable species at risk of entanglement in the Ganges. In the Mekong, drowning because of entanglement in nets is the key threat to Irrawaddy Dolphins that are estimated to number less than 100 individuals.

Discarded fishing gear, kite strings are among major threats

- This is especially the case for aquatic species, but also for terrestrial and avian species which encounter these discarded materials on land.

Birds are most observed species interacting with plastic debris

- With nearly 500 species, birds represent over 80 per cent of the CMS-listed species in the Asia-Pacific region. There is significant evidence for bird interaction with plastics.
- Migratory birds have been observed making nests out of plastics, using fishing lines and shipping debris, often resulting in the entanglement of their chicks.

Terrestrial mammals likely to be impacted by plastic pollution with more research needed

- Evidence indicates that plastic ingestion is likely to be adversely impacting a wide variety of animals on land.
- Protected under CMS since COP 13 2020, the Asian Elephant has been observed scavenging on rubbish dumps in India, Sri Lanka, and ingesting plastic in Thailand.

ABOUT THE REPORT (August 2021)

The study, prepared in cooperation with the National Oceanography Centre (NOC), United Kingdom, focuses on the impacts that plastic pollution has on animals that live on land and in freshwater environments in the Asia-Pacific region. The study found that:

- Species protected under CMS are impacted by plastic pollution in river ecosystems and on land, including freshwater species, land animals and birds.
- Migratory species are likely to be among the most vulnerable to plastic pollution
- Many of the CMS-listed species in the region are endangered. While plastic pollution is not the only threat to migratory species, it can cause harm including mortality of individuals, and poses an additional stressor that may impact the species' survival.

NEED FOR MORE RESEARCH ON FRESHWATER AND TERRESTRIAL ENVIRONMENTS

- While most plastics are used and disposed of on land, research on the impacts of plastic pollution has largely focused on marine ecosystems.
- Research on plastics in the freshwater environment account for only 13% of the plastics studied in all aquatic systems. Only 4% of peer-reviewed studies on the impacts of plastic pollution are relevant to terrestrial ecosystems.

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MIGRATORY SPECIES AT RISK TO PLASTIC POLLUTION

Of 23 species studied, the risk analysis determined that the Ganges River Dolphin, Gharial, Mekong Giant Catfish, and the Irrawaddy Dolphin are clearly impacted by plastic pollution.

Ganges River Basin

Species	Entanglement		Ingestion	
	Interaction	Impact	Interaction	Impact
Ganges River Dolphin	M	H	M	PL
Gharial	H	H	L	UL

Mekong River Basin

Species	Entanglement		Ingestion	
	Interaction	Impact	Interaction	Impact
Mekong Giant Catfish	H	H	M	SL
Irrawaddy Dolphin	M	H	M	PL

Coding:

Interaction High Moderate Low Unlikely
Impact High Potentially Lethal Sub-lethal Unlikely

Report 2

RISK ASSESSMENT OF PLASTIC POLLUTION TO MIGRATORY SPECIES IN THE MEKONG AND GANGA RIVER BASINS
 A METHODOLOGY AND RISK ANALYSIS



ABOUT THE REPORT (March 2022)

CMS in collaboration with UNEP and the Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia present a methodology for assessing the risk of plastic pollution to freshwater and terrestrial migratory species. Governments are encouraged to adopt the methodology.

This information provided is a result of a collaboration between the Convention on Migratory Species and the UN Environment Programme as part of the CounterMEASURE-II plastic pollution programme, generously funded by the Government of Japan. For more information and to download the reports please visit:

<https://www.cms.int/en/project/countermeasure-ii-project>
<https://countermeasure.asia/>



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METHODOLOGY FOR THE RISK ASSESSMENT

- The methodology for estimating the risk of plastic pollution to migratory species includes:
 - Creation of a risk matrix** based on the likelihood of a species to interact with plastics and the result of the interaction
 - Determination of the relative pressure** from ingestion or entanglement (modelling of plastic debris densities)
 - Determination of habitat overlap** of migratory species
 - Calculation of the expected risk** posed by plastic debris
 - Generation of risk maps**
- Urgency is needed in filling data gaps in conducting a robust risk analysis (plastic litter loads and species distribution)

RECOMMENDED ACTIONS FROM BOTH REPORTS

- Upstream reduction of plastics in the commerce stream through industry and government regulations, incentives, and practices.
- More effective product design, waste management and recycling.
- Include the reduction of plastic pollution in conservation measures for migratory species.
- Need for more research on the impacts of plastics on terrestrial and freshwater species
- Education campaigns and programs to raise awareness among citizens.

