



Impact of Plastic Pollution on Wetlands

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Order of Presentation

Introduction - Convention on Wetlands

Impact of Plastic Pollution on Wetlands and Migratory
Birds

What are wetlands?



Land areas that are flooded with water, either seasonally or permanently



Inland wetlands: marshes, ponds, lakes, fens, rivers, flood plains and swamps



Coastal wetlands: mangroves, saltwater marshes, estuaries, lagoons - even coral reefs



Man-made wetlands include fish ponds, saltpans, rice paddies

Wetlands sustain life



Drinking water

Flood protection

Jobs

Food Production

Climate regulation

Biodiversity

Ramsar Convention on Wetlands

Intergovernmental treaty on wetlands

- First modern global environmental agreement
- 172 Parties (Countries)
- Provides the framework for the conservation and sustainable use of wetlands
- Designation of Wetlands of International importance (Ramsar Sites)



Convention on Wetlands

Background

1962: Initial call for an international convention on wetlands

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1971: 18 nations signed the Convention on Wetlands of International Importance especially as Waterfowl Habitat;

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1974: Australia became the first State to deposit an instrument of accession to the Convention;

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1975: The Convention entered into force upon receipt by UNESCO



The Convention on Wetlands of International Importance especially as Waterfowl Habitat is agreed by representatives of 18 nations,
2 February 1971
(Ramsar Handbook, 5th Edition)

Convention on Wetlands

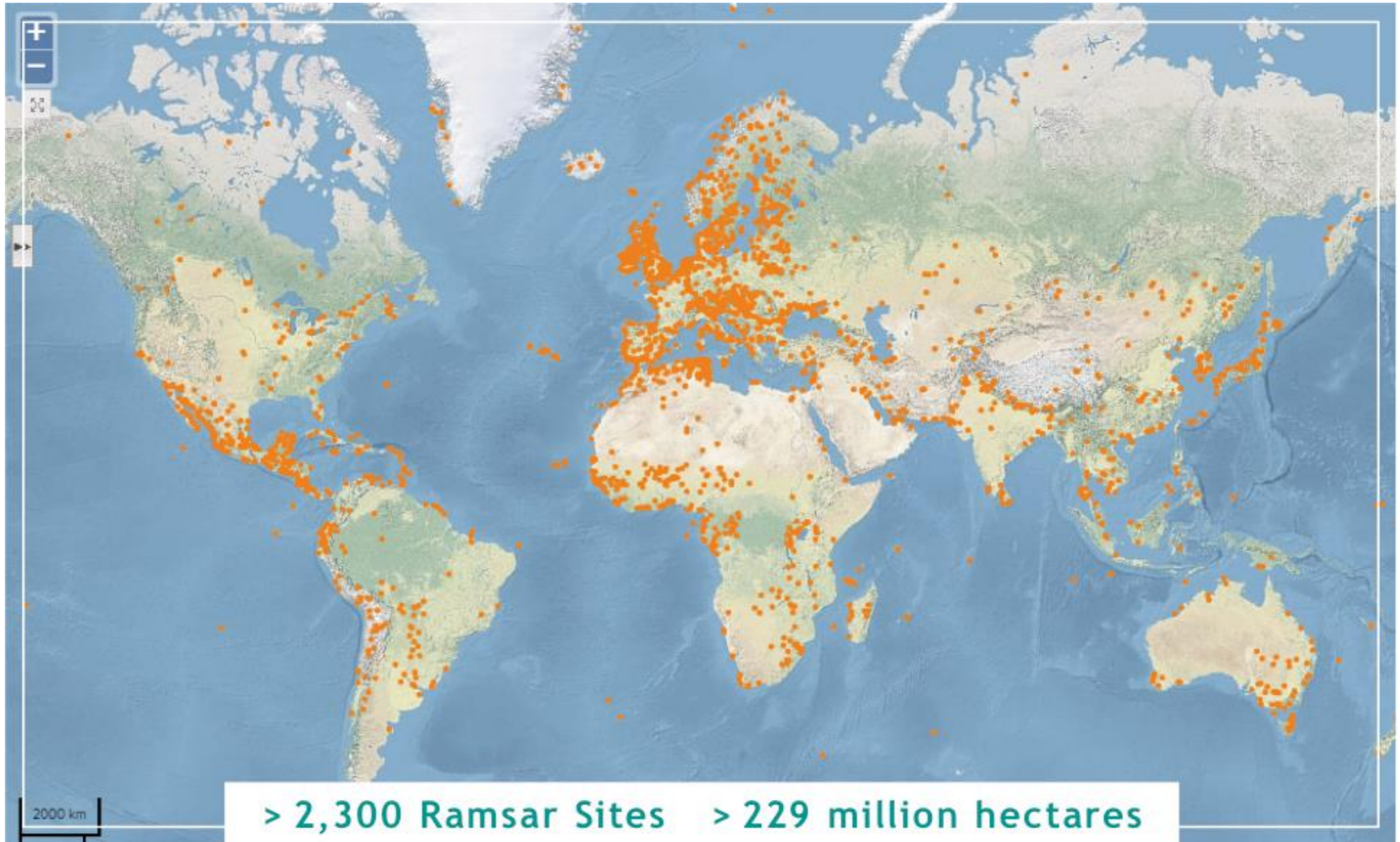
Three Pillars

Work towards the wise use of all their wetlands;

- Designate suitable wetlands for the list of Wetlands of International Importance (the “Ramsar List”) and ensure their effective management;

- Cooperate internationally on transboundary wetlands, shared wetland systems and shared species

Wetlands of International Importance 'Ramsar Sites'





Republic of Korea has 24 Ramsar Sites - 4 Sites in Jeju Island.

(Mulyeongari-oreum, Muljangori-oreum Wetland, 1100 Altitude Wetland, Dongbaekdongsan)



The challenge -
wetlands are equated with wasteland





As a result, wetlands are being lost at an alarming rate

- ❗ 87% of Wetlands have been lost since 1700 AD
- ❗ 35% of wetlands lost since 1970
- ❗ Wetlands are being lost at a rate of 3 times faster than tropical forests
- ❗ 4,875 wetland-dependant species are threatened with extinction
- ❗ Globally over 80% of wastewater is released into wetlands

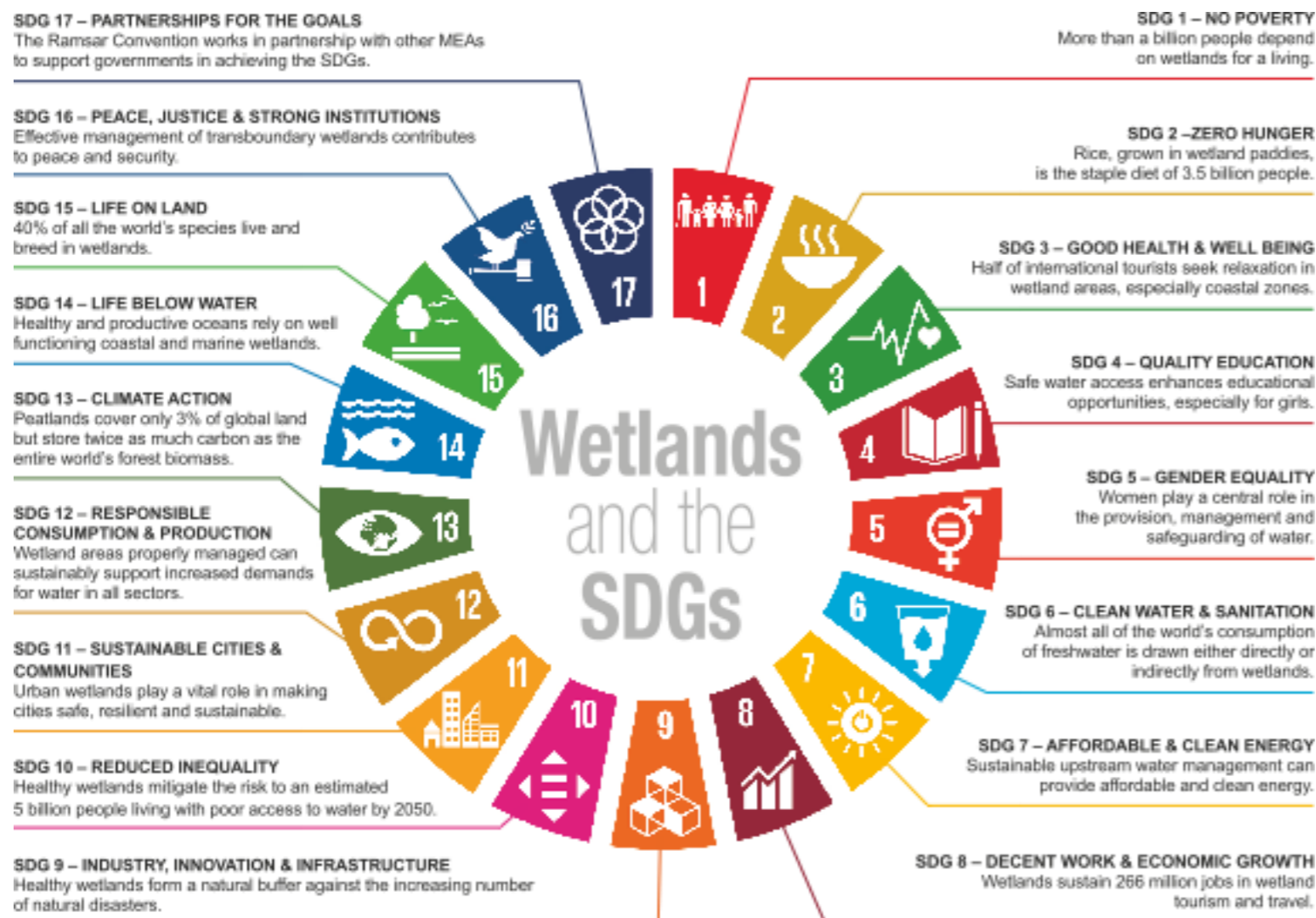
**Immediate action is required to
stop this loss**



Nonetheless, wetlands have tremendous value

- ➔ Almost all of the world's freshwater is drawn from wetlands
- ➔ Wetlands are the world's largest carbon store
- ➔ Wetlands purify and filter harmful waste from water
- ➔ Our food supply depends on wetlands
- ➔ Extreme climatic events are mitigated by wetlands
- ➔ Wetlands provide jobs and sustainable livelihoods
- ➔ Almost half of all animal species live and breed in wetlands

Wetlands are essential to achieving the Sustainable Development Goals



Co-Custodian of indicator 6.6.1

- Ramsar is co-custodian with UN Environment Programme (UNEP) on SDG indicator 6.6.1

- Ramsar reports on wetland extent using National Reports. UNEP provides satellite data

- Wetlands contribute to 75 SDGs indicators



Wetlands contribute to other key global agreements

Aichi Targets

global framework for biological diversity

Sendai Framework

for disaster risk reduction

Paris Agreement

to combat climate change

Countries that integrate wetlands into their national plans, will be more successful in meeting their national commitments under these global agreements



8.3 billion tonnes of plastic has been produced since the early 1950s.

60% of that plastic has ended up in either a landfill or the natural environment.



In contrast to other trash, plastic can float around for decades. In addition to being harmful to terrestrial and aquatic life, plastics can absorb toxins and break up into microplastics which then enter the food chain. That is our food chain-

James Dalton, IUCN Director Global Water Programme



Microplastics in the seas now outnumber stars in our galaxy. From remote islands to the Arctic, nowhere is untouched. If present trends continue, by 2050, our oceans will have more plastic than fish.

~ UN Secretary General António Guterres



How serious plastic pollution is?

300

million



300 million tonnes of plastic is produced every day

150

million



Half of them are designed to be used once

8

million



More than 8 million tonnes of plastic flows with rivers and leaks into the ocean each year

800

species



800 marine and coastal species in the world are affected

The most harmful types of plastic to wildlife



Rope and netting



Fishing materials



Intact items and packaging



Fragments

- The number of seabirds dying from plastic :
1 million every year
- 90% of seabirds have plastic in their guts
- Will reach 99% by 2050



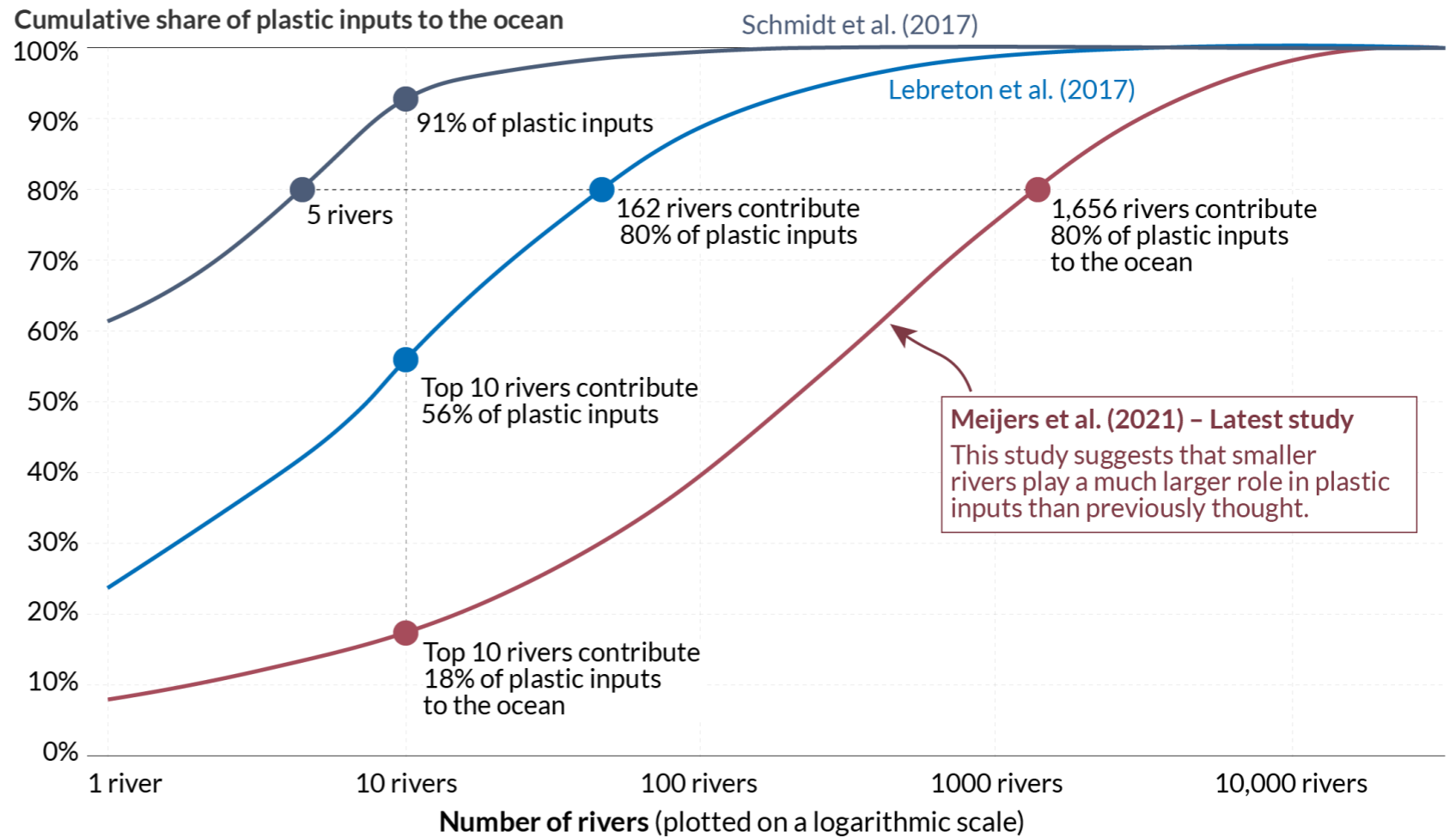
An underwater photograph showing a dense field of plastic debris in clear blue water. The debris includes various types of plastic, such as small white and blue fragments, larger pieces of clear plastic, and some brown, fibrous material. The scene is illuminated from above, creating a bright, slightly hazy atmosphere.

How plastics and waste gets into seas and oceans?

Pollutants find their way through river systems into seas

How many rivers are responsible for what share of plastic input into the world's oceans?

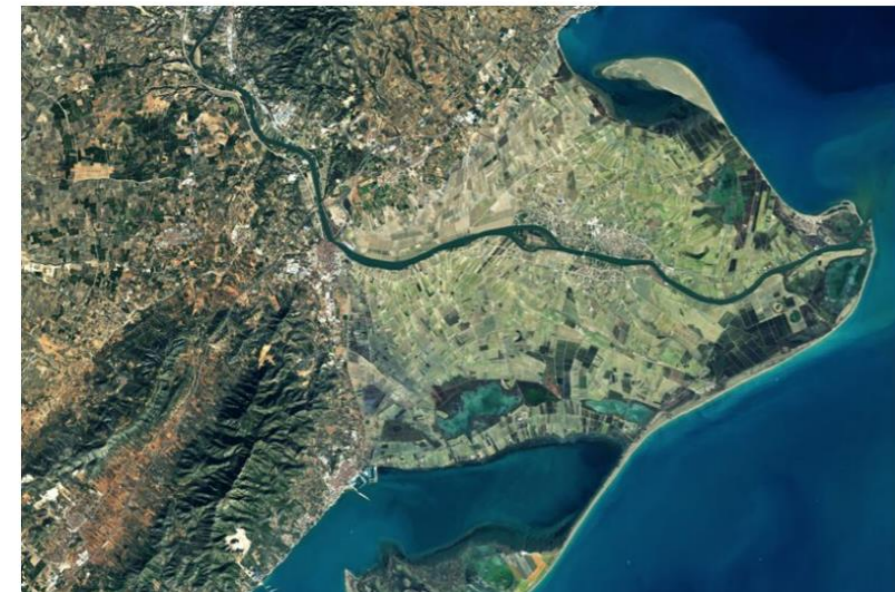
Two earlier studies (in blue) compared with the latest study that uses higher-resolution data (in red).



Source: Lourens Meijer et al. (2021). Over 1,000 rivers account for 80% of global riverine plastic emissions into the ocean. *Science Advances*. OurWorldinData.org - Research and data to make progress against the world's largest problems. Licensed under CC-BY by the author Hannah Ritchie (2021).

Rivers Are a Highway for Microplastics into the Ocean

New research shows that rivers are the main road for all the plastic pollution that gets into the ocean, including microplastics.



An underwater photograph showing a dense field of microplastics in the water. The particles are small, translucent, and vary in shape and size, appearing as a cloud of tiny specks. Some larger, more complex structures are also visible, possibly representing larger pieces of plastic that have broken down. The water is a deep blue color, and the overall scene is somewhat hazy, emphasizing the sheer volume of the pollution.

***Research on microplastics
in the Mediterranean/ Europe***

Research Expedition on microplastics



- **Oceaneye** is a non-profit association based in Geneva. Its main objective is to contribute to the study and analysis of ocean pollution. Since 2014 Oceaneye provides its data to GRID, the database of the United Nations Environment Program.



- **La Swiss Cetacean Society (SCS)** Swiss Swiss Society for the Study and Protection of Cetaceans – NGO dedicated to the conservation of marine mammals (conducting scientific research)

Large volumes of microplastics exist in Lake Geneva

JUL 18, 2019 - 13:37



Paddle-boarding on the pristine-ish waters of Lac Léman, or Lake Geneva.

(© Keystone / Laurent Gillieron)

The turquoise glory of Switzerland's largest lake is less clean than it seems: a recent analysis by the Oceaneye group shows that Lake Geneva contains large quantities of plastic waste smaller than 20 centimetres.

Samples taken in 2018 across 14 locations reveal a rate of 129g/km² of plastic waste 1-20mm in size, with a total of 14 million such particles floating in the Alps' largest lake.

The numbers put Lake Geneva firmly in the same category as bodies of water such as the Mediterranean. The global average for sea pollution is 160g/km².

Lake Geneva: 129 g/km²

Mediterranean: 160 g/km²

An underwater photograph showing a dense field of brown, fibrous organic matter, likely seaweed or algae, suspended in clear blue water. The debris is scattered throughout the frame, with some larger clumps and many smaller fragments. The lighting is bright, creating a clear view of the particles.

Solutions?

Source-to-Sea Management: holistic approach is needed

- Wetlands are the main pathway for plastic waste
 - one of the most important point for policy intervention
 - better management of wetlands - integral part of the plastic policy



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- Secretariat - member of the EMG *Task Team on Marine Litter and Microplastics*
 - Some resolutions, recommendations and guidance to prevent pollution of wetlands (without making specific reference to plastic pollution)

e.g. Recommendation 6.14 in toxic chemicals, Resolution VIII.1: Guidelines for the allocation and management of water for maintaining the ecological functions of wetlands

Thank You

