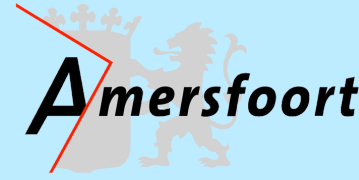


PLASTIC-FREE RIVERS

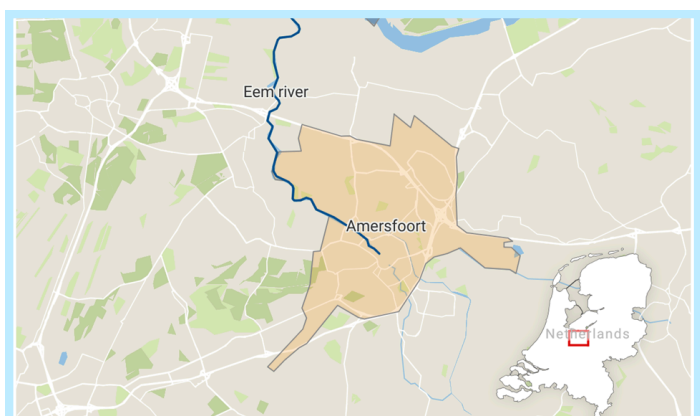
Strategies to tackle litter and microplastics in Amersfoort's canals and the Eem River, the Netherlands

Anouk Ruijters, Amira Perfors, Galang G Gibran, Lauranne Plessers, Omari Palmer



The challenge: plastic pollution

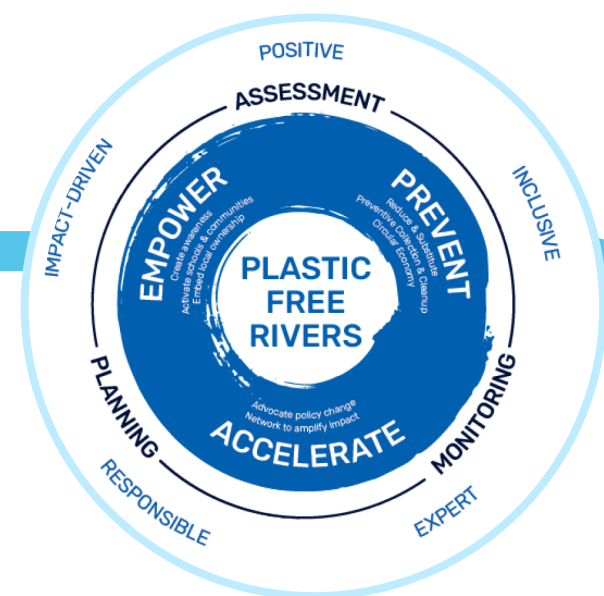
Plastic pollution is everywhere, in all **aquatic habitats and even in the human body** (1, 2), impacting ecosystems, human health, and infrastructure (3). 80% of this waste **originates on land**. From human activities, plastics enter the local stream, are **transported by rivers**, accumulate in the ocean and degrade into microplastics, particles smaller than 5 mm. The plastic problem is a local-global 21st-century challenge with **microplastics as an invisible pollutant**.



In collaboration with the Municipality of Amersfoort and the Water Board, this research aimed to determine **pathways to reduce plastic pollution in Amersfoort's urban canals and the Eem River**.



WATCH THIS VIDEO TO LEARN MORE !



The **Clean River Model** was adapted to form the base framework for this research (4)

Transdisciplinary methodology



Microplastics

Study on methods of microplastics measurement and microplastics monitoring plan



Litter

Study on floating litter: concentrations, behaviour, and composition



Technologies

Study on plastic removal systems, and how to select the most suitable one



Rights for Rivers

Study on key enablers for Rights of Rivers in Amersfoort's context



Awareness

Understanding resident awareness, behaviour and campaigns

Science

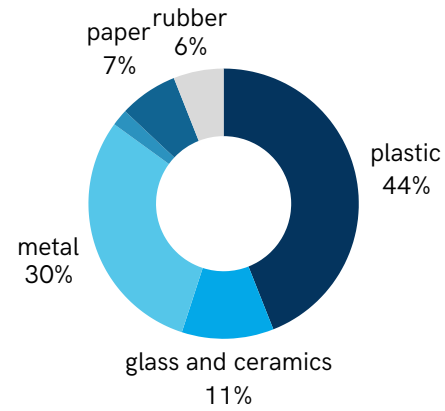
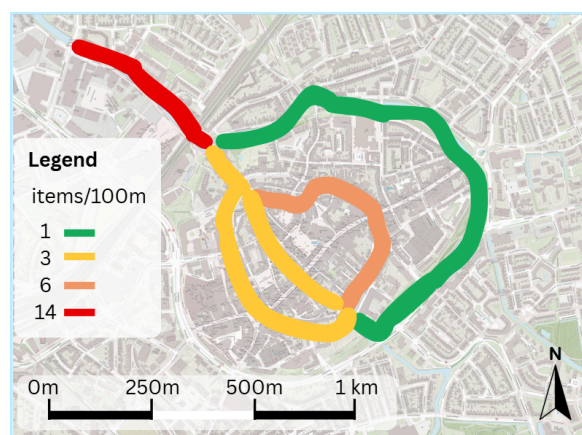


Problem framing
Collaborative research
Exploring impact



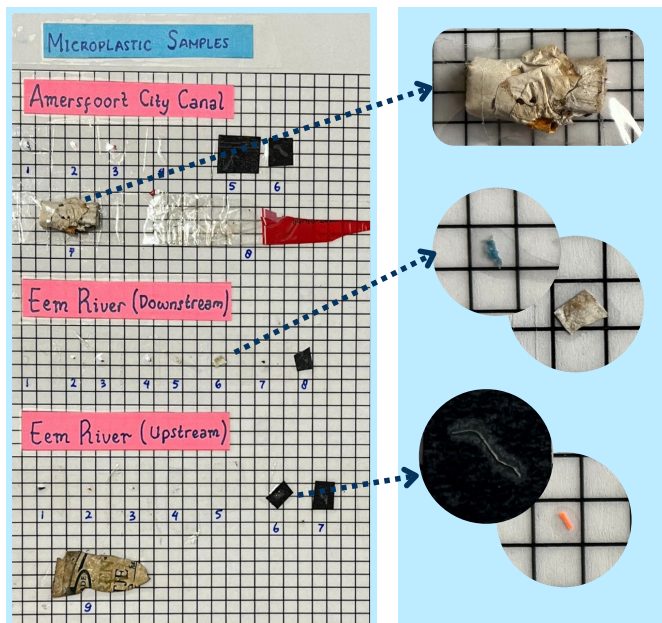
Society

Floating litter pollution



Litter mapping in Amersfoort revealed **the Eemhaven and inner centre to be the most polluted**. The dominant pollution comes from **single-use food and drink packaging**.

Microplastic pollution



±6,493 microplastic particles per km² is found in the city canals of Amersfoort

±23,589 microplastic particles per km² is found in the Eem river

Fibres and fragments are the most microplastic type found

How to tackle this pollution?

- **Continued data collection** on the pollution to understand and prove the problem
- Implementation of technological solutions for **plastics removal**
- Implement the Rights of Rivers at municipal scale to **accelerate systemic change**
- Foster pro-environmental behaviour for **upstream plastic prevention** through resident empowerment

From research to impact!

During a stakeholder workshop, a roadmap towards a plastic-free future was created.



We are accessible online!



Check all results, tools & recommendations in our **interactive Toolbox**



References

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(4) River Cleanup. (2024). Clean River Model | River Cleanup. River-Cleanup.org. <https://www.river-cleanup.org/en/clean-river-model>



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