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# Microplastics in the River Thames (UK) and its tributaries: presence and sources in sediments and fish

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# Inputs to rivers in the UK

- Storm drain input
- Effluent input (‘grey water’)
- Combined Sewage Overflows (raw sewage)
- Land runoff
- Drainage ditches (agricultural)
- Litter

*Photo: James Miller*

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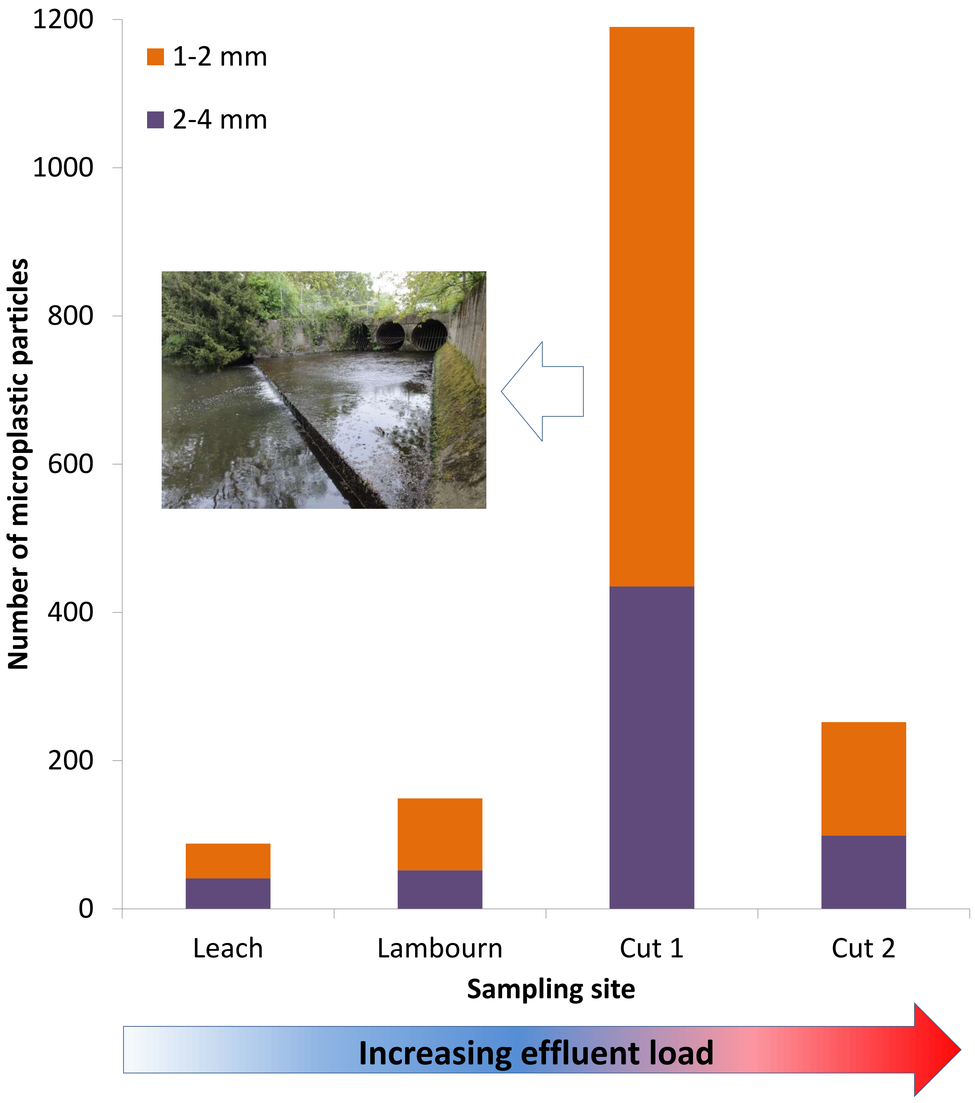
# Microplastics in sediment






*Horton et al (2017). Marine Pollution Bulletin*

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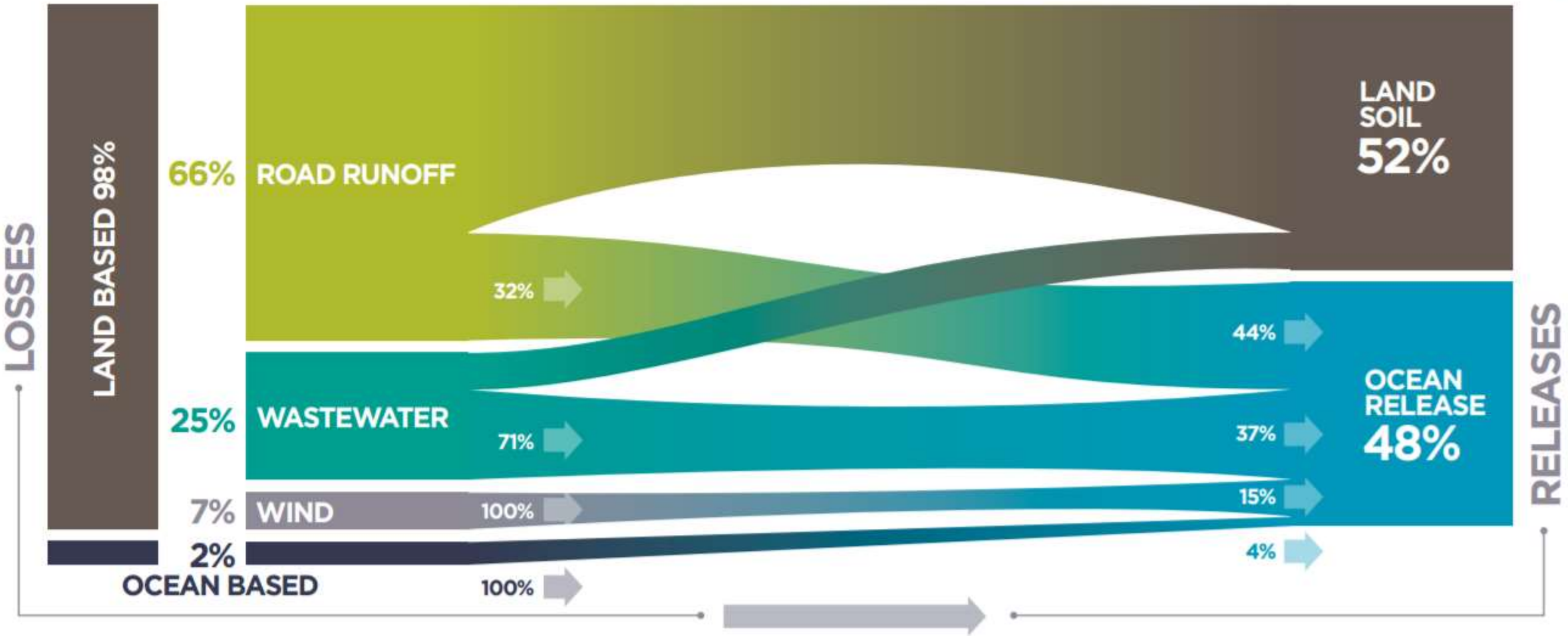
# GLOBAL RELEASES TO THE WORLD OCEANS:

## CONTRIBUTION OF DIFFERENT PATHWAYS TO THE RELEASE OF MICROPLASTICS

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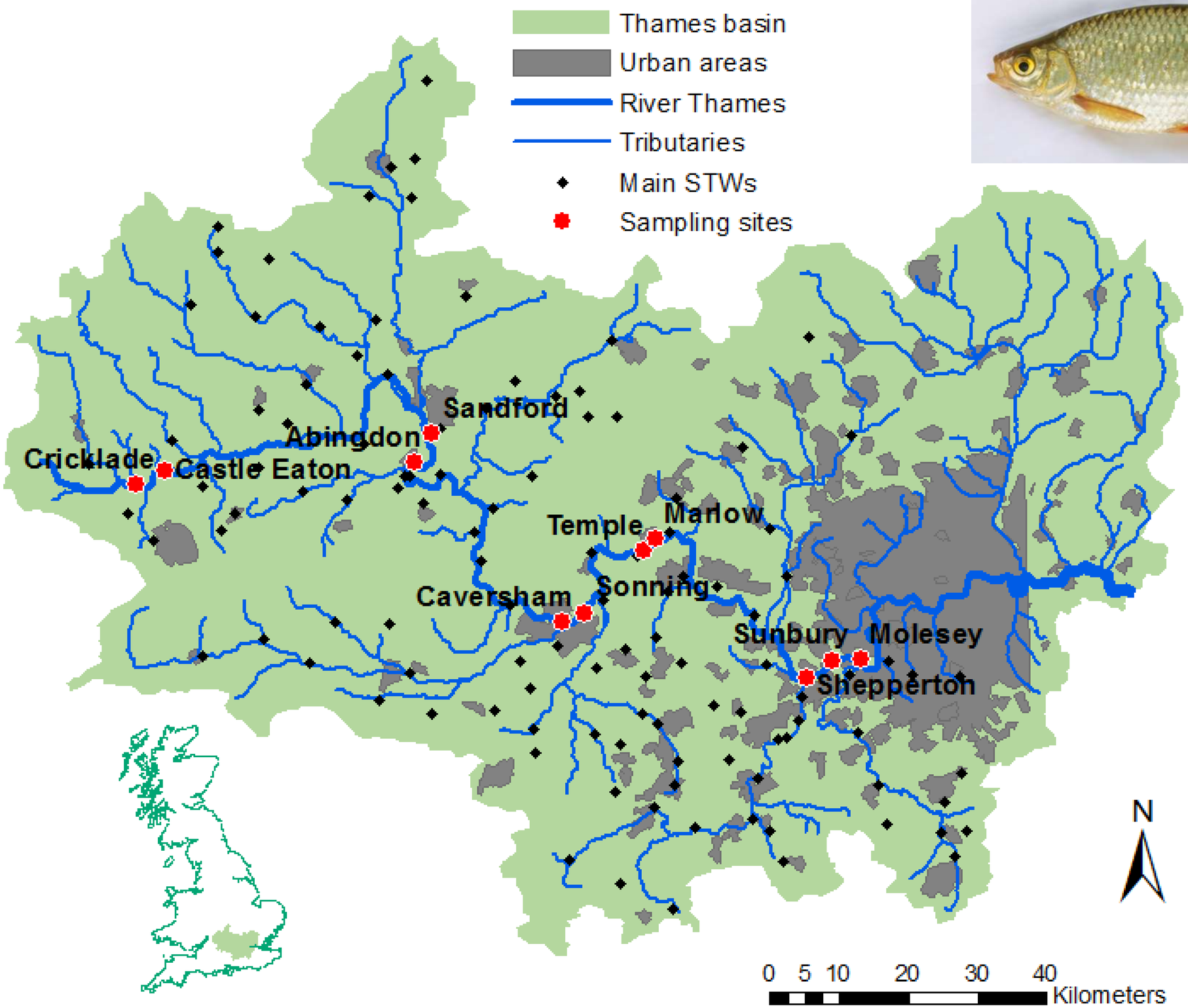
# Common roach in the Thames



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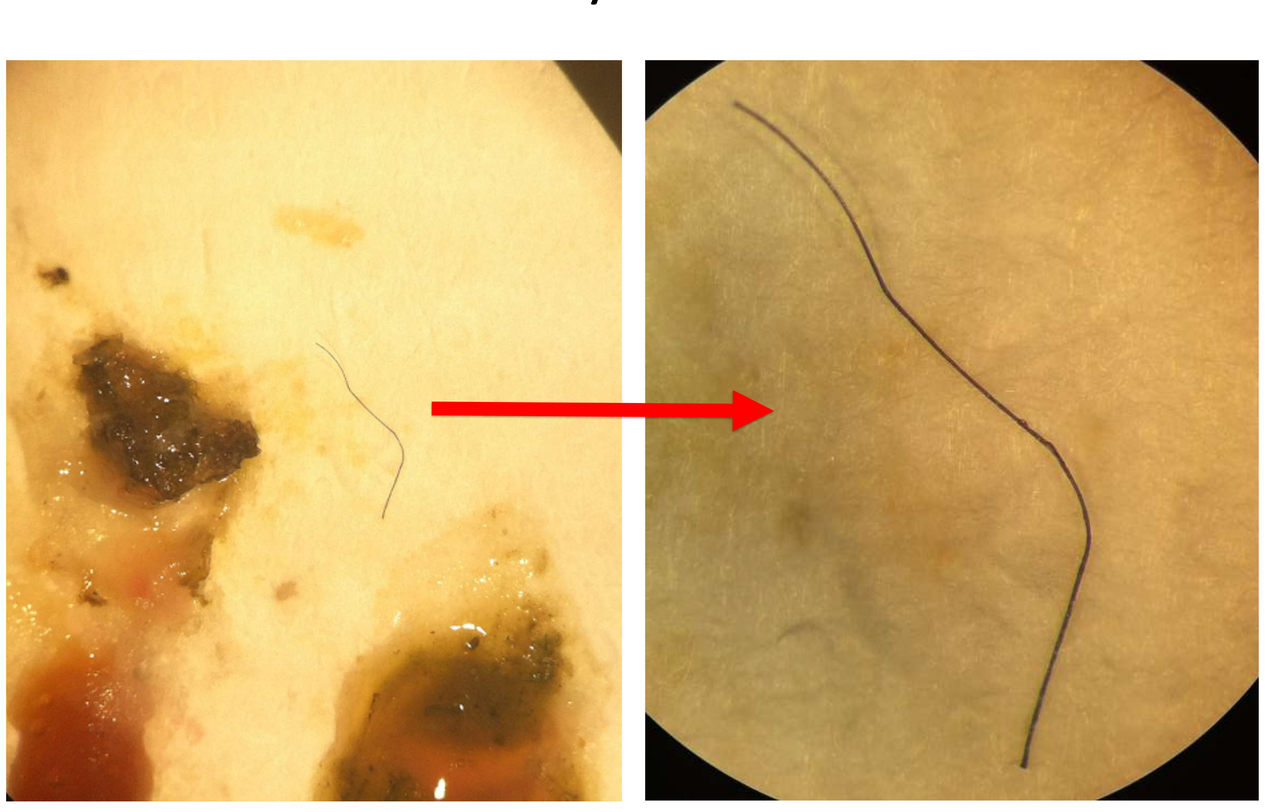
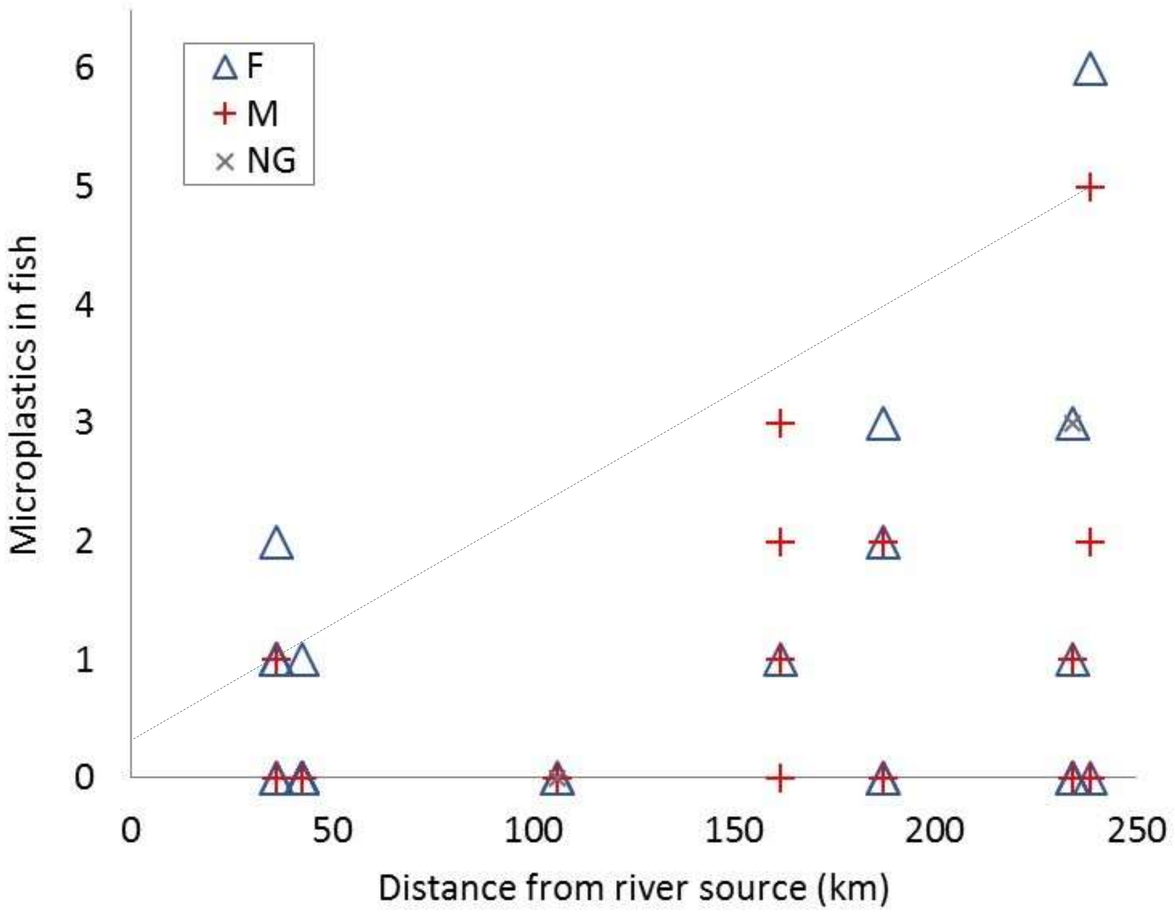
# Roach gut analysis - results

**Microplastics are ingested!**

33% of fish had ingested microplastics

Polymers identified as:
Polyethylene
Polypropylene
Polyester






Differences in ingestion based on:

1. Gender
2. Size of fish

*Horton et al (2018). Environmental Pollution*

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# Microplastics as a research priority

- Where do microplastics accumulate within the environment – can we link this to specific environmental conditions and human activities?

- To what extent are wastewater treatment plants contributing to microplastics in the environment (water/land)?

- Do microplastics cause harm to ecosystems?

- How do different polymer characteristics affect behaviour and ecological effects of microplastics?

- What are the human health consequences of microplastics?

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# Thank you

Acknowledgements: Elma Lahive, David Spurgeon, Claus Svendsen, Richard Williams, Monika Juergens

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