

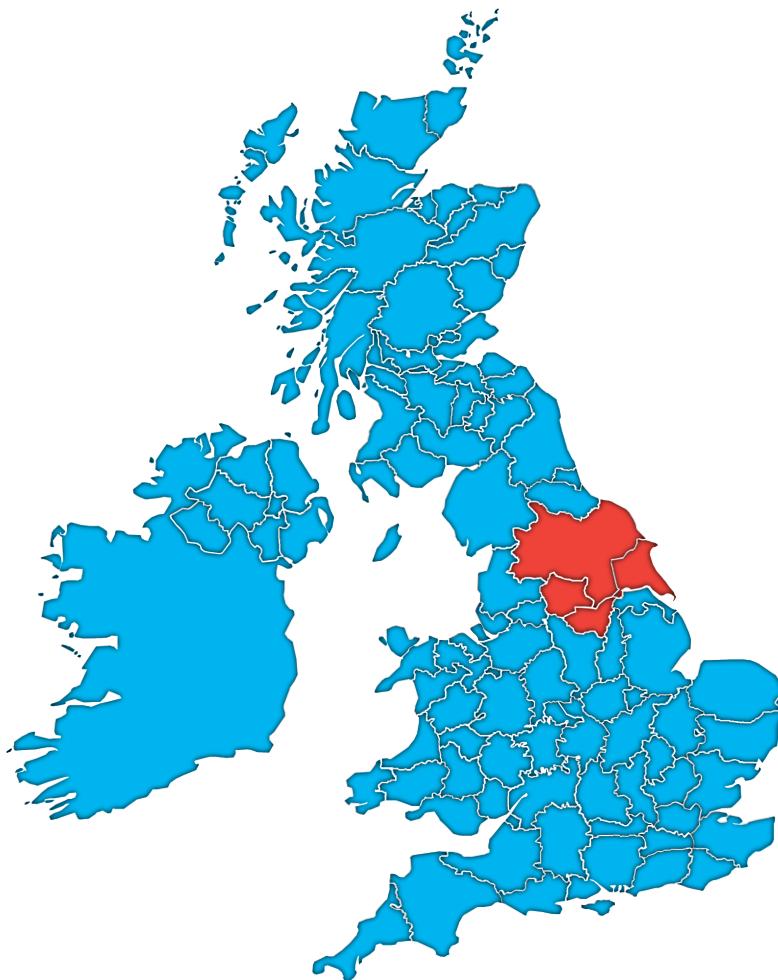
Wastewater Treatment and Microplastics - Sink, Source or Solution?

Matt Hill, Environmental Lead Advisor
16th October 2017

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Blueprint for Yorkshire**



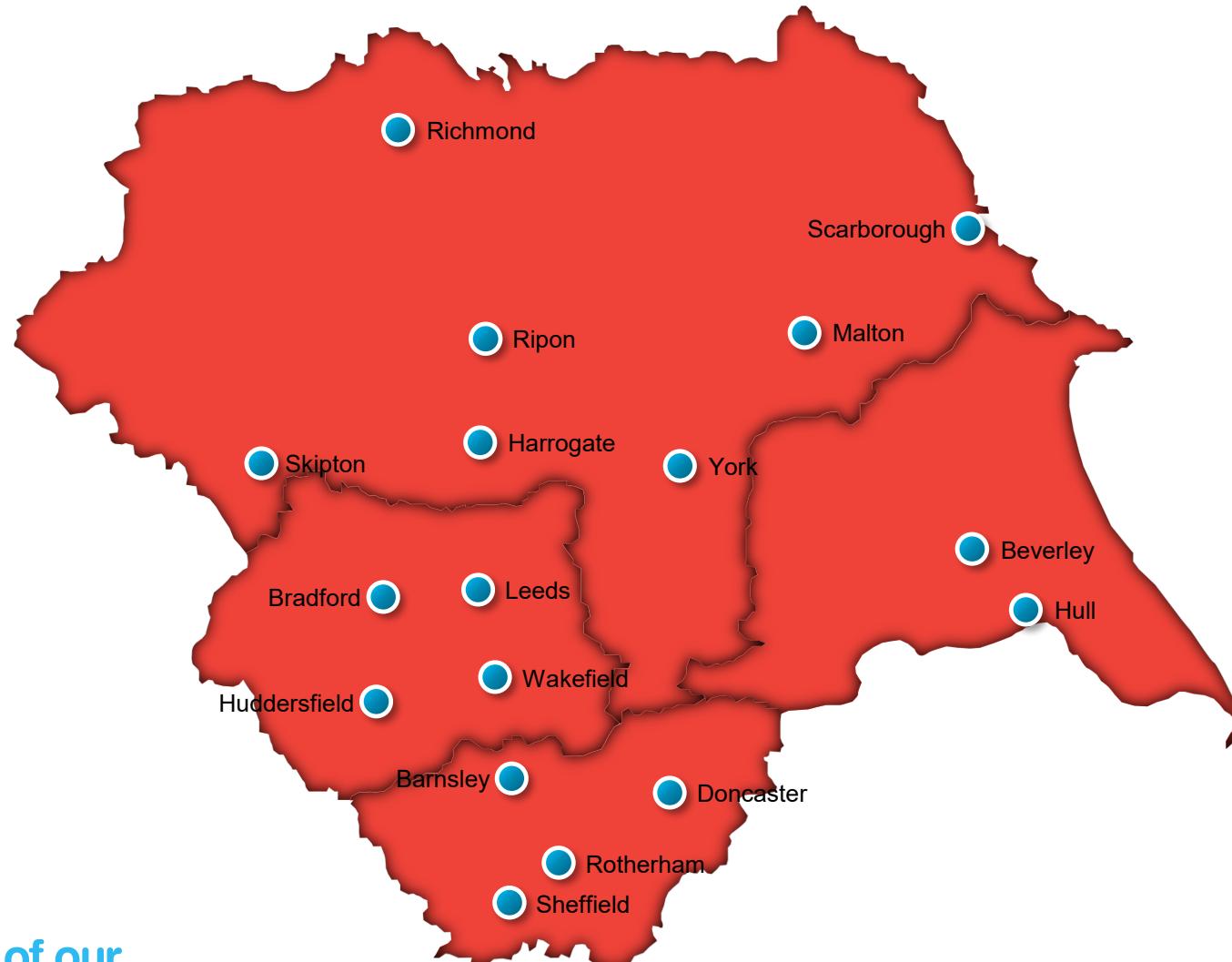
Yorkshire Water – location in the UK



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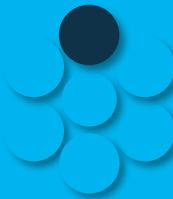
Yorkshire Water – operational area



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Wastewater Treatment and Microplastics - Sink, Source or Solution?



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What plastics do customers flush?



The most common items flushed are...



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Source: Think before you flush



What plastics do customers flush?

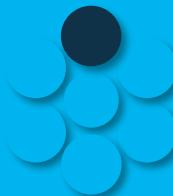


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Source: Huggies



What plastics do customers flush?

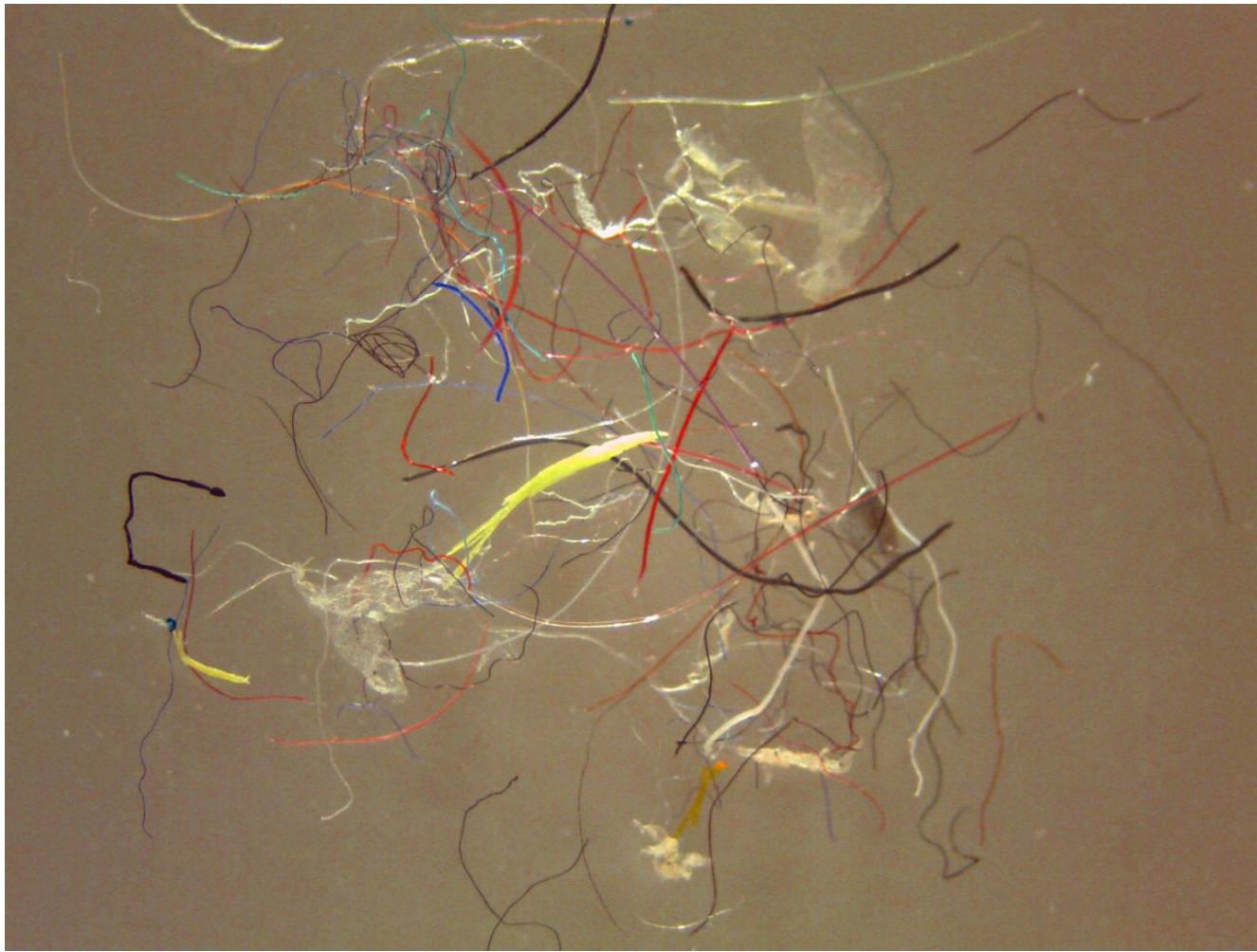


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What plastics do customers wash into sewers?



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[Source: Carrie Boyle KQED](#)



Where do these plastics go?



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Where do these plastics go?



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[Source: Manchester Evening News](#)



Where do these plastics go?

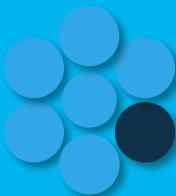


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Source: Daily Telegraph



Where do these plastics go?



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Source: Huber



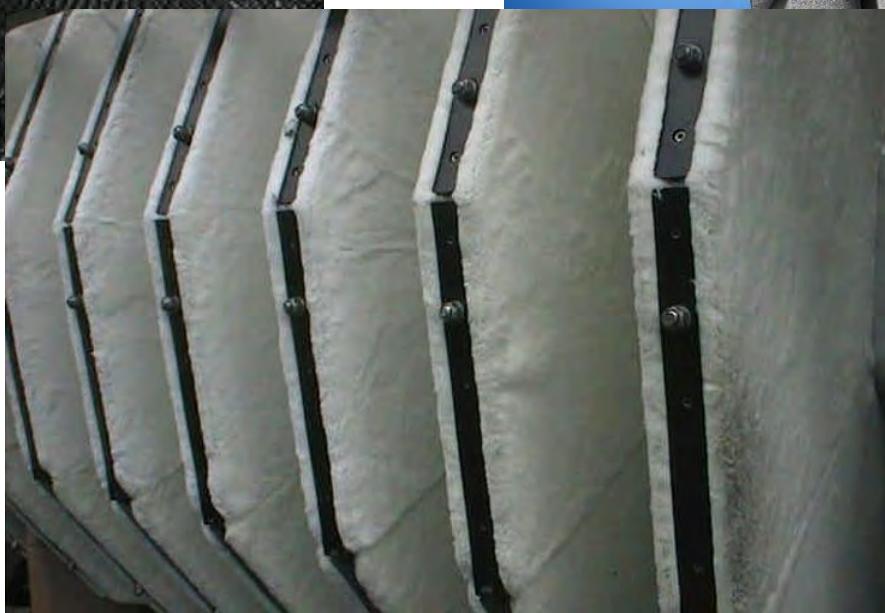
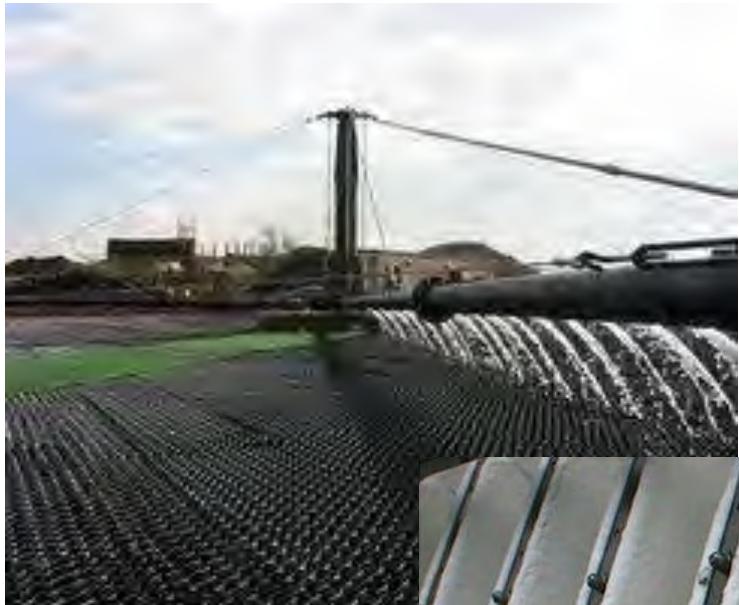
Where do these plastics go?



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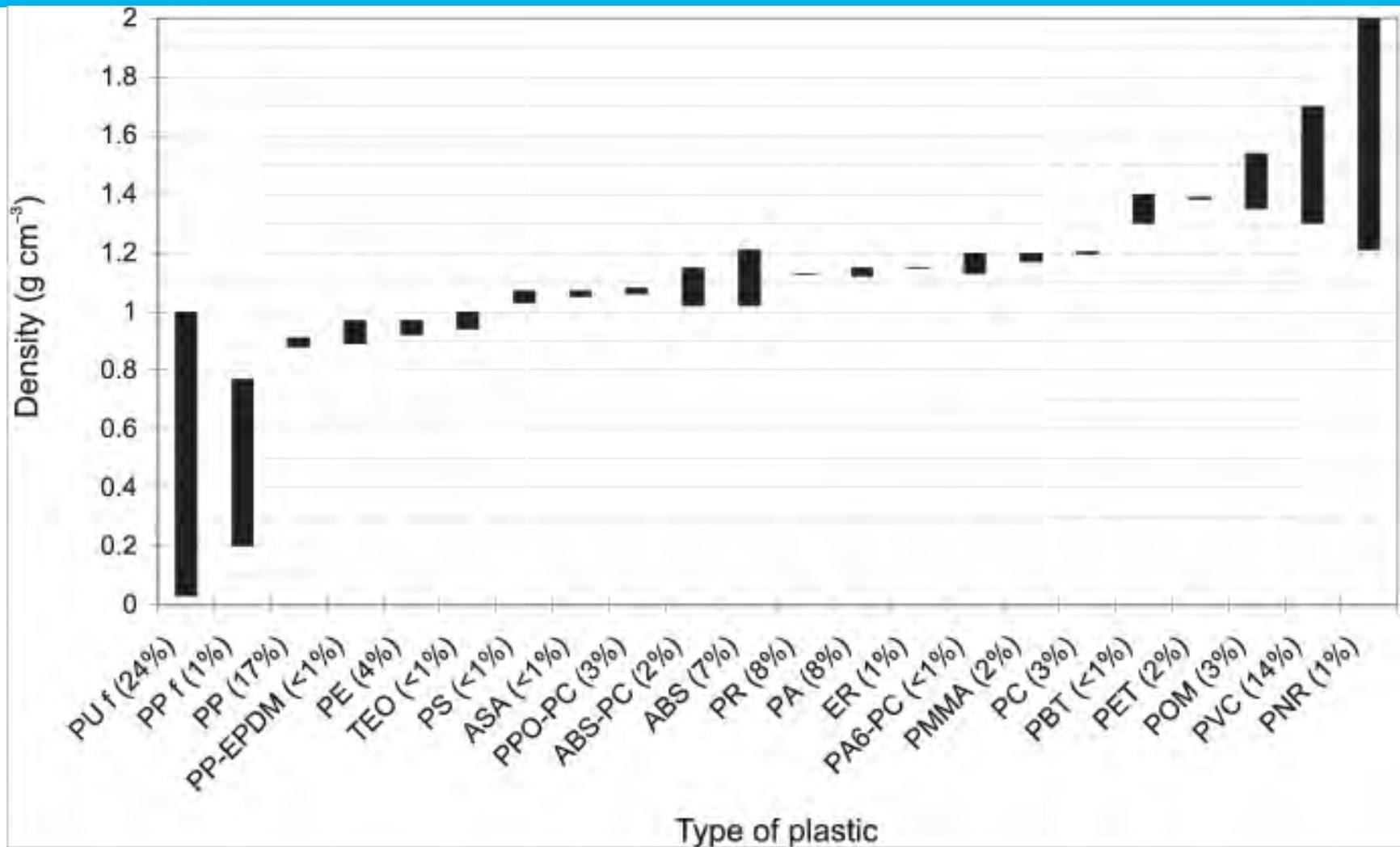
What plastics do WaSCs use in treatment?



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Where do plastics from wastewater treatment end up?

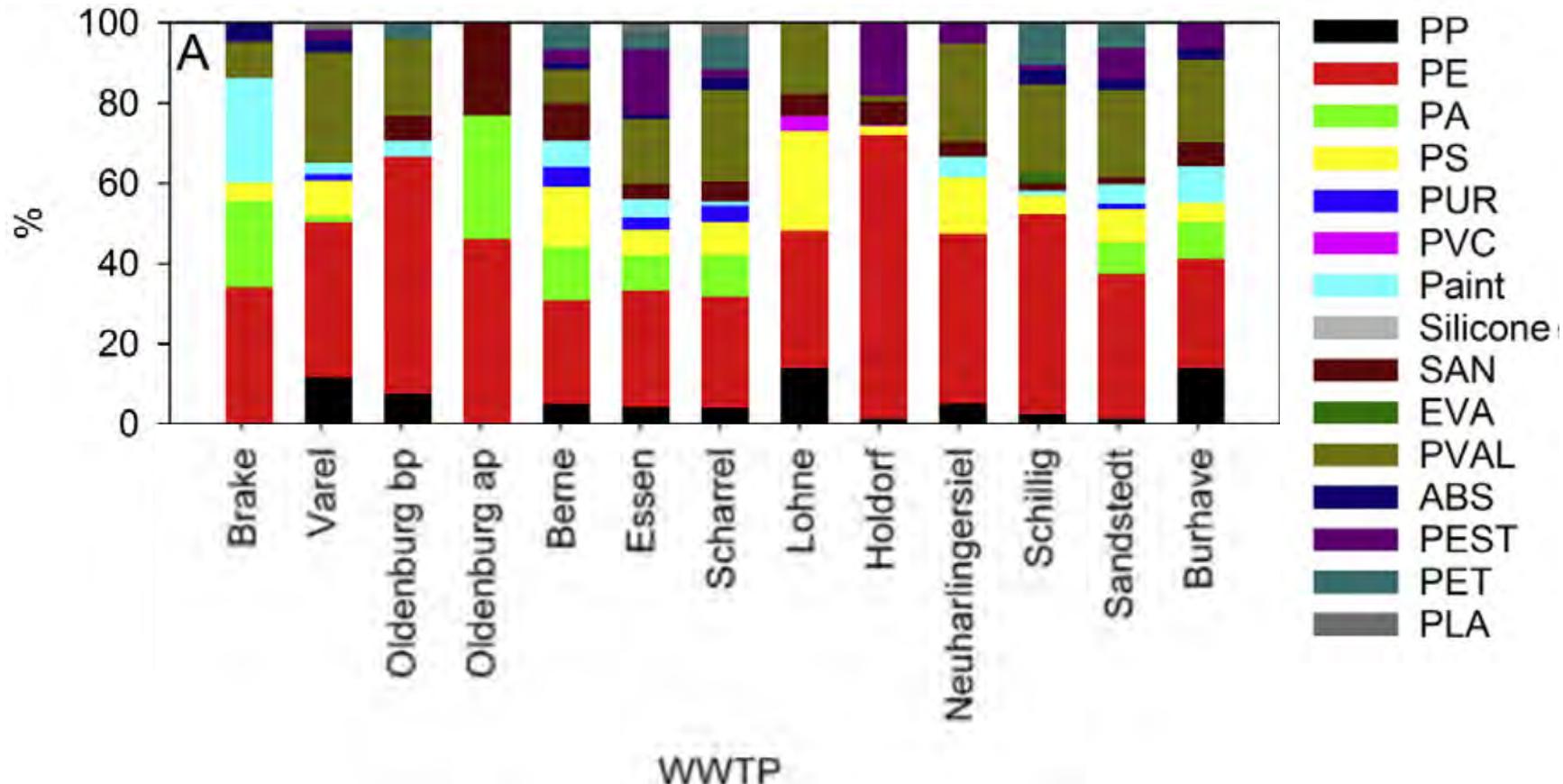


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Source: Gent, M. et al (2009)



Where do plastics from wastewater treatment end up?

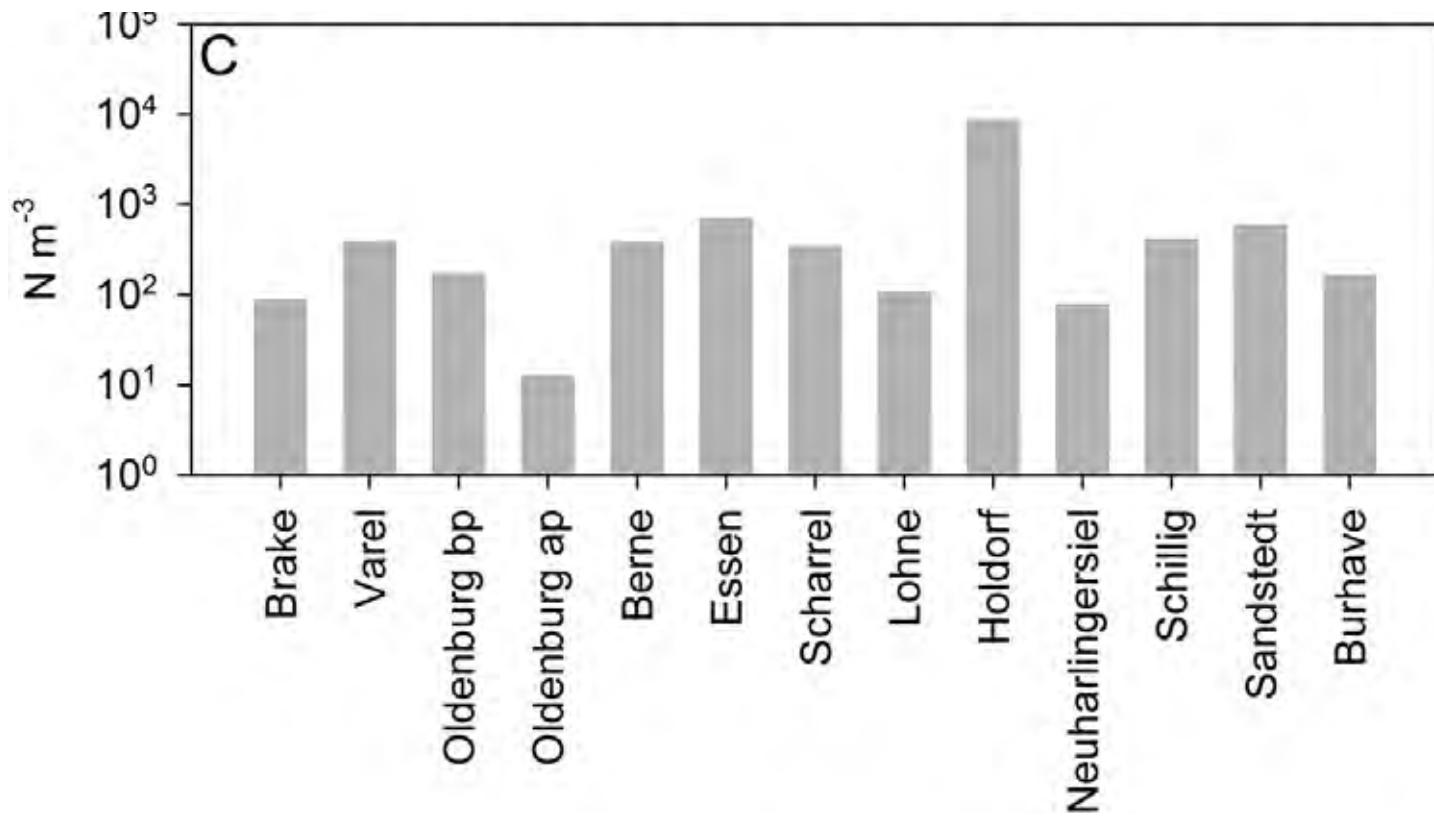


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Source: Mintenig S.M. et al
(2016)



Where do plastics from wastewater treatment end up?



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Source: Mintenig S.M. et al
(2016)



Where do plastics from wastewater treatment end up?



The effects of microplastics in sewage sludge on soils are overlooked Nizzetto, Langaas & Futter (2016)

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What is the scale of the problem from WaSCs?

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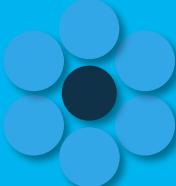


What are WaSCs doing about it?



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What are WaSCs doing about it?



....we recommend that the Government and Environment Agency work with Water Companies to understand what feasible options there are to monitor and ultimately reduce microplastic pollution.

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[Source: Environmental Impact of Microplastics](#) select committee report 2016



What are WaSCs doing about it?



UKWIR mission statement:

To quantify the water industry contribution of microplastics to the environment in the context of ecotoxicology studies being carried out elsewhere, and so assist in the development of a strategic response.

UKWIR proposes:

An investigation into the prevalence, sources and variation of microplastics in effluent and sludge, and the effect of current treatment processes.

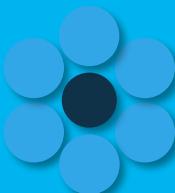
What are WaSCs doing about it?



1. I'm here today to present and listen.
2. UKWIR has a microplastics mission statement.
3. CIWEM has produced a microplastics briefing note.
4. There is an ongoing UKWIR microplastics project.
5. The industry will investigate microplastics in the next asset management period (AMP7) from 2020 to 2025.
6. Your feedback today will help shape the AMP7 investigation.

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What are WaSCs doing about it?



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