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Rivers Trust

River Itchen in Southampton: Water Quality & Sources of Pollution

Dr Dave Rumble – Chief Executive

17th November 2022: Scrutiny Inquiry

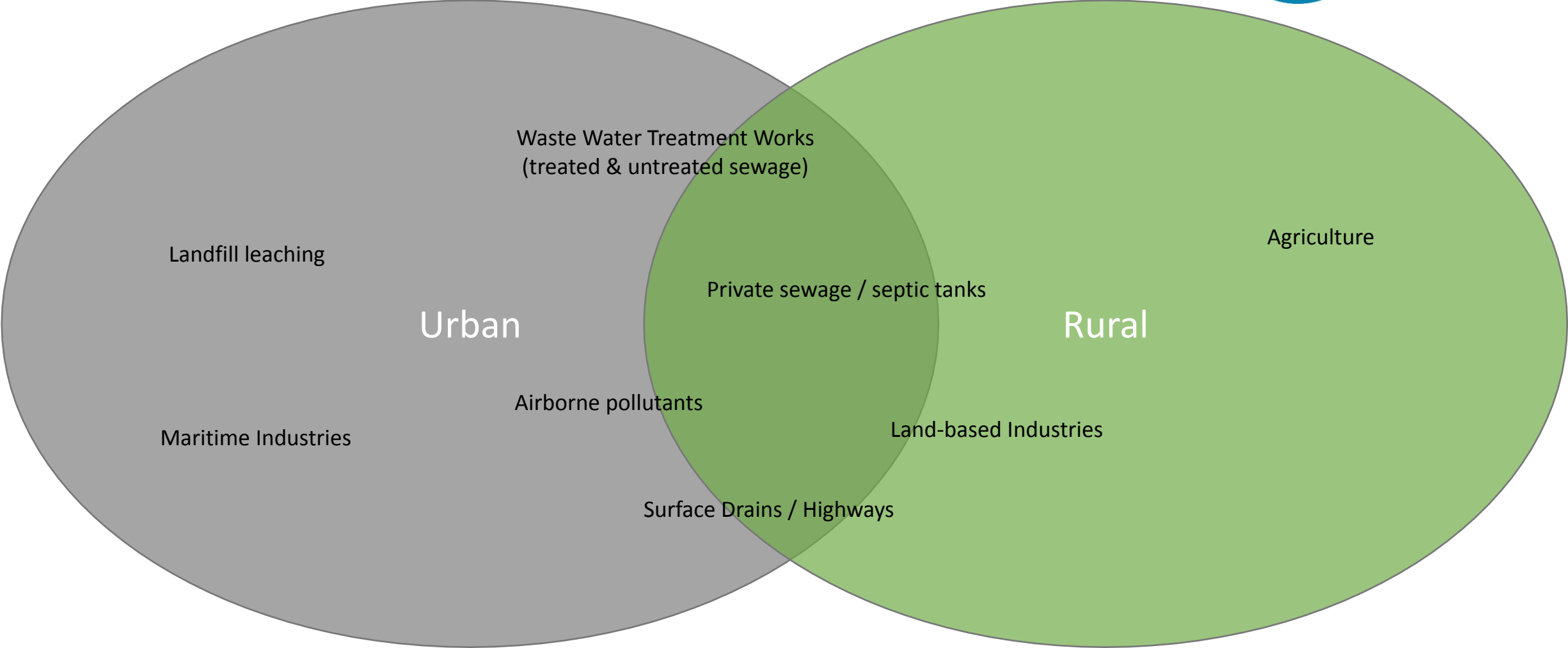
Overview:

- Some terminology
- Pollution Sources & Types
- Water Quality Status

Some terminology:

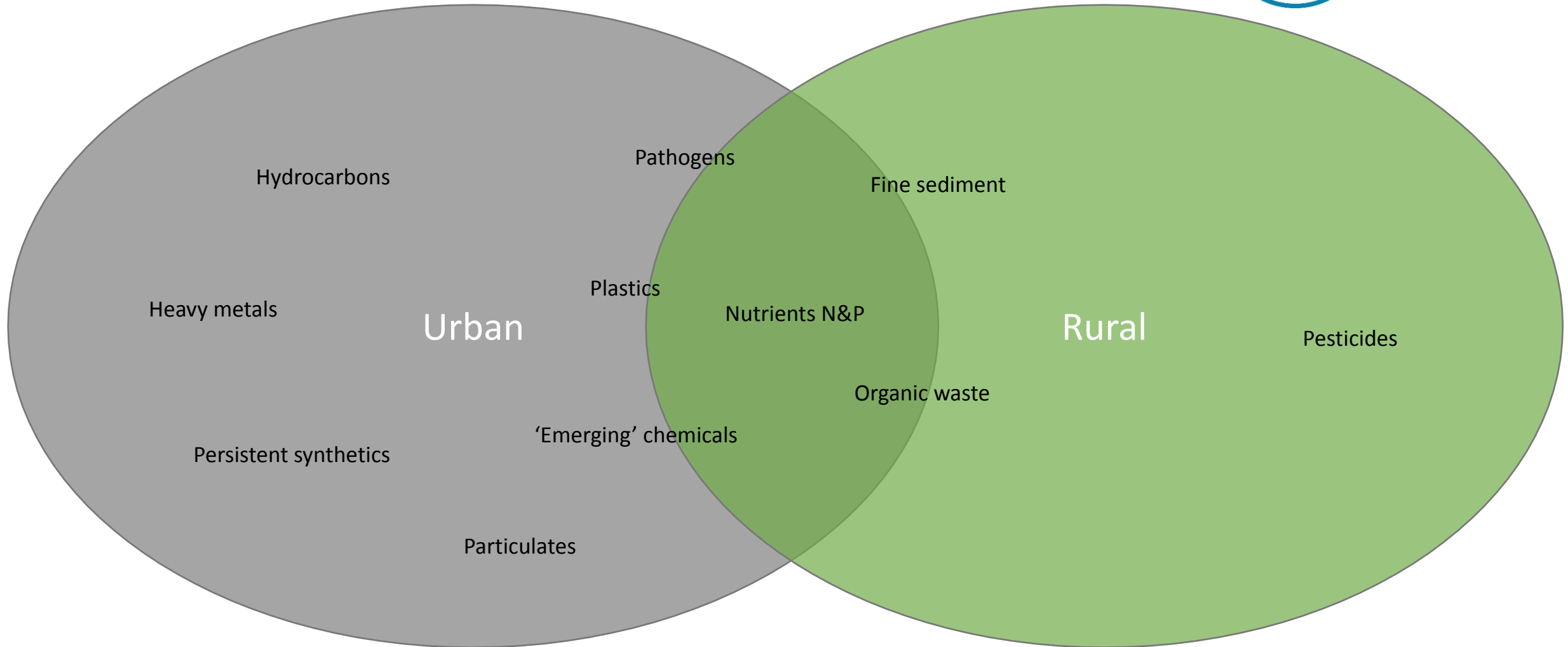
- Pollution: *harmful substance(s) in the environment*
- chronic vs. acute effects
- Point-source vs. diffuse
- short-lived vs. persistent pollutants
- toxic vs. pathogenic pollution
- levels of impact:
 - from lethal to sublethal
 - from individuals to ecosystems
- effects in combination

Pollution sources affecting the tidal Itchen:





Pollution types affecting the tidal Itchen:



River Itchen Waterbody



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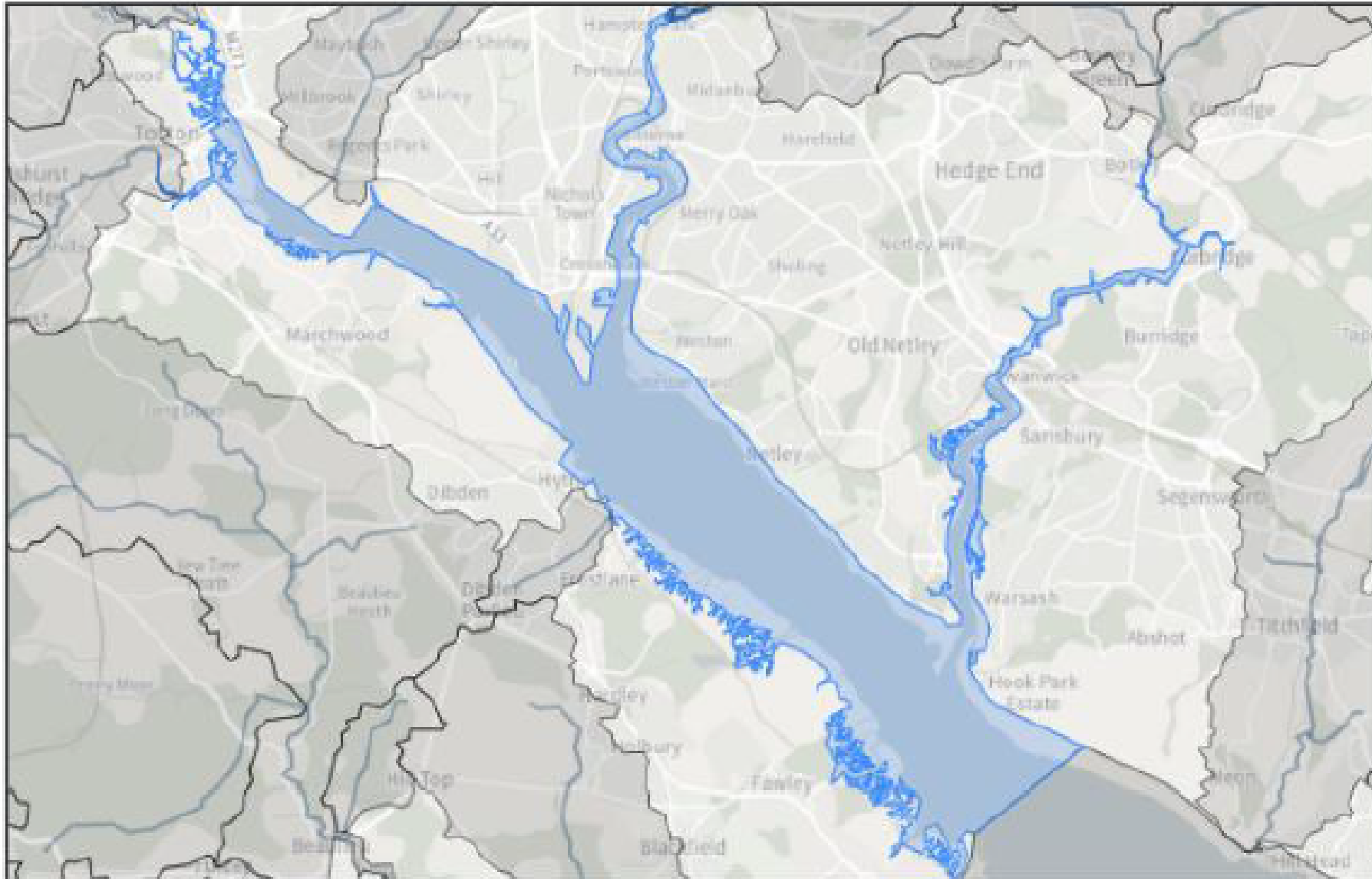


Healthy Rivers for Wildlife and People

Southampton Water Waterbody



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Healthy Rivers for Wildlife and People

Water Quality Status:

- Water Framework Directive **Ecological** Status:
 - River Itchen 'Good'
 - Southampton Water 'Moderate' (due to 'nitrates')
- Water Framework Directive **Chemical** Status
 - River Itchen 'Fail' (due to UPBTs*)
 - Southampton Water 'Fail' (due to UPBTs*)
 - If UPBTs are excluded:
 - River Itchen is 'Good'
 - Southampton Water is 'Moderate' due to Tributyltin**
- Nitrogen & Phosphorus elevated above natural levels
- Pathogens? Plastics?

*Ubiquitous Persistent Bioaccumulative Toxic substances

** prior to 2019

Water Quality Data:

- Environment Agency
 - Water Quality Archive: monthly samples at Cobden Bridge (<https://environment.data.gov.uk/water-quality/view/sampling-point/SO-G0003787>)
 - Catchment Data Explorer:
 - Itchen - <https://environment.data.gov.uk/catchment-planning/WaterBody/GB107042022580>
 - Southampton Water - <https://environment.data.gov.uk/catchment-planning/WaterBody/GB520704202800>
- Southern Water
- Southampton University
- Citizen Science