

Domestic Misconnections: hidden river pollution

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22nd March 2022

Epping Forest
7th March 2022



What this covers

- Misconnections - what are they?
- How common are they?
- Does it matter?
- How can you check yours?
- The way forward

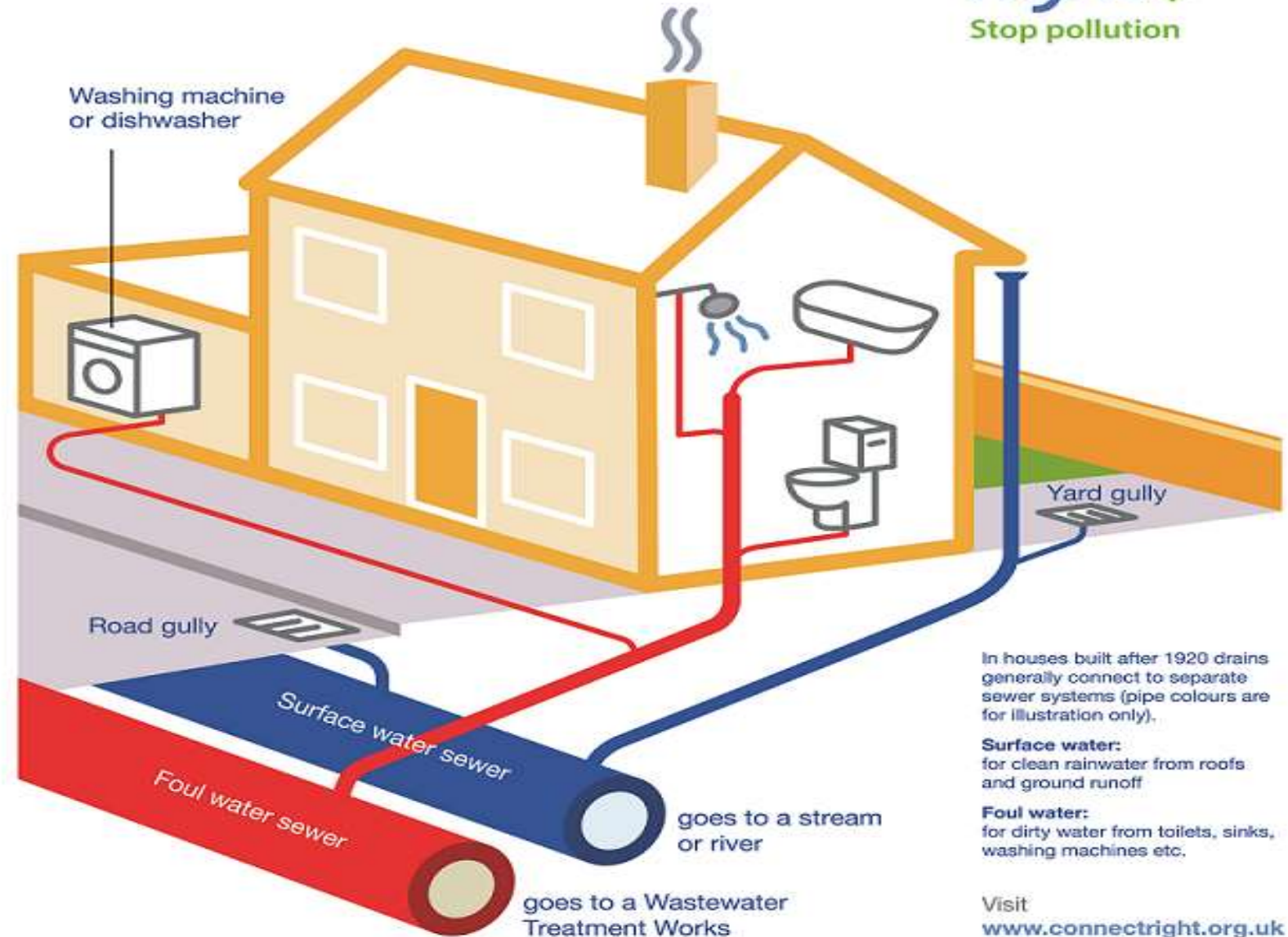
Misconnections - what are they?

- Sewage
 - History
 - Geography
 - Biology
 - Maths

Misconnections - what are they?

Correct Drainage Connections Illustrated

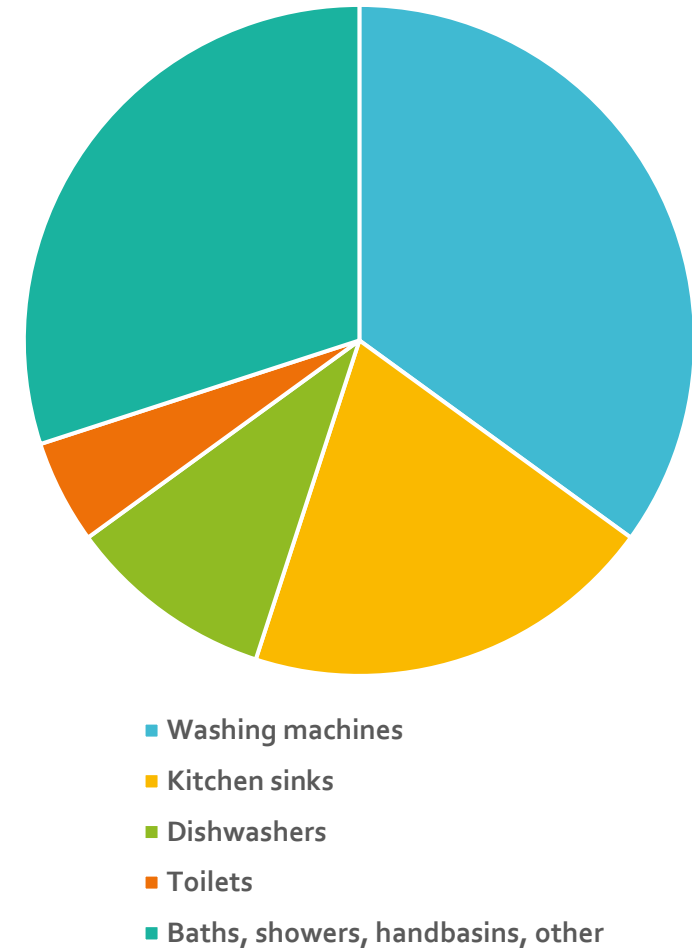
connect
right ✓
Stop pollution



How common are they?

- Defra estimate between 0.6% and 2.0% of UK households in (**150,000 to 500,000 households**) – may have a misconnection
- For example: in London Borough of Enfield, an estimated **1 in 10 properties have a misconnection**
- It's likely that around **half the properties** in Britain now have separate drainage systems
- Especially common where dwellings are modified by **extensions, en-suite bathrooms, conversion from houses into flats**
- It's going to be a greater problem the **more new developments** we have

Most common misconnections

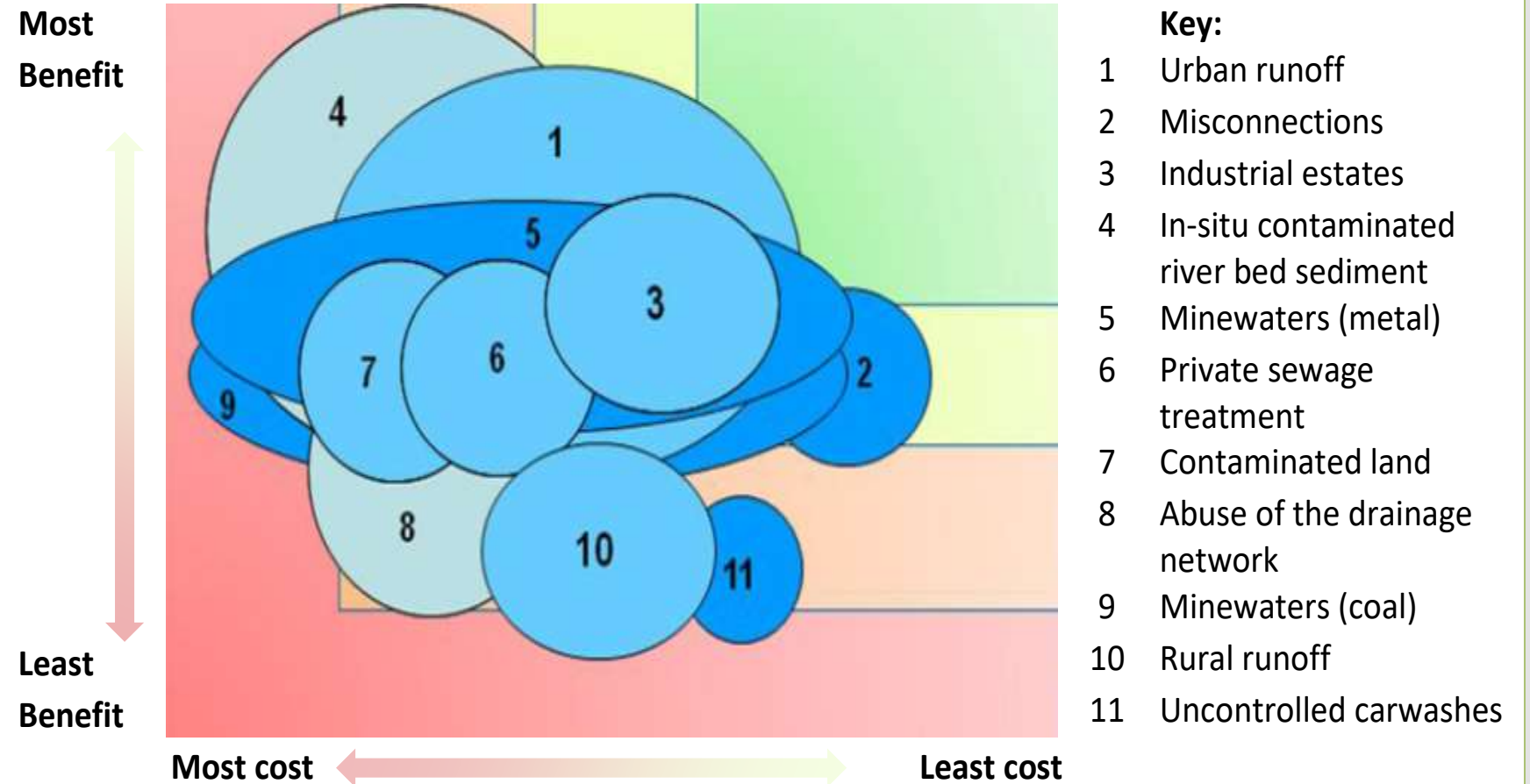


Does it matter?

Photo: connectright.org.uk



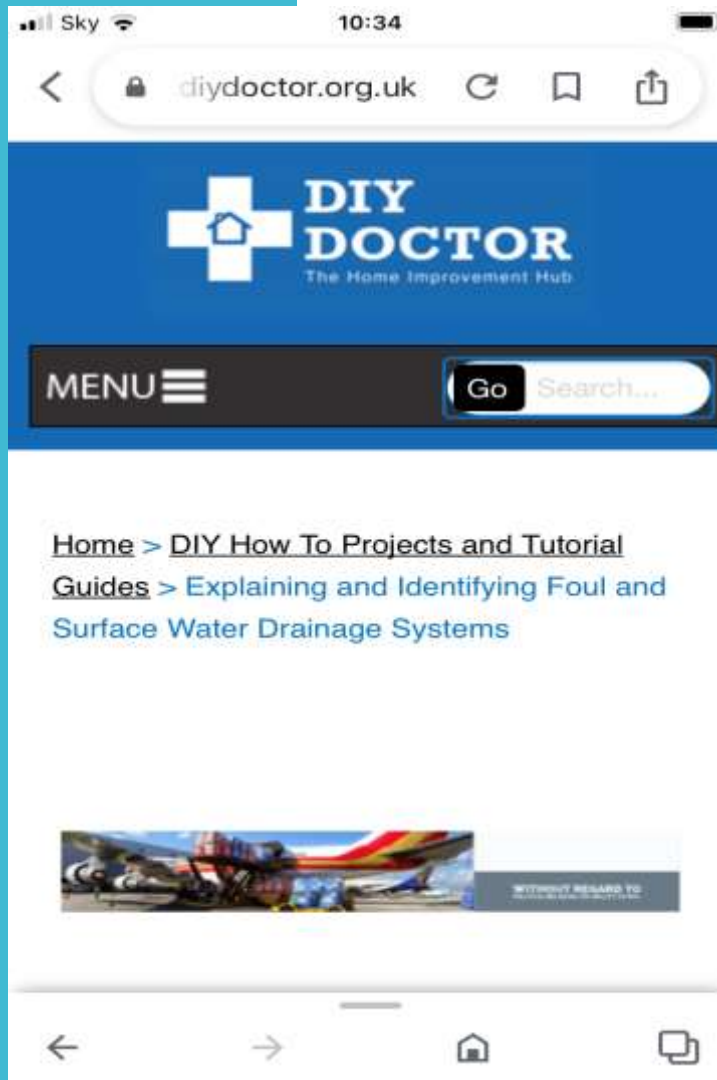
Cost effectiveness of addressing non-agricultural diffuse pollution sources



Source: Defra 2012. Tackling water pollution from the urban environment: Consultation on a strategy to address diffuse water pollution from the built environment

How can
you
check?

1. Your
home



Identifying Your Drainage System

Property Age: Newer than 1970: probably dual

Manholes: Double the manholes (or side by side): probably dual

Lift the Covers:

- If the inspection chambers reveal two systems, one higher than the other – dual, since foul water drains are laid lower than the surface water system
- If you can see sewage then you have located the foul or combined drainage.

Run the Water:

- Get someone to flush the toilet, or run the washing machine, and watch where the water runs within the drains to locate the foul water drainage.
- Garden Hose Method: Run a hose down a downpipe to check for surface water drains.

Traceable Dye: Builders merchants can supply non-contaminating traceable dyes.

- If you have a **combined** system, the dyed test water show up in the chamber from both foul and surface sources.
- If you have opened a **surface** only drain, the dyed test water will only show up when the dye is added to a surface drainage point.
- If you have opened a **foul** only drain, the dyed test water will show up if you flush the toilet when dye has been added to the pan.

The dye test to check for misconnections

Before



After



How can
you
check?

2. Your
area



Outfall Safaris

What?

Outfall Safari is a systematic method to survey surface water outfalls for misconnections that can cause chronic pollution to urban rivers.

Why?

Polluted surface water outfalls damage the environment via reduced dissolved oxygen and increased ammonia and phosphate levels.

Who?

An Outfall Safari is a partnership project that involves the regulator, the water company, a host environmental NGO, the Catchment Partnership and **volunteer citizen scientists**.

Where?

The Outfall Safari survey method can be used anywhere there are separate surface water and foul water drainage systems.

How?

Trained volunteers walk the riverbanks with a mobile app letting them geolocate, photograph and assess outfalls for evidence of pollution. Data are sent directly to a database for analysis and reporting to the regulator and water company.

Suggestions for the way forward

We could cure the problem long-term with a few simple ideas:

- **Colour code all drainage systems** (blue for surface water, red for foul) on trading & housing estates plus education campaign for owners/tenants
- **Remove misconnections as a long term issue by legal action:** require the house sale survey to identify misconnections, and legislate that you can't sell a misconnected property so it requires rectification at point of sale
- **De-culvert and de-channel brooks in urban areas** to make visible the quality of the water course (plus it slows flows, creates better & multipurpose amenity spaces, and good ecology areas)

Useful links

- Connect Right: <http://www.connectright.org.uk/campaign>
- Defra 2012. Tackling water pollution from the urban environment: Consultation on a strategy to address diffuse water pollution from the built environment
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/82602/consult-udwp-doc-20121120.pdf
- DIY Doctor: <https://www.diydoctor.org.uk/projects/identify-foul-and-surface-water-drainage.htm>
- Zoological Society of London:
https://www.zsl.org/sites/default/files/media/2019-02/ZSL_TheRiversTrust_Outfall_Safari_Guide_Final_o.pdf
- The Rivers Trust: <https://www.theriverstrust.org/>
- The Catchment Based Approach:
<https://catchmentbasedapproach.org/learn/outfall-safari-guide/>

The end?

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