### 1. Was your house or property built after the 1920s?

In Britain sewerage systems have developed since Victorian times when towns and cities grew with industrialisation. The first drains or sewers were built simply to get foul drainage and wastewater away from where people lived because it was realised diseases like cholera and typhoid were spread by poor sanitation. Most of the older parts of towns and cities therefore have combined sewerage systems which take both rainfall and wastewater to the sewage treatment works.



As our towns and cities grew it was not practical to drain larger and larger areas with just one combined sewer. The amount of water, both clean rain water and foul sewage, could simply not be accommodated. So we have built separate sewers since about the 1950s and even earlier in some areas. There are two types of drains with separate sewer systems. One is for wastewater from toilets, sinks, washing machines, industrial wastes, etc and goes to the sewage works for treatment before being discharged back into rivers. The other drain is for clean surface water from roofs, roads and yards and discharges straight into the nearest river or stream. About half of all properties in Britain have separate systems.

Unfortunately, over time, the clean sewers in many areas have become polluted by misconnected wastewater. With more development, 'urban creep' and the trend for house alterations and DIY improvements over the last twenty years these misconnections have become more common. Pollution comes from surface water sewers because run-off from our urban areas is not always clean. Atmospheric fallout from traffic, spillages and road accidents, illegal discharges, vehicle washing and foul sewer failures all end up discharging to our rivers and beaches.



As well as wastewater getting into clean surface water drains there is a problem caused by 'clean' misconnections. These occur when roof drains and clean surface areas are connected to foul sewers. This excessive rainfall causes foul sewers to overflow often into rivers but sometimes even into properties. It also means that more diluted wastewater has to pumped to sewage works and then treated. This adds to treatment costs and energy use.

New properties built in the last 5-10 years may still have been built with separate drainage even if they are in a combined sewer area. This is so that if a new separate sewerage is built one day the new property can be ready to connect to it. In some areas properties might also have roof downpipes draining into soakaways in the ground. It is important that wastewater is not drained to soakaways. Your local authority or water company may know what type of sewerage system your property has.

## 2. Have there been changes to the original drainage?

Misconnections can happen when any property is extended or altered. Many people make improvements to their properties and when they do any new drainage may well be misconnected. This might be wastewater drainage connected into a clean sewer or clean roof drainage into a foul sewer. You can often tell if a property has been extended by changes to brickwork, roof tiles or just having a different style or design.

Even if the construction work has been done by a builder there can still be misconnections. Sometimes the only way to tell is by dye testing or a drainage survey. A good way to check is to look at original roof down pipe and where these run and consider whether any alterations could have been misconnected.

## 3. Have there been any extensions or alterations, new bathrooms, toilets or kitchen installed?

Many people make improvements to their homes. Changing bathrooms or kitchens, adding downstairs toilets or en suites are quite common alterations and can be relatively easy to do for a competent 'DIYer'. Often these changes may not even need building control approval. Wastewater drainage can easily end up being connected to the nearest roof down pipe or convenient surface water drain.

Check your property to see if these types of alterations have been made and where any drainage goes to. Often these types of misconnections can be very easy and cheap to correct by simply reconnecting into the right wastewater sewer.

## 4. Are any pipes connected to rainwater downpipes?

Here are a few photographs that illustrate where internal wastewater drainage has been connected to rainwater downpipes. If your property has a separate system there is a very high chance that roof water drains straight to the nearest river or stream. Below are a few pictures of real examples of misconnections.



On this property the owners or builders have gone to some effort to make a misconnections into a surface water downpipe.



 $Sometimes\ misconnections\ are\ easy\ to\ find.$ 



# 5. Do you have an outside toilet or appliances in garages, sheds or outbuildings?

Most outside buildings, garages or sheds will not have been built with foul drains in place. For some properties, especially those that are older, there may not be room for a washing machine in the kitchen. In smaller kitchens any space for a washing machine may well now even be taken up by a dishwasher.

In these situations it is possible that a washing machine might have been moved to an outbuilding, shed, garage or even onto a balcony with flats. Check where any wastewater drainage goes to - it may well be misconnected into the nearest surface water drain causing pollution.