

# YOUR GUIDE TO SEPTIC TANKS AND PRIVATE SEWAGE SYSTEMS

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Helping you to  
keep our rivers healthy



**South  
Cumbria  
Rivers  
Trust**





**This guide has been produced by the *Conserving Coniston & Crake* project but the information within is applicable to anyone on a private sewage system.**

There are hundreds of private systems around the catchment and we want to make sure that they are working as they should do, with as little sewage and nutrient pollution as possible ending up in our environment, and from there getting into the lake.

Healthy, clean lakes and rivers with abundant and varied wildlife draws people to the Lake District. We want and need a lake free of toxic algal blooms. We want to see wildlife thrive, we want to admire the beauty of the lake and to be able to sail on or swim in it without worrying about the cleanliness of the water or getting ill.

## PRIVATE SEWAGE TREATMENT SYSTEMS

Anyone within the Coniston and Crake catchment not on mains sewage will have their own system, either a septic tank, a package sewage plant or a cesspit.

It's not just your toilets that flush into a septic tank, water from your sink, shower, washing machine and dishwasher all drain into it too. Private sewage systems are all designed to take sewage and dirty water from your house and treat it before it goes out into the environment. Bacteria breaks down the sewage then the liquids drain to a field or soakaway or even a watercourse (subject to certain conditions) and solids are eventually removed by a licensed contractor- it is illegal to have your tank emptied by anyone else because the contents have to be taken to an official sewage disposal site.

### **Your sewage can end up in our rivers and lakes!**

These systems should not normally have an environmental impact if they are properly looked after and will last for years. All systems need to be checked and emptied regularly- at least every two years to keep them working properly. Poor maintenance can lead to inefficient performance, whilst blockages and leakages can give off very unpleasant smells and add untreated sewage directly into the watercourse.



Remember you have a legal and social responsibility to keep your system in good working order. The Environment Agency can prosecute if your tank causes a pollution incident.

## NUTRIENT POLLUTANTS AND WATER

The main nutrient pollutant is phosphate which is found in many things like cleaning products, fertilisers, animal excrement and our own sewage. Some phosphates are removed from waste water at larger treatment works including the one in Coniston, but smaller works or private sewage systems don't have this facility. Phosphate removal from the settled solids can only be done at official sewage disposal sites.

Too much phosphate pollutes water, leading to a boom in algae numbers, or algal blooms. Invasive plants, such as the non-native New Zealand Pygmy weed, thrive in these conditions, dominating their surroundings and changing the natural balance in and around the lake.

When algal blooms die back, oxygen is stripped from the water by the organisms that break them down, starving plants and deep-water fish like the Arctic Charr of the oxygen they need to live. The decaying invasive plant matter also smothers the bed of the lake impacting on spawning, leading to a further decline in fish populations. In time, the lake margins will change, the reedbeds will be affected and other invasive non-native species will thrive.



Some algal blooms, such as blue-green algae (cyanobacteria) is harmful to wildlife and pets and it's these blooms that are a concern in Coniston Water. Not all algal blooms release toxins, nor do they all behave and develop in the same way so it can be difficult without formal testing to tell if the blooms are harmful or not.

Increased blue-green algae will threaten swimming and other leisure activities on Coniston Water, as has happened on several occasions on Windermere. This will impact on the tourism industry as thousands of people visit the Lake District each year.

# TYPES OF SEWAGE TREATMENT SYSTEMS

## SEPTIC TANK

A septic tank is usually made up of two chambers and is buried underground. They can be built from brick, fibreglass or plastic.

The tank holds the sewage, so the solids will either fall to the bottom or float to the top. Bacteria in the tank helps with decomposition of solids. The liquid drains through a pipe into a soakaway system or drainage field. This drainage is important as it removes any remaining pollutants before the liquid reaches groundwater. The solids build up and it is these that need removing.

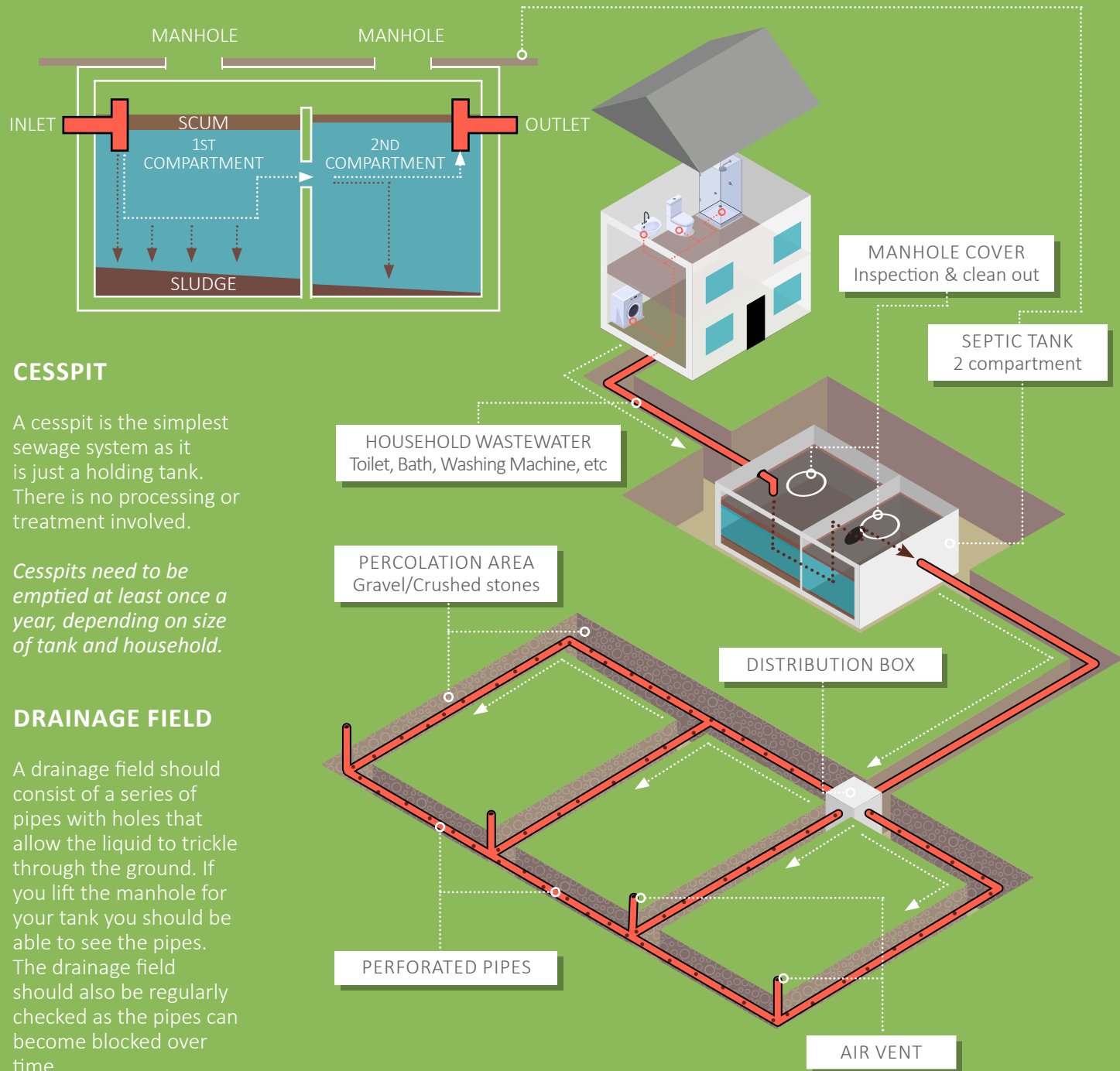
*Septic tanks should be emptied at least every two years depending on size of tank and household.*

## PACKAGE SEWAGE TREATMENT PLANT

A package sewage treatment plant is more advanced than an ordinary septic tank- it's like a mini version of a Utility Company-run sewage works.

This type of plant usually needs an electrical supply and will have a larger cover above ground. The sewage is biologically treated within the system. Bacteria breaks down the sewage, resulting in a treated liquid that can be released straight into a watercourse (subject to certain conditions and/or permits) A drainage field is not normally required so suits properties with limited outdoor space.

*Package sewage treatment plants should to be serviced annually and emptied at least every two years.*



## CESSPIT

A cesspit is the simplest sewage system as it is just a holding tank. There is no processing or treatment involved.

*Cesspits need to be emptied at least once a year, depending on size of tank and household.*

## DRAINAGE FIELD

A drainage field should consist of a series of pipes with holes that allow the liquid to trickle through the ground. If you lift the manhole for your tank you should be able to see the pipes. The drainage field should also be regularly checked as the pipes can become blocked over time.

# SEWAGE SYSTEMS ETIQUETTE

**What goes into your system will make a difference to how well it works.**

## WISE WASHING & CLEANING

Bacteria in the tanks help break down the waste so please make sure you only use cleaners and detergents that are suitable for septic tanks and are phosphate-free. There are a wide variety of phosphate-free products at a range of prices from budget supermarket to premium range. A few minutes spent looking at labels will reward you in the long term.

Please avoid bleach and other harsh chemicals as these will kill off the working bacteria in your tank.



### BE SINK SAVVY

Don't pour food waste and cooking oils down your sink and as with your toilet don't use harsh chemicals or bleach.

### A FLUSHING SUCCESS

Keep it simple when it comes to your toilet and only flush the 3 P's – pee, poo and (toilet) paper.



**Never** flush cleaning wipes, wet wipes, facial wipes, cotton buds, sanitary products, nappies or condoms.

*Just some of the products to consider: Ecover, Magnum from Aldi, Bio-D, Method and Ecozone.*

## SEE & SMELL

Taking the time to check, maintain and empty your system not only saves you money in the long run, but also helps prevent sewage leaking into our natural environment.

Check your system regularly for issues like dark, smelly pipe discharge or slowly clearing drains. Look out for signs that your drainage field may be clogged up. Is the area spongy or has lots of lush vegetation?

Your system should be emptied regularly by a licensed contractor, who will transport the contents to a local sewage works. *Emptying by farmers is now illegal unless they are a registered waste carrier*

If you are not sure about how well your system is working, then ask your emptying contractor for advice – they may be able to carry out a system health check.

## ANYTHING ELSE?

It is also worth checking your plumbing and drainage connections to make sure that rainwater is running into the surface drain network rather than into your septic tank. Similarly, water from sinks, toilets and washing machines should always go into the sewage system.

Pipe misconnections can often be found in older properties, extensions and outbuildings/garages if washing machines have been plumbed in.

Generally, you should also avoid pouring paints, oils and chemicals down the drains. If you're washing your car try to use eco-friendly cleaning materials. In the garden, reduce the use of fertilisers and chemicals like slug pellets and weed-killers as these can all wash off into the surface drain systems and then ultimately into our becks and rivers.

## REPLACING/UPGRADING YOUR TANK

If your tank no longer meets legal requirements or is failing, then you do need to act. A good licenced contractor should be your first call as they usually have the experience of what is wrong or needed. There are also specialist firms who can also give advice. Like any important purchase, it pays to do your research. It may be a daunting prospect, so we have a recent installation by a local resident to share with you.



## LOCAL CASE STUDY - REPLACING AN OLD TANK

A tank shared between 5 houses (one permanent resident, others second homes/lets) and the Village Hall. In 2018 it became apparent that the tank was not working efficiently, was too small for the number of properties it served nor up to current standards (based on Environment Agency data).

It was a small brick septic tank with a pump chamber of some age. The liquid waste was pumped through a pipe across a beck to a filtration area situated beneath a lawn. There was also an overflow directly into the beck. However rainwater and ground water entered the tank as house gutters fed directly into it. There were many leaky joints in the underground pipes, the pump repeatedly burnt out whenever there was heavy rain and occasionally untreated waste discharged into the beck!

The homeowners and the Village Hall Committee agreed that something had to be done and began with quotes from three specialists. A BioPure Sewage Treatment System was chosen. This is basically a large plastic tank inside which waste is aerated by a pump and broken down more efficiently and quickly than in the old septic tank. The liquid waste leaving the tank is so clean that it can be discharged straight into the beck without the need for a filtration area.

Due to its location planning permission was needed (but this won't always be necessary) but as Environment Agency binding rules were met a discharge permit was not required. The contractor liaised with local building control as the work needed to be certified.



A specialist drainage firm was used to fix and clean the underground pipes, treating the insides of the pipes with a special coating. This was preferable to having pipes dug up and replaced. Removal of the old tank and installation of the new system took about 2 weeks. The new tank was installed on the site of

the old tank and was cemented into place to prevent any movement in the event of flooding. The existing electricity supply was kept for the new tank and is separately metered so costs are recharged to each property. The invoice for the work was split between the properties and each property paid the supplier directly.



Installation was straight forward and the properties were only disconnected from a waste system for one night. The area was re-turfed as there was heavy rain during the installation.



One year on, the lawn looks as it did before, the new turf having bedded in well. One of the neighbours made a wooden cover for it and added small plant pot.

You wouldn't know it was there!

The system now meets legal requirements and is no longer at risk of polluting the beck and the main river. There is a recommended maintenance schedule for the tank which will only need to be emptied by a licensed contractor every two years.

## SEPTIC TANK GROUP EMPTYING SCHEME

The *Conserving Coniston & Crake* project has encouraged groups of neighbours to get together and co-ordinate the emptying of their septic tanks. The project was also able to negotiate a reduction in costs from the licensed waste carrier for each of the householders involved. Usually four or five tanks can be emptied in one visit resulting in savings between £20 and £50 per household.

So, talk to your neighbours or get in touch with South Cumbria Rivers Trust to see if there is a group in your area. We can also help set one up.

## FIRST TIME SEWERAGE

If you and your neighbours have issues with your septic tanks such as difficulties in emptying, or they have caused pollution incidents then United Utilities may be able to investigate whether you can join the public sewer network. The more properties that can be included in the application the better the level of success.

Contact United Utilities and ask about First Time Sewerage application.

## SEPTIC TANK GOOD PRACTICE

- ✓ Know your tank- what type and where it is
- ✓ Get it emptied at least every two years by a licensed contractor
- ✓ If you have a drainage field look out for signs of problems- smells, lush growth
- ✓ Use phosphate-free products in your sinks, dishwashers and washing machines
- ✓ Follow the 3 Ps rule:  
Pee  
Poo  
(Toilet) paper

### WELL-MANAGED TANKS, CLEANER WATER, HEALTHIER RIVERS AND LAKES

The *Conserving Coniston & Crake* project is also working with land managers and farmers across the catchment to look at ways in which they can reduce the amount of phosphate and sediment run-off, and protect watercourses on their land. The work includes fencing the becks, providing alternative drinking solutions and creating farm constructed wetlands.

### FOR FURTHER INFORMATION:

[www.gov.uk/permits-you-need-for-septic-tanks](http://www.gov.uk/permits-you-need-for-septic-tanks)

[www.britishwater.co.uk/Publications/codes-of-practise.aspx](http://www.britishwater.co.uk/Publications/codes-of-practise.aspx)

[www.callofnature.info](http://www.callofnature.info)

[www.unitedutilities.com](http://www.unitedutilities.com)

<https://www.unitedutilities.com/help-and-support/wastewater-services/preventing-water-pollution-from-your-home/>

### FOR POLLUTION INCIDENTS:

The Environment  
Agency Incident  
Hotline 0800 807060



This guide has been produced by the *Conserving Coniston & Crake* project with assistance from The Lake District Foundation, Love My Beach Campaign and the Environment Agency.

**Conserving Coniston & Crake**, a three-year National Lottery Heritage Funded project, with the aim of improving water quality, habitat and biodiversity in the Coniston and River Crake catchment area through practical conservation work and community engagement.

The project, initiated by the Coniston and Crake Catchment Partnership, is managed by South Cumbria Rivers Trust and supported by The National Trust and the Lake District National Park Authority.

  @ConistonCrake  
Website: [www.ccc.scrct.co.uk](http://www.ccc.scrct.co.uk)

**South Cumbria Rivers Trust** is a registered charity whose purpose is to protect, conserve and rehabilitate the aquatic environments of South Cumbria.

  @SCumbriaRiversTrust  
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**South Cumbria Rivers Trust**

**Coniston and Crake Catchment Partnership**



**National Trust**



**Lake District National Park**