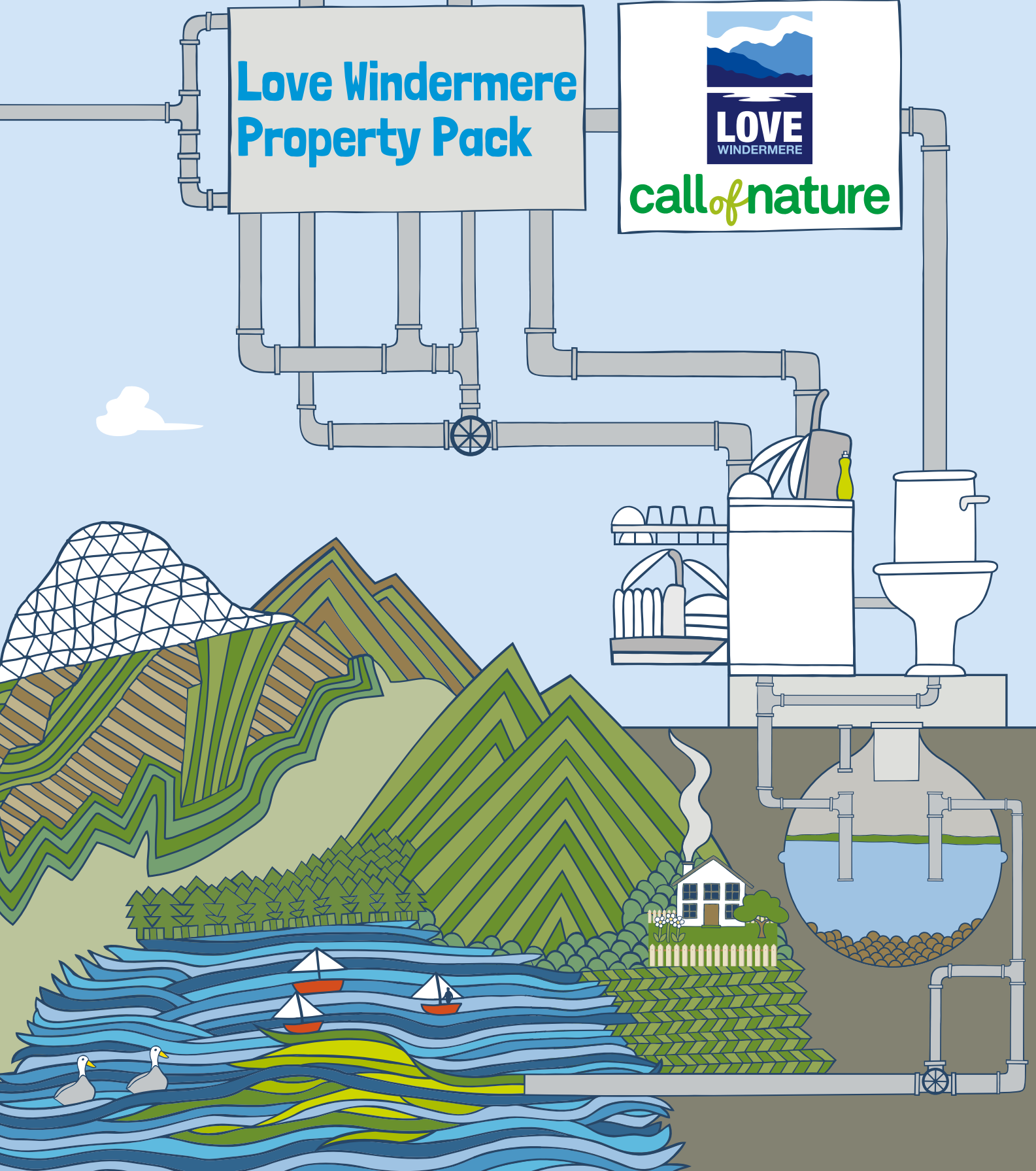




Love Windermere
Property Pack





Claire Jones - Unsplash

WINDERMERE NEEDS YOU

Dear resident,

We know that you, like so many of us that live, work and visit here, have a great love for Windermere, and its surrounding meres, tarns and becks.

But unfortunately, as you may have heard, the water quality of the Windermere catchment is at risk.* The consequences of poor water quality include potential health risks to dogs, wildlife, and a negative impact on our local economy.

We are at a crucial point where the action we can take today in our homes and businesses will make a noticeable difference.

So, if your property is not serviced by mains drainage, it is really important to look after your sewage system. We've been working with partners to bring you this pack which contains everything you need to help you to do that. Use the navigation page on the next page to get some quick tips or jump into the detail. You'll find tips about how to tackle the other household sources of phosphates, and advice for businesses too.

We all have a role to play and the good news is that if residents, businesses, land managers, visitors and utility companies work together, we can make a **BIG** difference.

Finally, we'd love your feedback. Tell us what you think about this pack here: www.callofnature.info/windermere-property-pack-feedback/ or scan the QR code here.



Thank you for supporting this amazing place.

Sarah Swindley
CEO | Lake District Foundation

* Windermere catchment is defined as the area that drains into Windermere covering an area of 235km². In addition to Windermere this includes Stickle Tarn, Easedale Tarn, Grasmere, Rydal Water, Elter Water, Esthwaite Water, and numerous smaller tarns too. The water quality in the catchment is currently mixed in its classification ranging from 'High' in some areas to 'Poor' in other under the UK Water Framework Directive. The Water Framework Directive currently requires all water bodies to achieve 'Good' ecological status by 2027.

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Your customers will appreciate your efforts to keep Windermere in great condition. Find out more here.





THE CHALLENGES

1. HIGH PHOSPHATE LEVELS

High levels of phosphates and warming temperatures cause algal blooms, leading to problems for aquatic life. Some algal blooms are toxic and harmful to both wildlife and humans. Algal blooms are damaging to the scenic value of the lake and to the tourism economy dependent upon it.

This pack focusses on addressing the high phosphate levels

2. SEDIMENTATION

Sediment in our rivers and lakes smother fish spawning grounds, contributes to increased nutrient and phosphate levels, and reduces light levels. Sedimentation is accelerated by footpath erosion, flash floods, invasive species, and bare soils in fields and river banks. Projects like Fix the Fells address this challenge by preventing erosion from footpaths.

See www.fixthefells.org for more information.

3. "ALIENS"

Also known as invasive non-native species, these plants and animals include New Zealand Pygmy Weed, Himalayan Balsam, Japanese Knotweed and Skunk Cabbage. These 'Aliens' spread easily from lake to lake on boots, boats and wetsuits and out compete valuable native species. To find out more about non-native species around Windermere and what you can do to help, visit www.nonnativespecies.org/checkcleandry

OTHER LAKE CHALLENGES INCLUDE

- 💧 Pollution from single use plastics
- 💧 Increasing temperatures, storms and drought related to Climate Change
- 💧 Fuel, oil, chemical spills and sewage from boating

Visit www.lakedistrictfoundation.org/current-campaigns/cleaner-lakes for more information and how to help.

WHAT IS PHOSPHATE, AND WHY IS IT A PROBLEM?

Phosphate is a naturally occurring compound derived from phosphorus, a mineral essential to human, animal and plant life. Phosphate is a nutrient and therefore in itself is not harmful and in some combinations actively supports aquatic life. However, phosphate is also commercially processed and used in many cleaning, industrial and food production processes.

It is the residential and commercial use of phosphate that can cause negative impacts on our local water quality. Phosphate is also one of the components of fertilisers used to support the growth of crops and plants.

When too many nutrients, including phosphate, get into lakes and water bodies they can cause excessive amounts of algae to grow. Blue green algae are toxic and harmful to people, wildlife and pets so it's essential that we all do what we can to reduce algal incidents.

ALGAL BLOOMS AFFECT THE RARE SPECIES THAT LIVE IN WINDERMERE.

When algae grows excessively it prevents sunlight from reaching other plants in the lake. As a result, the deprived plants below die. In addition as plants and the algal bloom itself die they use oxygen from the water as they decompose. . These processes (plant death and algal blooms) reduces oxygen at deeper levels and forces some fish such as the Arctic charr up the water column, negatively affecting their natural behaviour patterns. Dead algae and other sediment (e.g. soil washed off the land) can also suffocate fish eggs, including the Arctic Charr, on the spawning grounds.

The Arctic charr is a deep cool water fish left behind after the glaciers melted and is found in only 8 lakes in England. **Listed on the UK list of priority species**, the Arctic charr faces numerous challenges including climate change and the threat of invasive species. Let's make one thing easier for the Arctic charr and other Windermere wildlife by reducing the incidence of algal blooms in Windermere.

Additionally, due to increased levels of phosphate and algal blooms, Windermere is changing from a plant dominated lake to an algal dominated lake. We need to protect the natural composition of Windermere and support species like the Arctic charr now!



THE ALGAL IMPACT

Lake users including walkers, swimmers, boaters and pets are all impacted by algal blooms.

Thousands of people enjoy strolling along lake paths and trails across the Lake District every year. We can all help keep an eye out for signs of algal blooms, and remember don't swim in or near a bloom.

If dogs come into contact with a toxic algal bloom it can affect their health so for the safety of your pets keep them on a lead and away from the water particularly if you see a warning sign or suspect an algal bloom. If you've discovered they've been swimming in algae seek veterinary advice



Thousands of outdoor swimmers flock to the shores of Windermere to take a dip, including during events such as the Great North Swim and Big Chill Swim. Outdoor swimming is a growing national industry and popular hobby for people in many lakes. If you're a swimmer don't forget to Check, Clean and Dry your kit after each swim to prevent the spread of non-native species. www.lakedistrictfoundation.org/greener-boating-lake-district/

Windermere and its surrounding lakes, meres and tarns make the area a very popular tourism destination, Cumbria attracts up to 19 million visitors per year! The health of local lakes directly relates to the health of the local tourism industry and the associated £3 billion contribution to the economy.

WE NEED YOU!

If you spot a potential algal bloom please report it to the Environment Agency Incident Hotline **0800 807060** as soon as possible. Alternatively you can report it via the app developed by the Centre for Ecology and Hydrology called "Bloomin' Algae".

The app, which has been created in collaboration with the Environment Agency, Scottish Environment Protection Agency, Public Health England and Health Protection Scotland, enables users to submit a photo of the bloom and state what activity takes place at the location, so that the potential risks to people and animals can be gauged.

www.ceh.ac.uk/our-science/projects/bloomin-algae

Remember not all forms of algae are toxic but its safest to assume that any bloom you see is.

Most importantly, we can all help reduce the occurrence of algal blooms by following the guidelines in this pack!

WHERE DOES PHOSPHATE COME FROM?

So we know that phosphates cause algal blooms, with negative impacts on tourism, wildlife and public health. But where does phosphate come from?

There are five main sources of the phosphates that end up in our local lakes and waterways:



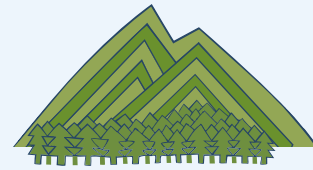
SEWERAGE SYSTEMS

More than half of the phosphate entering the Windermere catchment comes via local sewerage systems, septic tanks and the 'grey' water from our homes and businesses.

This pack focuses on septic tank and package treatment plant maintenance which is so important in the fight to save our lakes. Find out more on page 8.

Did you know

On board boat toilets can also be a source of phosphate. Sewage discharge into inland waterways is illegal in the UK but it's easy to solve, just remember Pump Out Don't Dump Out! You can find a map of pump out stations on Windermere at www.lakedistrict.gov.uk



LAND MANAGEMENT

Land management is the second largest source of phosphate. Phosphate is present in soil, manure and fertilisers.

Unfortunately soil erosion and runoff from over application of fertiliser and manure can reach streams and lakes and contribute to high phosphate levels.

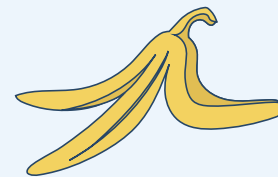
Land managers are addressing these problems through environmental land management schemes, including regular soil sampling to ensure phosphate is not used in excess and better storage of farm manures.



GARDENS

As with farming, phosphate present in compost, manure and fertiliser is used for the promotion of plant growth. Run off from gardens can often pollute water systems and act as a source of phosphate.

Read page 12 for Lake friendly tips and advice.



FOOD WASTE

Phosphate is present in all natural foods. To prevent this source of phosphate entering the water system go to page 11.

WHY CAN'T PHOSPHATE BE REMOVED TO STOP IT ENTERING THE LAKE?

Phosphate removal treatment is provided at sewage treatment works in Windermere, Ambleside, Langdale, Grasmere and Hawkshead. Significant improvements to the Windermere, Ambleside and Grasmere works will have recently been made and the amount of phosphate that can currently be removed is now as good as current technology allows..

When working properly, non mains systems can provide effective treatment of waste water. They use the natural process of decomposition and natural filtration through soil in a drainage field (provided the water table isn't too high) before being emptied by reputable companies. Despite decomposition solid waste does build up in the tank requiring emptying by a reputable company. If waste leaks from a tank, or a drainage field isn't functioning properly, perhaps if it's too wet, water pollution will occur and household phosphates will harm aquatic life.'

SO WHAT CAN I DO?....

SOLUTION 1

LOOK AFTER YOUR SEPTIC TANK



Many properties in rural areas aren't connected to mains sewerage and rely on septic tanks or package treatment plants to process wastewater. The above diagram demonstrates the variety of household products to avoid in order to create a healthy water treatment process. Remember to avoid bleach, as it kills good bacteria which help with decomposition.

If the above inputs are followed the 'in flow' to your water treatment will be waste water, human waste and low chemical cleaning products only. By maintaining a clean in flow your tank will have enough healthy bacteria to breakdown your waste.

It's easy to think of your waste water treatment as 'out of sight, out of mind' however it's vitally important to keep it in mind for the health of our local lakes! If the inflow sources are contaminated, natural bacteria is prevented from working effectively and your tank will need emptying more than necessary.

KNOW THE SIGNS

If the inputs are draining slowly it's an indication that your tank might not be working as well as it could and therefore might be affecting the health of local rivers and lakes via leakages. For other signs that your septic tank might need some TLC, visit www.callofnature.info

*Phosphate Free Definition - 'Phosphate free' is defined here as products that may include phosphate derivatives such as phosphonates and phosphoric acid. However these derivatives will be at lower levels and have a less damaging effect on water quality than phosphate.



EMPTYING YOUR SEPTIC TANK

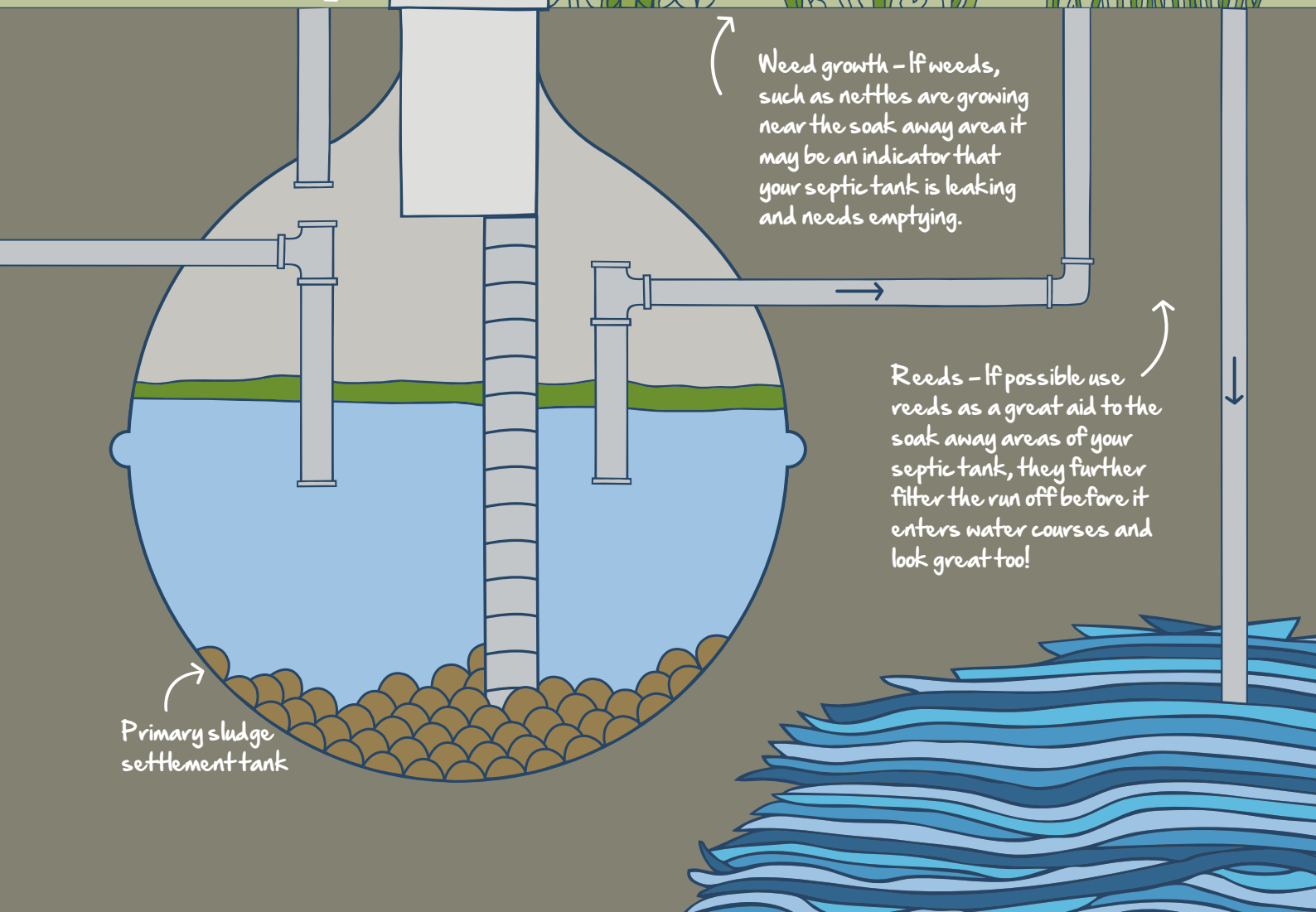
Always use a reputable, Environment Agency approved, company to empty your septic tank to a sewage treatment works. It is recommended that you empty your septic tank annually if you are a family of four. By skipping regular maintenance such as emptying your septic tank, you are risking costly repairs, or even having to replace it all together. Once your tank is emptied the friendly bacteria will start to build up and as long as you follow the guidance in this pack, your tank will become more efficient.

SEPTIC TANK EMPTYING SCHEMES

By working co-operatively with your neighbours to synchronise the emptying of your septic tank, cesspit, or package treatment sewage system you could secure a discounted rate as well as ensuring you get into the habit of regularly emptying. Found a neighbour interested in working together? Simply contact a licensed contractor to negotiate and obtain a price for emptying. This should be a reduced price compared to a single emptying in the area. So speak to your neighbours, or register your interest here and we will put you in touch with other property owners interested in joining a septic tank emptying scheme in your area.

Air vents - Keep clear and safe for children's safety. If there are no smells coming from here your system should be working okay, but if it smells bad there could be a problem!

<https://callofnature.info/windermere-property-pack-feedback/>



Weed growth - If weeds, such as nettles are growing near the soak away area it may be an indicator that your septic tank is leaking and needs emptying.

Reeds - If possible use reeds as a great aid to the soak away areas of your septic tank, they further filter the run off before it enters water courses and look great too!

Primary sludge settlement tank

WHO CAN EMPTY MY TANK?

Only businesses/persons registered with the Environment Agency as a waste carrier are permitted to remove and dispose of sludge from your septic tank. You'll be able to find local professionals online or in the local papers.

HOW CAN I MAKE SURE THE PERSON EMPTYING MY TANK IS REGISTERED?

Ask your contractor for the waste carriers registration number. Use this number to check on the Environment Agency public register of waste carriers website at

<https://environment.data.gov.uk/public-register/view/search-waste-carriers-brokers>

Also check that the registration has not expired.

If you have any concerns about your contractor we would advise that you use another contractor and report the incident to the Environment Agency on **0370 850 6506**.

WHAT PAPERWORK SHOULD I RECEIVE?

A registered waste carrier will always provide you with a waste transfer note which should be retained for your records.

CLEANING PRODUCTS

The highest concentrations of phosphate commonly found in homes were in automatic dishwashing products. Luckily since 2017, the EU and the UK severely limited the amount of phosphates permitted in household dishwasher detergent to no more than 0.3 grams per standard dose.

The good news is that the Windermere catchment is a soft water area so products without phosphates work just fine. You may even find that you can use less than the recommended quantities of cleaning products while achieving the same results. Why not experiment using less products, and save yourself some pennies while looking after the lakes!



SOLUTION 2

FOOD WASTE

Fat, oils and food waste are another source of phosphate which have to be dealt with by the sewage treatment works or home treatment system.

You can help to reduce phosphate levels by avoiding pouring fats and oils down the sink (even small amounts can cause problems), not letting food scraps go down the drain and by choosing to compost. Food waste, fats and oils can cause blocked sinks and drains which is inconvenient and expensive to repair so again, loving your lakes you will also save you some money!



Composting is the perfect solution to food waste

Actions for Households

- Dispose of fats, oils and greases in the bin not via the sink.
- Compost! Cumbria County Council has teamed up with www.getcomposting.com to provide an exclusive offer of home compost bins and other great green products.
- Reduce at source, pick up tips and advice from www.lovefoodhatewaste.co.uk.
- Take chemicals, paints and oils to household waste sites rather than pouring down the drain.

Actions for Businesses

- Reduce food at source to reduce food waste.
- Introduce a composting system.
- Avoid macerators in kitchens. Whilst they provide an easy way to dispose of food, the food ends up in drains and sewers which increases the risk of blockages, flooding, odours and rodent infestations. Drains and sewers should not be used for food waste.
- Use a grease trap to separate fats, oil and greases from the rest of the wastewater.
- Businesses that tackle their food waste can improve profits and significantly minimise environmental impacts.



SOLUTION 3

LAKE FRIENDLY GARDENING

Some fertilisers consist of up to a third phosphate in their chemical composition and can lead to lake pollution if they run off gardens directly into lakes and streams, particularly if applied before heavy rain. Instead why not try to follow organic gardening principles, which aims to work within natural systems and cycles. Our lakes will thank you for it!

Luckily there is a wealth of information available to green fingered folk about how to replace chemical and phosphate based fertilisers with organic equivalents. Check out the 'Growing Well' project based at Low Sizergh Farm just outside of Kendal and organic gardeners such as Monty Don, www.gardenorganic.org.uk/principles, and the Soil Association for more tips and advice.

- ✓ Check the weather before applying fertiliser, compost or manure so it's not applied before heavy rain.
- ✓ If your land borders a beck, stream or lake consider a margin of fertiliser-free land as a further precaution.
- ✓ Soil also has phosphate in it, so try to stop it washing into watercourses where it can also contribute to sediment issues. Keep all your precious soil in your garden!
- ✓ Use a soil kit to discover the specific nutrient your soil needs and then feed accordingly for optimum plant growth.

- ✓ Use peat-free composts - we need to conserve our dwindling peat supplies as they serve various functions in the environment including conserving water, slowing the flow to reduce flooding, and locking up carbon.
- ✓ Recycle the phosphate in urine! This approach may be considered as going too far for some green fingered readers however; urine is full of phosphate and if diluted at 1 to 10 it can provide free and recycled plant feed!




WATER EFFICIENCY

The cleaning and treatment of waste water, which is then returned to our properties as clean water, is an expensive and energy intensive process.

Saving water also helps to reduce carbon emissions by cutting the amount of water that is heated and treated. By saving water and therefore carbon in this way, you can help to mitigate some of the impacts of climate change. Impacts of climate change include increasing water temperatures, an impact that directly relates to water quality, as algal blooms tend to be more prolific in warmer climates.

So it makes sense to minimise water use as much as possible to reduce the energy required to make it safe. Try these top tips:

- 
- Take showers instead of baths.
 - Collect rain water for the garden.
 - Wash with full loads only
 - Practice 'if it's yellow, let it mellow and if it's brown, flush it down'!
 - Fix leaking taps.
 - Use reduced flow tap fixtures and shower heads.
 - Store water in the fridge to avoid running the tap for cold water.
 - Switch taps off when not in use, eg. when brushing teeth.



HOUSEHOLD DRAINS & PIPES ARE YOU PROPERLY CONNECTED?

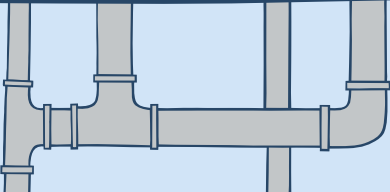
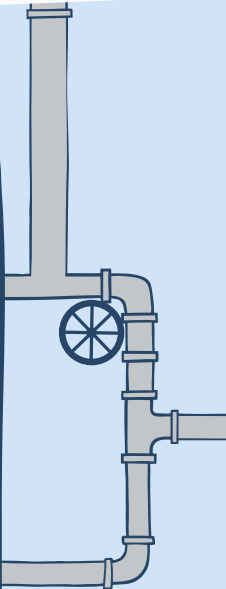
Up to ¼ million households in the UK have incorrectly connected drainage pipes.

If waste water pipes (from washing machines, toilets and sinks) are incorrectly connected to rain water drainage pipes, dirty water and even raw sewage could flow directly into local watercourses.

You can look at the pipework around your home and encourage your neighbours to do the same. Waste water pipes are often larger than rain water pipes and should go directly into the ground not into a drain.

Knowledge of your connections and systems will enable you to correctly advise plumbers and builders should any new fittings be installed. For help with how to check, go to www.connectright.org.uk/misconnections

Checking drains and pipes is perhaps not the most obvious way to look after your lakes, but can make a significant difference to local water quality.



BUSINESSES – WE NEED YOU!

PHOSPHATE-FREE* LAUNDRY

We understand the importance of crisp clean linen in the tourism industry and that no hotel manager would tolerate unclean sheets, so we know that your relationship with your laundry supplier is very important.

Whilst phosphate has been largely removed from domestic laundry detergents, unfortunately it has not been removed in all commercial laundry detergents so businesses need to select phosphate free* laundry suppliers for your in house or outsourced laundry.

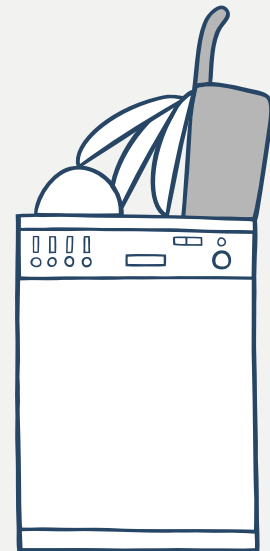
The laundry industry is actively changing its practices to reduce water quality impacts and lots of laundry suppliers are offering phosphate free* services. Why not ask your current supplier if they use phosphates in their detergents and processes? Fingers crossed you'll be pleasantly surprised!



PHOSPHATE FREE* DISHWASHING PRODUCTS

Non-sparkling wine glasses or dirty plates would not be welcomed in any restaurant, hotel or visitor attraction. Most dishwashing products contain up to 30% phosphates and unfortunately are behind their laundry cousins in the reduction of phosphate use.

If you are a self-catering accommodation business consider sharing pre-arrival help sheets to encourage your guests to bring phosphate free* products with them. Or you could source and provide phosphate free* products so they don't have to bring their own.



SEPTIC TANKS

As well as following all the steps on the previous pages to maintain your tank, your guests may not be used to staying in a property with a septic tank. Be sure to let them know the do's and don'ts, as we know that guests want to actively play their part in caring for the Lake District.



*Phosphate Free Definition- 'Phosphate free' is defined here as products that may include phosphate derivatives such as phosphonates and phosphoric acid. However these derivatives will be at lower levels and have a less damaging effect on water quality than phosphate.

FOOD WASTE

As well as wasting money and resources, food down the drain causes problems with water quality. Consider taking these actions in your business;

- Reduce food at source to reduce food waste. Businesses that tackle their food waste can improve profits and significantly minimise environmental impacts.
- Introduce a composting system.
- Avoid macerators in kitchens. Whilst they provide an easy way to dispose of food, the food ends up in drains and sewers which increases the risk of blockages, flooding, odours and rodent infestations. Drains and sewers should not be used for food waste.
- Use a grease trap to separate fats, oil and greases from the rest of the wastewater.

CASE STUDY

Lindeth Howe Country House Hotel is a great champion and ambassador of organic gardening. The Hotel creates a rich fertilising plant food using a mixture of the herb comfrey, manure, nettles and compost.

This organic mixture invigorates soil providing useful nutrients for the soil without impacting on the wider environment.

'If the soil is in good condition then it will produce healthy plants which don't need so much additional feed' says the Management Team. 'And if you apply a mulch then you will conserve moisture and have less weeds to deal with'.



GARDENING

All of the principles of lake friendly gardening on page 12, can be applied to your business. And don't forget to shout about your achievements. You never know, you could inspire guests to do their bit once they return home or extra customers you'll attract as they increasingly make choices based on sustainability.

SUPPORT LOCAL CHARITIES AND PROJECTS

Consider fundraising for local charities and projects that help preserve this precious landscape on which our industry thrives. Contact the Lake District Foundation for fundraising support on info@lakedistrictfoundation.org

THANK YOU!

Thank you for taking the time to read this property pack. As you can see, we are all part of the water quality problem in Windermere, but we can all be part of the solution. We hope that you found the information useful and inspiring.

If you would like to know more about septic tank maintenance, we recommend visiting www.callofnature.info where you will find more information about the care and maintenance of septic tanks, cesspits and package treatment sewage plants.

Don't forget to that if you would like to join a septic tank emptying scheme and save money on your regular emptying, please register your interest at www.callofnature.info/windermere-property-pack-feedback and we will help put you in touch with a local group.



If you would like to support water quality projects in the Lake District you can donate to the Lake District Foundation Water Fund today.

www.lakedistrictfoundation.org/current-campaigns/cleaner-lakes
or text "LAKE" to 70450 to donate £5 or text Lake10 to donate £10

Texts will cost the donation amount plus one standard network rate message.



**MORECAMBE BAY
PARTNERSHIP**

The pack builds on the work and findings of the Heritage Lottery funded Windermere Reflections project.

This project was funded by the Environment Agency and was written and produced by the Lake District Foundation with support from United Utilities, South Cumbria Rivers Trust and Morecambe Bay Partnership.

The Call of Nature is a campaign to prevent pollution in our rivers and watercourses caused by poorly maintained off mains sewage systems in Cumbria, Lancashire and Merseyside.