Taking action for Windermere

United Utilities
Water for the North West

Taking action for Windermere

We're making a head start on a multi-million pound investment to help reduce storm water spills at Windermere. It's the first instalment of a wider plan to upgrade four sites around the lake by 2030. We've prioritised the areas that will have the biggest impact on Windermere's waterways.

How will our investment help?

We have a long history of investment in Windermere, but the legacy does not stop here. This is just the start of our future plans for the area. We have seen nutrient reductions in the lake, but climate change is making us all work harder to see the benefits of our investment.

Climate change is bringing lots more rainfall which can overwhelm the combined sewer system. This next round of investment will help to store and capture this rainfall, increasing the capacity of the wastewater we can treat and therefore reduce the amount of storm water spills into the lake.

Let's work together

Nutrients affecting Windermere's water quality come from a number of sources including:

Septic tanks | Pollution from land | Wildlife
Wastewater | Plus many more…

It's because of these reasons we all have a part to play for the future of this beautiful lake.

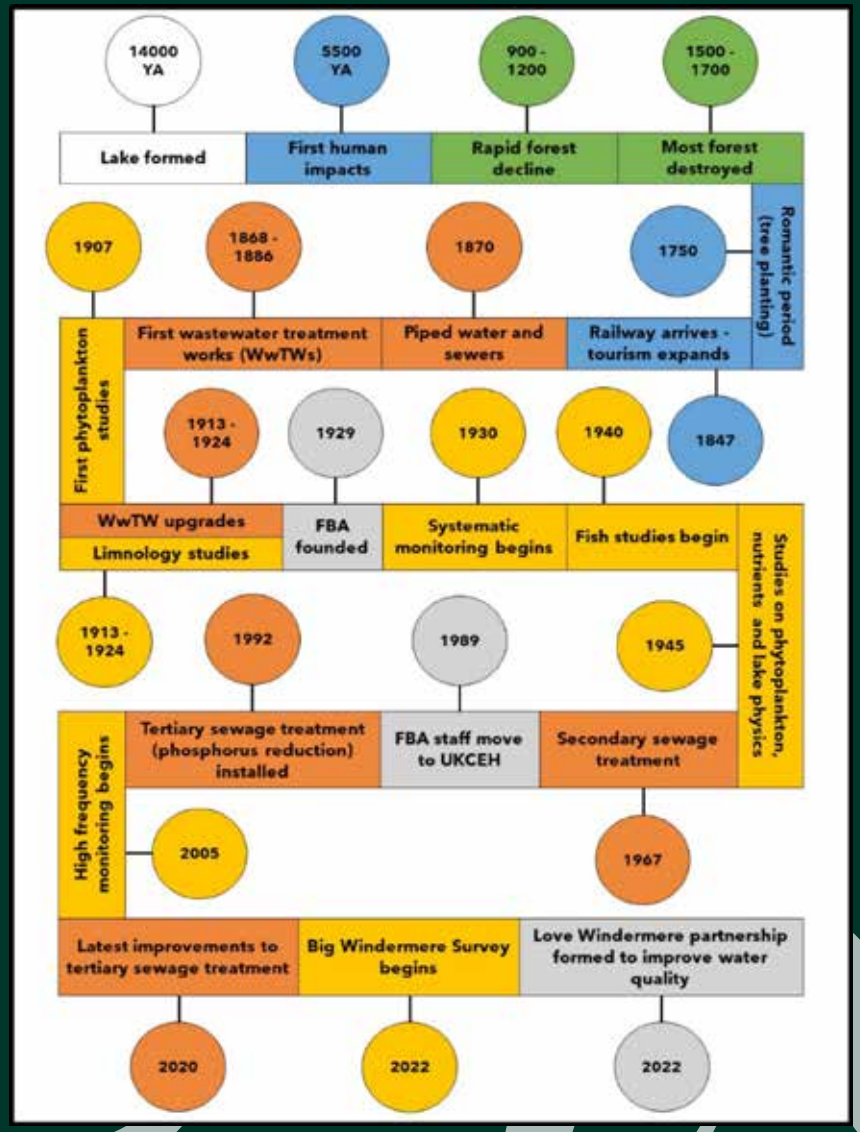
Love Windermere

Love Windermere is a partnership made up of organisations drawn from a wide range of sectors.

Love Windermere takes a scientific and evidence-based approach to better understand the complex pressures facing Windermere and prioritise effective solutions to improve the condition of the lake.

Discover more at: **lovewindermere.co.uk**

The history of Windermere



Taken from Love Windermere website

From 2015-2020 we've:

Halved the amount of phosphorus entering Windermere from our sites since 2015

Upgraded wastewater treatment works and utilised the latest treatment technology

Increased capacity of the sewer to Tower Wood, which has reduced spill numbers from over 200 to less than 30, further reducing impact on the environment and water quality

Why do we need storm overflows in Windermere?

Storm overflows have been a feature of the sewer systems for over **150 years** acting as a pressure relief valve to protect homes and businesses from the risk of flooding when there's too much rainfall

Over the next **25 years** we expect more extreme rainfall events, increasing in severity

Over half of our sewer network, **54%** is combined so it fills up more quickly when it rains

We have **40%** more overflows than the industry average

Being a rainy region, Met Office data shows the amount of **water running into our sewers is 28% higher** than elsewhere in England and Wales

Sewers are typically **no more than 15% full** during dry conditions so it's heavy rainfall that causes overflows to operate

Our region's population of **7.3 million** is expected to grow significantly over the next 25 years, with 600,000 more people living in 310,000 new homes in the North West – increasing the amount of water entering our sewers

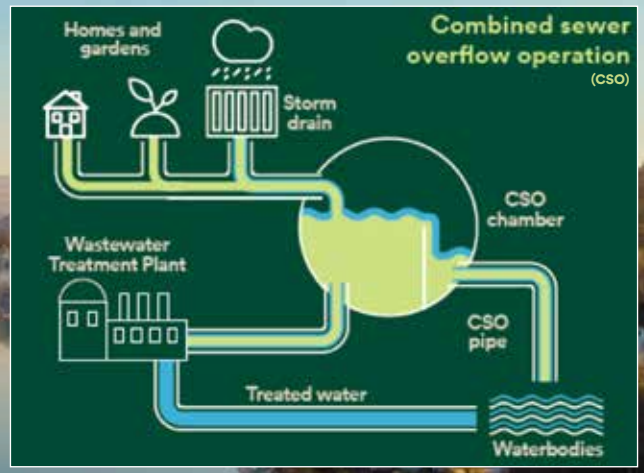
Windermere sits in a valley surrounded by mighty Lakeland mountains. The result is a catchment with sparse land, which encourages water to flow quickly to the bottom of the valley where we find built-up towns. These factors combined with hard ground rock makes it a challenge to soak up any rainfall.

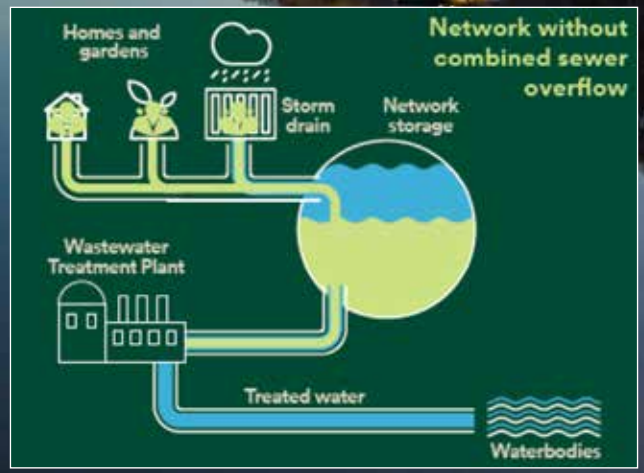
We're listening...

We've been listening to what people have to say – and no-one wants to see sewage from storm overflows discharged into rivers. We get that and have ambitious plans to tackle this – getting set to deliver the largest environmental improvement in the country from 2025.

It will need a re-plumb of the drainage system across the North West, combined with introducing nature based solutions, such as reed beds, to achieve this.

This is similar to the switch from diesel to electric vehicles, so it can't happen overnight – but we remain committed to bringing about the improvements everyone wants to see so that we can all enjoy our region's waterways.





Going underground

Building new storage tanks to hold water is a more traditional approach to managing rainwater. We already have some of these in and around Windermere, such as underneath The Glebe and the car park at Elterwater are just a few examples. We always like to bury our tanks underground to minimise the visual impact in such a beautiful area, but this is no simple task.

Here are a few challenges facing our solutions in the Windermere area:

- The Lake District is a national park and a UNESCO World Heritage Site so we are very conscious of delivering solutions that minimise any impacts to wildlife and the rich cultural heritage and spectacular landscapes of the area
- Putting the improvements we need in place will require quite large working areas, often within land we don't own, so we need to work very closely with landowners and communities, allowing them to be a part of meeting the challenge - making the important change we all want to see
- Challenging ground conditions with high levels of rock
- Narrow and busy roads make access difficult
- We're in a tourism hot spot area
- Planning applications

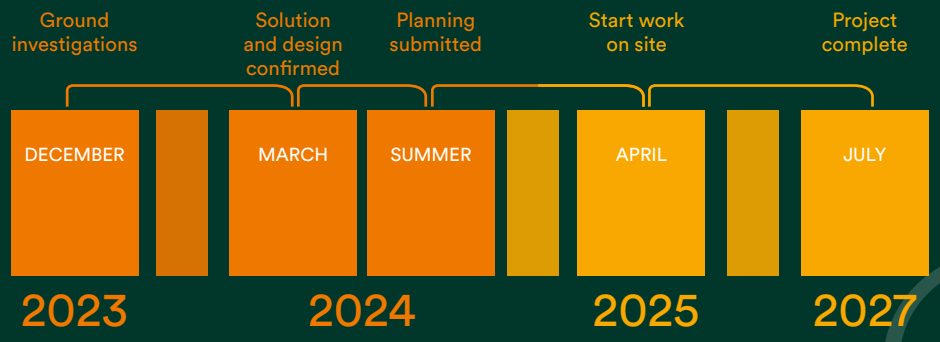
Where storage tanks and enhancements to the sewage network are necessary, we'll deliver them with as minimal disruption as we can.

We're taking all of these factors into consideration when exploring our investment plans and working closely with key groups including Westmorland and Furness Council, Lake District National Park Authority and landowners.

Ambleside

We're proposing to build a new detention tank which can hold between 7,000m3 and 10,000m3 of storage - 21,000 -30,000 standard bath tubs.

PROPOSED SITE LOCATION: The proposed site for the detention tank construction (subject to change).

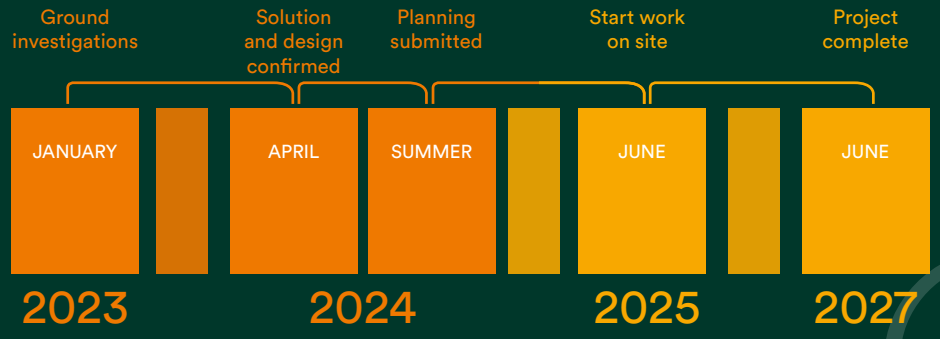


20m diameter x 23m deep – 25m diameter x 21 deep

Elterwater

We're proposing to build a new detention tank which can hold between 2,500m3 and 3,000m3 of storage and a natural sustainable drainage solution.

PROPOSED SITE LOCATION: The proposed site for the detention tank construction.




Rain garden


Bioretention area


Swale


Geocellular soakaway

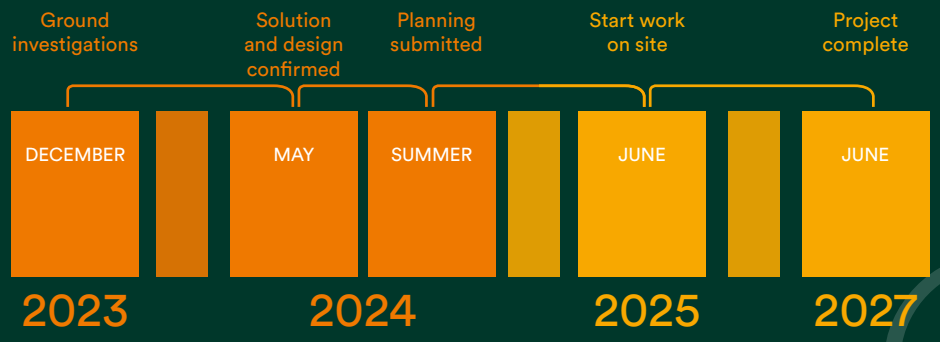

Permeable paving

15m wide
x 18m deep

Hawkshead

We're proposing to build a new detention tank which can hold 400m3.

PROPOSED SITE LOCATION: Space proposed for the detention tank construction.

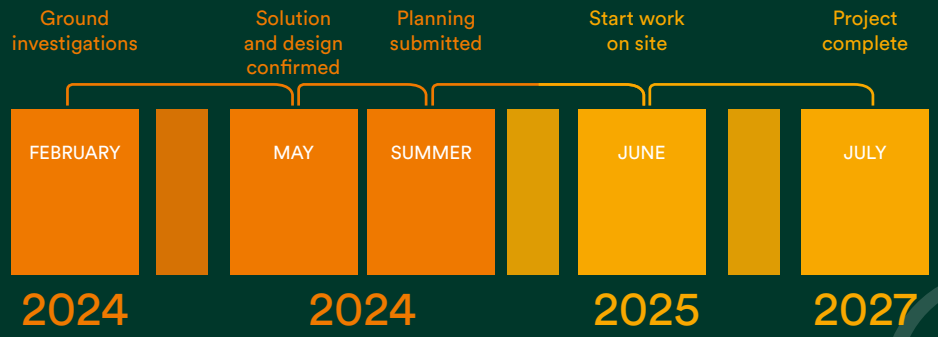


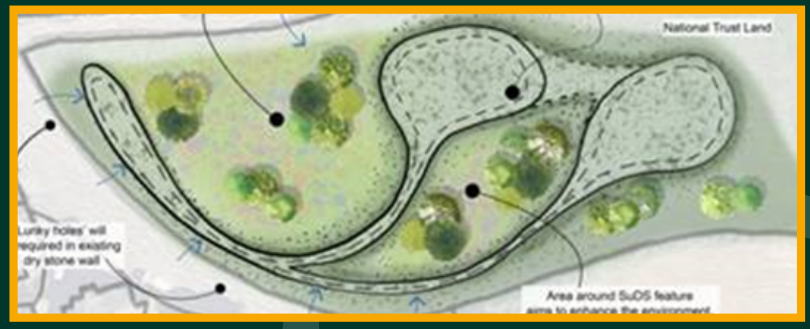
14m wide
x 3.6m deep

Near Sawrey

We're exploring how we can implement natural solutions to slow the flow of rainwater.

PROPOSED PROJECT AREA: Proposed area of work for the implementation of the surface water separation system.





Shallow attenuation basins

Openings on stone wall to allow surface water to be captured in the bioretention area

Bioretention area

New hi-tech sensors to track water quality in Esthwaite

We have teamed up with the Graythwaite Estate to gather data to track water quality in real time.

Water quality monitors have been installed in Esthwaite Water and Cunsey Beck.

The new water quality monitors, installed by RS Hydro, will be able to measure the water for a number of different factors, all at the same time. These include organic material, bacteria, ammonia, nutrients, water temperature and levels of oxygen. These parameters together give a good indication of the health of a lake or river at any given time.

It's hoped this data will help to identify factors that can affect water quality, so that a plan can be developed to improve it.

This is just the latest research project aimed at advancing the collective understanding of water quality conditions in and around Windermere. The Love Windermere partnership has been carrying out a range of data-gathering research, including the Big Windermere Survey, a 100-strong, year-long citizen science project aimed at studying the entire Windermere catchment.

What you can do to make a difference

Volunteering
Take a look at how you can get stuck in and help protect your local river.
The Rivers Trust:
theriverstrust.org/take-action/volunteer-opportunities
Freshwater Biological Association: *fba.org.uk/volunteer*

Connecting to the right drain
If you're planning some home improvements which include connecting waste pipes to the drains on your property, please take time to check that you're making the right connection, otherwise you could be polluting streams and rivers nearby with dirty water:
unitedutilities.com/misconnections

Stop the block
Blockages caused by wet wipes, nappies and cooking oil are a big problem for water companies, and not very pleasant if the blockage is in your home or garden.

Find out more about how to avoid blockages:
unitedutilities.com/stop-the-block

Use eco-friendly detergents
Ever wondered what makes a washing up liquid or shampoo eco-friendly? It's all about using products that don't contain phosphorus.

Install a water butt
To help improve the quality in our rivers, we need to reduce the rainfall that enters our sewers. One way you can help us do this is by installing a water butt to capture all that lovely rainfall.

You'll even save water by reusing the collected water on your plants.

Septic tanks
Call of Nature provides advice and there are grants available for homes, businesses and farms in and around Windermere for community emptying schemes through Love Windermere and the Lake District Foundation.

Let your garden grow
Gardens are great at soaking up rain. But paving, tarmac and concrete can increase the amount of rainwater that flows into the sewers. Leave space for plants and allow driveways to drain into borders.

Take a tour of our Windermere wastewater treatment works.
Email windermere@uuplc.co.uk to register your interest.

Visit the United Utilities Information Centre to find out more.
We're on 8 Crescent Road, Windermere, LA23 1EA

Visit unitedutilities.com/windermere to find out more.

To find out more about our action plan for Windermere
visit unitedutilities.com/windermere or
email windermere@uuplc.co.uk

United Utilities

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