

# Discover the source of the Wandle

## Introduction

The source of a river is the original point from where it flows – often the farthest point from its estuary or its confluence with another river or stream. The farthest points of the Wandle from its confluence, where it joins the Thames in Wandsworth are at Carshalton Ponds and Wandle Park, Croydon. These sources give rise to the two distinct ‘arms’ of the river. But local historic evidence cites many other locations as the source of the Wandle...



## Which is the true source of the Wandle?



### → 1 Swan and Sugar Loaf - Croydon

Despite no evidence today, this is historically regarded as the Wandle's source. The building remains today, but is now a Tesco Local and not the once famous pub. Two seasonal streams run in wet winters and join at Purley from where they run north in a culvert along Brighton Road and join the Wandle at this point.



### → 2 Carshalton Ponds

The current ponds are largely man-made but ponds and springs date back centuries when early Saxons settled here. The name Carshalton derives from 'watercress farm', watercress having been widely grown here.



### → 3 Wandle Park

Recent restoration work has returned the Wandle to the surface in West Croydon's Wandle Park. The presence of the river here dates back to the Victorian era when there was a famous boating lake in the park.

### → 4 Lady Margaret's Pool

Situated by the Honeywood Museum, this pool has had various names over the years including Waterhouse Pond. In the late 19th century, artist and philanthropist John Ruskin paid for substantial landscaping around the pool. Some is still visible although the pool itself has dried up.



### → 5 Carshalton House Lake

The house was built in the 17th century for tobacco merchant Edward Carlton. The serpentine lake was created in the late 18th century as the centrepiece of the grounds which also featured a water tower and Hermitage.



### → 6 The Grotto

Built in 1724 by Thomas Scawen II in a dry valley, the Grotto has culverts beneath that channel water to the pool and canal. Its original ornate ironwork and marble features are now in a state of disrepair.



All of these sites and more have been considered as the source of the Wandle, which can mean only one thing – the source of the Wandle has changed location through history!

This exhibition explores how the source of the Wandle has moved over time and the different factors responsible; highlighting the rich local history of the local landscape along the way.

DISCOVER THE SOURCE





# Discover the source of the Wandle

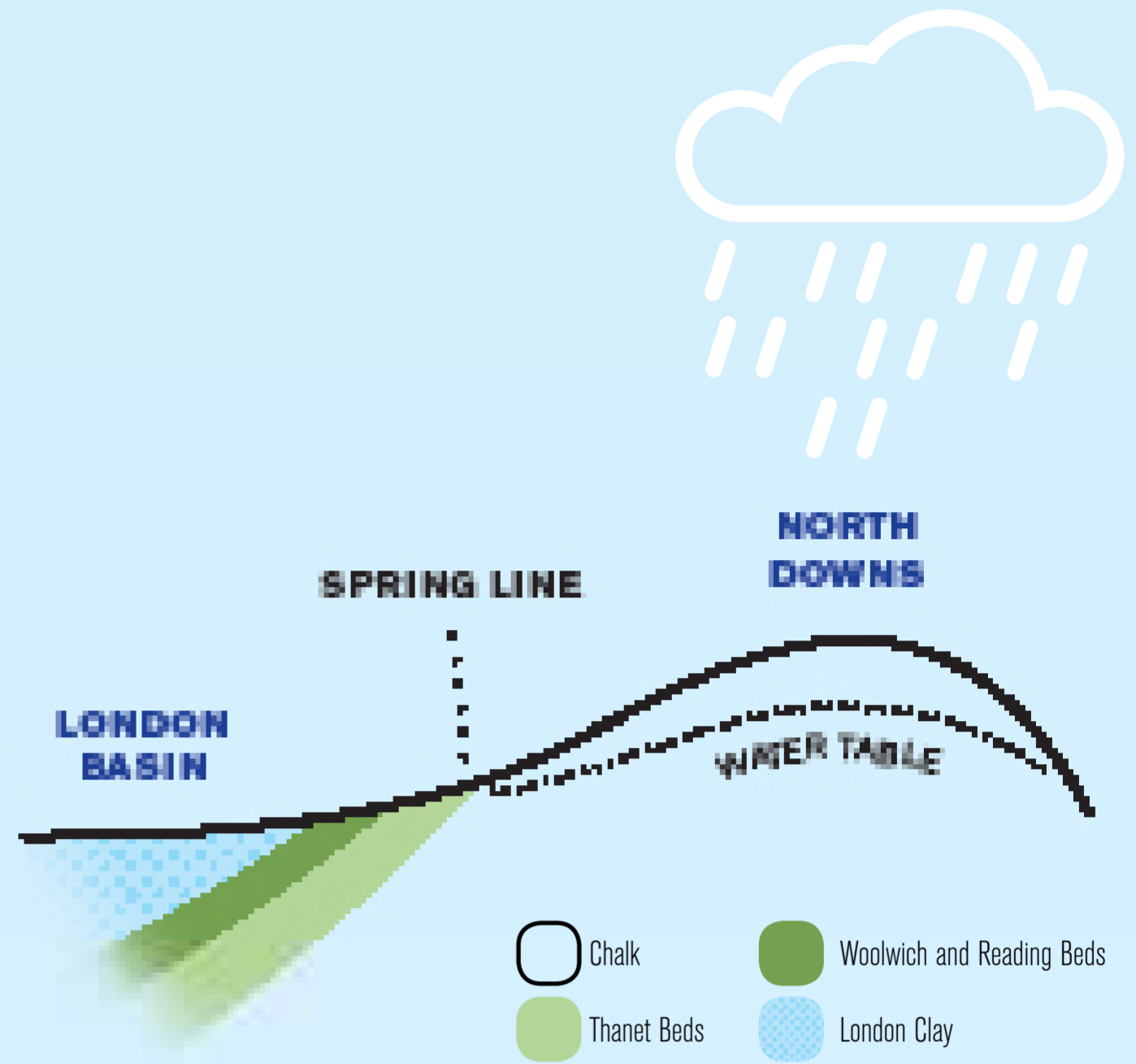
## The Wandle's geology

The source of any river is the result of geology – the rocks beneath our feet. The source of the River Wandle is found where two different rocks meet – chalk and clay.



The North Downs are made of chalk, a rock that is permeable and allows water to flow through it. When it rains, water penetrates the ground and soaks through the chalk until it reaches a point where the chalk is permanently underwater. This boundary is known as the water table.

Overlaying the chalk is younger clay. Unlike chalk, clay does not allow water to flow through it. As a result rainfall flows across the surface of the clay rather than flowing down in to it.



Where the chalk and clay meet, any water held in the chalk is forced to come to the surface, creating the spring sources we know and love on the Wandle.

### Why so special

The Wandle is a chalkstream, a special type of river. The water from a chalkstream is special as it is filtered and purified through the chalk. This clean, alkaline water supports iconic English wildlife such as the brown trout, water vole and mayfly.



Chalkstreams, such as the Wandle, are endangered habitats. There are only remaining worldwide, the majority of which are found in England. They are at risk from many factors including pollution and water abstraction.



DISCOVER THE SOURCE



Funding raised by  
The National Lottery  
and awarded by the Heritage Lottery Fund





# Discover the source of the Wandle

## The Ice Age river

Today the Wandle rises in Croydon and Carshalton, forming two distinct arms which flow down to the River Thames in Wandsworth – a journey of 16 km. However, scientists believe the Wandle used to be a much longer river, and for that story we have to look back at the Ice Age over a million years ago.

Today the underlying chalk allows water to flow through it, but during the much colder climate of the Ice Age it was permanently frozen. When snow and ice melted in the summer, the water couldn't penetrate this permafrost so flowed across the land surface and over time eroded the 'dry valleys' we see today.

Today the river flows underground through the chalk, only coming to the surface in periods of extreme rainfall. These revitalised rivers are called bournes and occasionally flow in the valleys at Chipstead, Caterham and Smitham. This last happened in 2014.



By looking at the shape of the land today, you can see the network of these dry valleys formed through the last Ice Age. This map also shows the tree-like (dendritic) network of valleys that come together at Purley before flowing north to Croydon. This distinctive landscape is evidence that the Wandle was once much longer than it is today and flowed through three valleys at Chipstead, Caterham and Smitham.

This photo is of Happy Valley, an example of a dry valley where the Ice Age Wandle used to flow near what is now Coulsdon.



**DID YOU KNOW**  
 Around 100,000 years ago our local area was as cold as Northern Canada and Siberia are today. Proof of this is that mammoth remains, including its teeth, have been discovered in the ground around Croydon and Mitcham.

DISCOVER THE SOURCE



# Discover the source of the Wandle

## Croydon and cholera

Believe it or not, springs of the Wandle were once present in Croydon! John Ruskin, the famous writer and philanthropist wrote:

*“Under the low red roofs of Croydon, and by the cress-set rivulets in which the sand danced and minnows darted above the Springs of the Wandel.”*



These springs and ponds provided the water needed by the townspeople until the mid-19th century. Back then there was no proper drainage which had consequences for local health.

As far back as Tudor times this was a problem. It's reputed that King Henry VIII said, when speaking of somewhere he disliked:



*“This house standeth low, and is rheumatic, like unto Croydon, where I never could be without sickness.”*

As the population of Croydon grew, the health situation worsened and something had to be done about the outbreaks of cholera, typhoid and other diseases that were becoming common place.

In a report compiled by Dr Westall, the Medical Officer for the Croydon Board of Health, wrote:

*“the town itself is entirely devoid of under-drainage, which is a source of unhealthy exhalations, giving rise to epidemics which have of late years greatly increased.”*



Change came about with the passing of the Public Health Act 1848 which aimed to improve sanitation. By 1850, the new Croydon Local Board of Health had built a water works pumping station, a large underground reservoir, a sewage works and miles of water mains and sewers. The ponds and streams were filled in and a culvert constructed to take the river underground.

**The Wandle in Croydon was no more.**



**DID YOU KNOW**

The river through Wandle Park has been brought back to the surface! If you stand by the culvert in Wandle Park, you may hear a noise which many Victorians believed came from 'The Beast of the Wandle.'

According to legend, the beast developed a taste for meat after a local abattoir began throwing waste into the river, and started to terrorise local folk. Under the cover of improving sanitation, the culvert was put in to trap the beast underground and keep the residents safe...



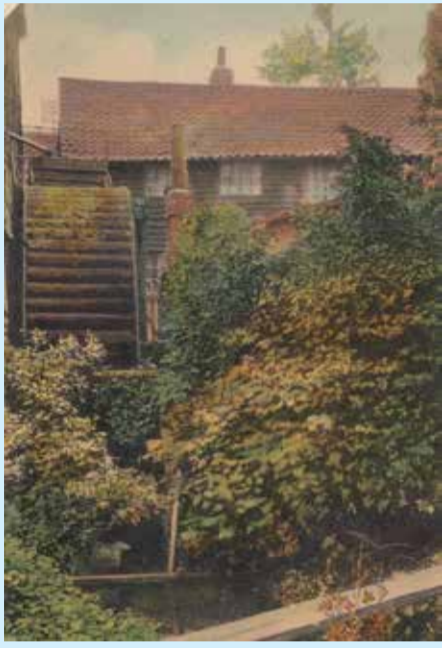
DISCOVER THE SOURCE



# Discover the source of the Wandle

## The industrial river

The availability of clean, chalk-purified water helped develop local industry in Carshalton, and in turn this industry changed the Wandle landscape.



Old Water Wheel, Grove Mills, Carshalton 1898.

From the Domesday book until the early 17th century there were just a few mills in the village of Carshalton. Over the course of the next hundred years, more and more industries harnessed the power of the river with leather, copper, gunpowder, snuff, paper and linseed oil all being worked in the mills. The legacy of this industry can be seen in the landscape today in the restored waterwheel in Grove Park and the remnants of mill leats where the Wandle was redirected to power such wheels.

Textile bleaching and calico printing were also extremely popular in the area. Before chemical bleaching was available, cloth was whitened with prolonged exposure to the sun. The cloth needed to be dampened and the crystal-clear, chalk-purified water of the Wandle was perfect.

Agriculture also played a big part in Carshalton's history, with the prevalence of watercress beds likely playing a part in the village name.

Carshalton's history would be very different had it not been for the Wandle and its springs.



Harvesting watercress on a farm on the Wandle.

### DID YOU KNOW

#### A case of mistaken identity?

Local legend has it that Anne Boleyn's horse stumbled while she and Henry VIII were journeying from Nonsuch Palace to visit a local nobleman and that a well sprung up on the site. However, Nonsuch Palace was built in 1538 and Anne was executed in 1536! So it's more likely that the name is a corruption of Notre Dame de Boulogne, as the Count of Boulogne was Lord of the Manor of Carshalton in the 12th Century.

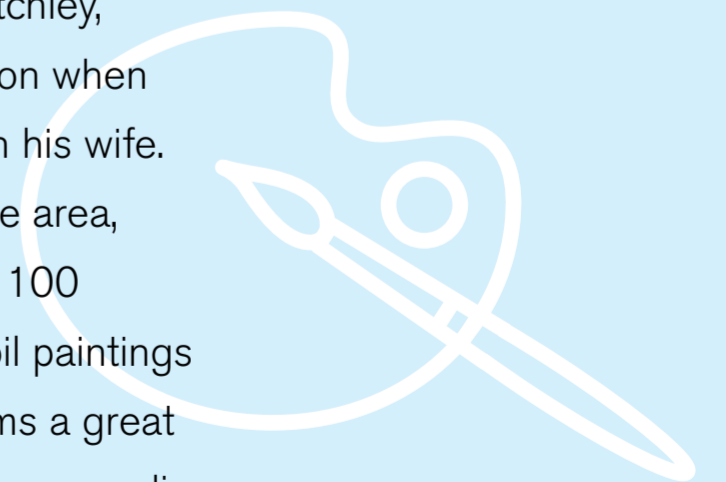


Carshalton High Street – note the flow of the River Wandle over the street to the left. (This would have flowed from the canal at the Grotto in Carshalton Park)



### An artistic legacy

The painting opposite is by William Tatton Winter. After studying at the Manchester Academy of Fine Arts he developed a reputation for the detail in his work, making him an excellent choice for scientific illustration. Commissioned by geologist and Carshalton resident Sidney B Skertchley, Tatton Winter was so taken by Carshalton when visiting that he moved into the area with his wife. During the 15 year period he lived in the area, it's estimated that he produced at least 100 landscape etchings, watercolours and oil paintings of the local area. This body of work forms a great historical record of the Wandle and the surrounding landscape.



DISCOVER THE SOURCE





# Discover the source of the Wandle

## A disappearing act

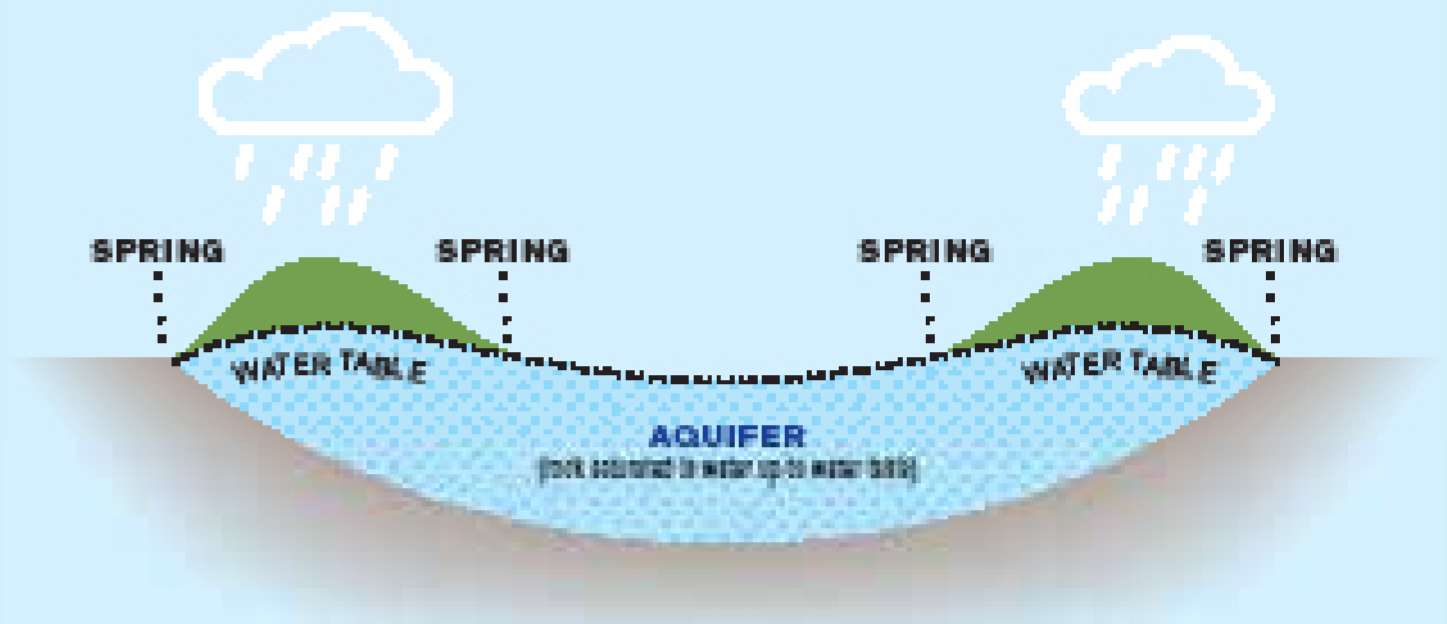
The natural sources of chalk rivers, such as the Wandle, will move naturally up and down their valley depending on the availability of water underground.



Below the headwaters of the Wandle catchment is chalk – a rock that is permeable and can store water much like a sponge. This underground store of a water is called an **aquifer**.

The more rain that falls, the more water soaks into the ground to fill the chalk aquifer. This causes the water table to rise closer to the surface. When the aquifer is so full that the water table comes to the surface of the ground, a natural spring bubbles up – this is a potential source of a river.

According to historical archives and images there were once many more natural springs in the local area. This suggests the water table was once much higher than it is today.



### So where's the water?

We all use it for drinking, bathing and washing. The local supply of fresh water is the Wandle aquifers which are abstracted by water companies.

Demand for water increases with a rising local population which in turns lowers the water table with their natural springs. The result is the loss of ponds and pools from our landscape.

Even without water, signs of the old spring ponds and channels are visible. Dry channels can be seen in Carshalton's Grove Park and in the Grotto in Carshalton Park.

Carshalton Ponds would also have disappeared if it wasn't for human intervention. Very little natural water replenishes the ponds and this part of the Wandle. As they're such an important local feature, the local water company replenishes the ponds by pumping river water from Goat's Bridge some 5 km downstream. Without these pumps the Ponds (and the River Wandle) would dry up. You may see water being pumped into Carshalton Ponds near the Honeywood Museum.



Children paddle in flooded Carshalton Ponds 1898.

Carshalton Water Tower in 1996 with the lake in the foreground. The picture below is the same view in 2016 – minus the lake.



Standing in the dry channel at the Grotto in Carshalton Park.



DISCOVER THE SOURCE



# Discover the source of the Wandle

## Wandle 'Woe Waters'

Bournes are a natural occurrence of chalk rivers, and another way in which the apparent source of the Wandle could move.

A bourne is a small, chalkland stream that flows only when water levels are unusually high. The Wandle has several bournes in the chalk valleys south of Croydon. The Caterham and Chipstead bournes are examples.

*“When Croydon Bourne doth upward ryse, disaster dyre before us lyse”*

The intermittent rising of these 'Woe Waters' as they were called, gained a reputation for foretelling disasters – or woes.

Certainly, looking through historical records, several major national disasters have coincided with the years of the Wandle Woe Waters such as the Great Plague in 1665.

On a local scale, the rising of the bournes indicates that these were periods of high water levels, with local flooding more prevalent which would have resulted in outbreaks of illness linked to poor sanitation.



The Grotto 2014

### Recent Woe Waters

In the winter of 2013/2014, the bournes of the Wandle flowed again after a lengthy period of heavy rainfall during the preceding Autumn. This extra water recharged the aquifers below. Locally, recently dry channels and features came 'back to life' in Carshalton. The Grotto Canal and Lady Margaret's Pool flowed once more. Even the Lake in the grounds of Carshalton House made an appearance!

Further up in the Wandle catchment during the same period, the bournes appeared again and contributed to severe flooding. The disruption to local roads will be remembered by many local people living in Whyteleafe, Kenley and Purley.

The Hogs Pit 2014



The Hogs Pit 2014



Wandle 'water woes'  
Purley 2014

DISCOVER THE SOURCE



Funding raised by  
The National Lottery  
and awarded by the Heritage Lottery Fund





# Discover the source of the Wandle

## The Wandle's future

This exhibition has explored how the source of the Wandle has moved in response to both natural and man-made influences, and we have seen how this has changed the character of our landscape through time. But what does the future hold for the Wandle?

Judging by the extent that groundwater levels have influenced the source of the Wandle in the past, it's clear that they'll remain a factor now and in the future.

With an increasing population comes bigger demand for freshwater, and this will put more pressure on the Wandle aquifer. Increased abstraction could result in an even shorter river than the one we know and love today.

Higher population also creates more demand for roads, housing and industry, all of which convert natural permeable surfaces such as fields to impermeable surfaces like tarmac and concrete. This means there will be far less area for rainfall to penetrate the ground to recharge the Wandle aquifer. Reduced natural recharge coupled with our increased water use will dramatically deplete the aquifer even further.

Weather patterns are changing too. Heavy, intense downpours are more infrequent which means increased abstraction due to longer drier spells. When the rain does come, local flooding is more intense.

All these factors mean the source of the River Wandle will shift again. This may have a detrimental effect on the animals and plants that live in and around the river that make it the special place we all want to protect.

## What can **you** do to protect the Wandle and its landscape?

You can help protect the Wandle by making small lifestyle changes at home and at work.

### Save Water!

- Fix dripping taps and leaking toilets – taps leak on average 15 litres a day and leaking toilets 215 litres a day!
- Take shorter showers – you could save 8 litres for every minute reduced.
- Fit a water meter.
- Keep a jug of water in the fridge instead of running the tap for a cold drink.
- Don't use the toilet as a bin – wet wipes cause blockages in the sewer system which can cause overflows back into the river, polluting the water.
- Think before you use a hose or sprinkler! These use 1000 litres an hour! Install a water butt to collect rainwater to use in your garden.

### Recharge the River!

- Fill your garden with permeable surfaces to allow water back into the ground to recharge the aquifer.
- Don't pave over your driveways, use gravel or grass to allow water back into the ground.

### Volunteer for the Wandle!

- Join many of the volunteering initiatives with groups such as the Wandle Trust. You could get involved with clearing rubbish, reporting pollution and helping to restore the river.

**CREATE A RIPPLE FOR THE WANDLE TODAY!**  
Please take a 'splash card' and pledge the simple actions you'll take at home to help protect the Wandle and its landscape. Together we can make the splash that will create ripples!

DISCOVER THE SOURCE



# Discover the source of the Wandle

## The project

Discover the Source of the Wandle is a project that aims to celebrate the River Wandle within our local community, and to understand how the river shaped our local history and our landscape that we see around us today.

### Why look for the source?

The source of a river tells an interesting story which is linked closely to the local landscape and local history, covering a range of topics from geology through to climate change.



### Where to look?

**Historic Archives:** Our research started in Sutton and Croydon libraries, both of which have extensive collections of images, maps, newspaper articles and old paintings hidden away in their archives. Working with a group of extremely driven and enthusiastic volunteers, these archives were catalogued and the stories they told, captured.

**Local people:** There is only so much you can learn from old photographs and maps so we sought out local experts to hear their stories of the source of the Wandle. We spoke to Croydon Natural History Scientific Society, the Bourne Society, Carshalton Water Tower and more; all revealing extra bits of information to weave into the Wandle' story.

**Local Landscape:** Clues left in the local landscape help us trace the Wandle's source through time. Our volunteers ventured out photographing dry channels and ponds, stench pipes, road names and old buildings.

A stench pipe – just one of the many existing clues to look for!



## Acknowledgements

Of course a big thank you must go to our funders – the Living Wandle Landscape Partnership Scheme (LWPS) funded by the Heritage Lottery Fund (HLF), Sutton and East Surrey Water (SESW) and for the extensive help and encouragement from all the staff at Sutton Local Studies Centre and their equivalent in Croydon.

Finally, a very big thank you to all the volunteers who have helped along the way – your enthusiasm and drive is infectious and this Project is dedicated to all the hard work you have put in along the way.

### Living Wandle Landscape Partnership



### Now go see for yourselves!

Pick up one of the self-guided walk leaflets produced by the Wandle Trust for this Project. The walks will take you through the 'stories' we collected on what has been a fascinating journey.

DISCOVER THE SOURCE

Paul Sowan insisted that the pedestrian underpass under the roundabout at Roman Way shows the last remaining 'evidence' of the river – a rise in the ground.

DID YOU KNOW