

Part 2

Walking the

Westbourne

*A geological trail along the River Westbourne
from Branch Hill Pond to the Thames*



Part 1

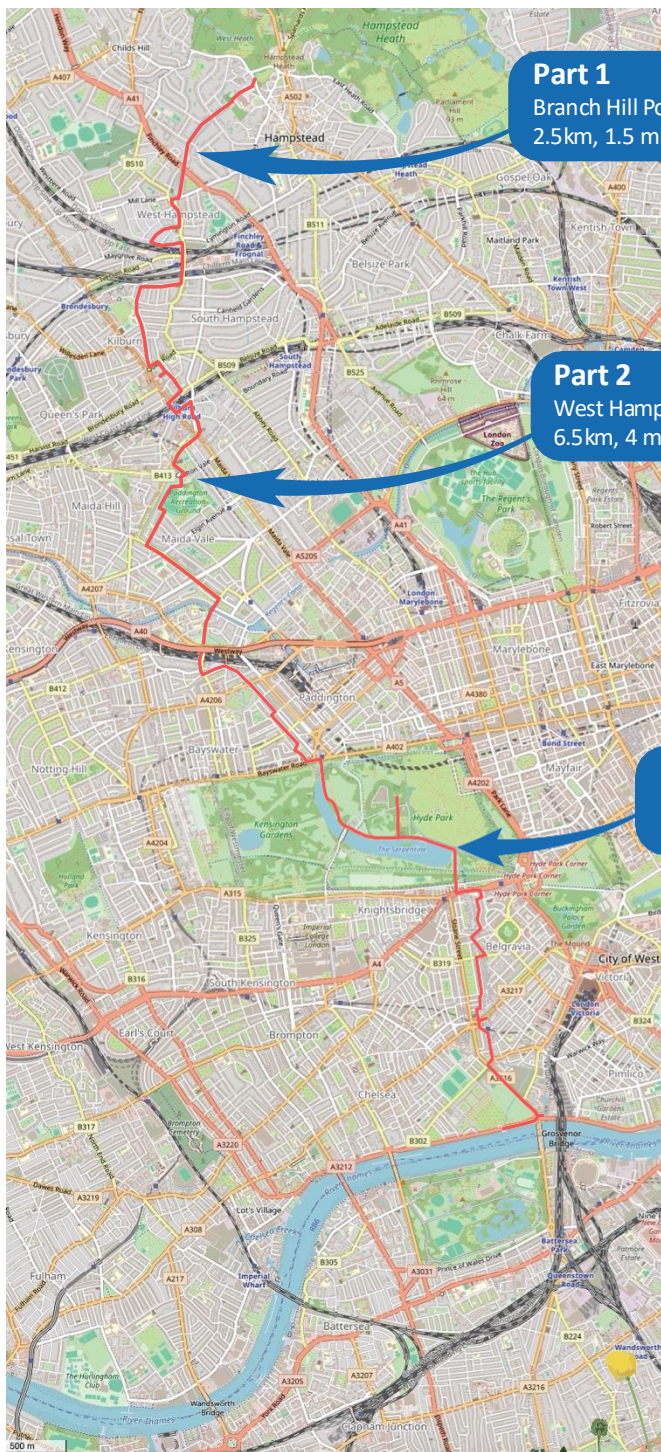
Branch Hill Pond to West Hampstead Station
2.5km, 1.5 miles

Part 2

West Hampstead Station to the Serpentine
6.5km, 4 miles

Part 3

The Serpentine to the Thames
5.5km, 3.4 miles

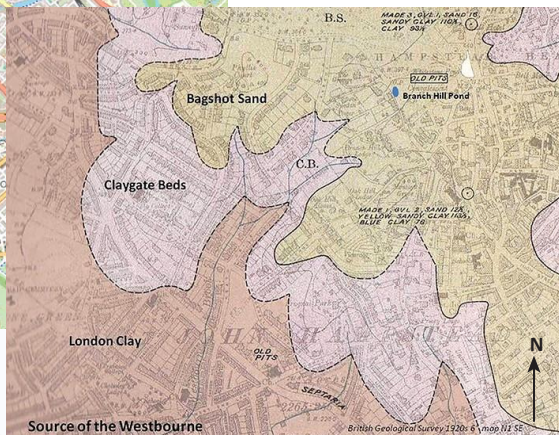
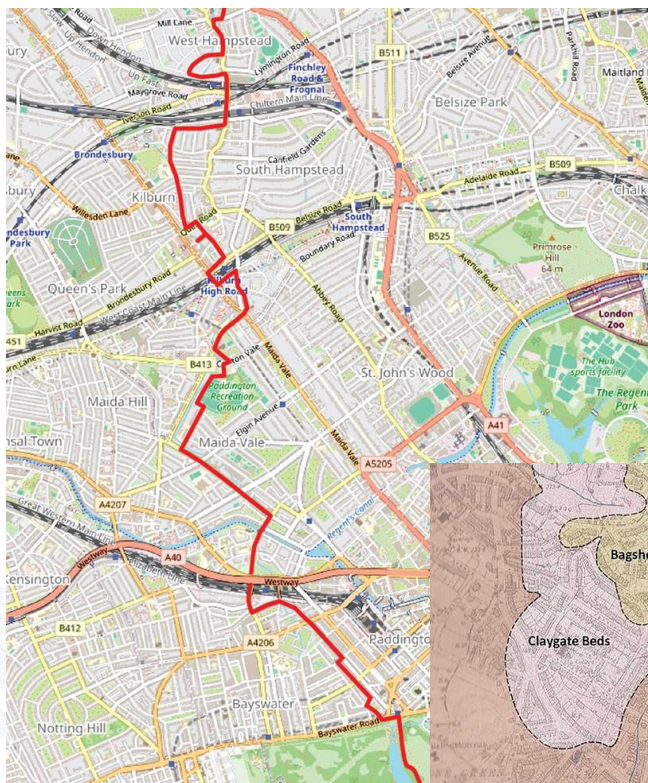


Part 2

West Hampstead Stations to the Serpentine (6.5 km, 4.0 miles)

The section between West Hampstead stations and the Serpentine is less interesting than both the first and third sections. It is mainly along streets without much topography and so it can be difficult to make out exactly where the Westbourne used to flow. The total fall is about 50m. Dips in the road have been noted and there are some clues in the street names to look out for. Drainage covers along

the route provide listening opportunities, but they are often in the middle of the road so beware of traffic. For the walking route, we are indebted to Tom Bolton for his very full description in Part 1 of *London's Lost Rivers: a Walker's Guide*. He adds information about the housing and past residents and it is well worth obtaining his book to learn more about this history and that of some of the buildings along the route of the Westbourne.



As was seen in Part 1, the Westbourne originates from a series of springs on Hampstead Heath, dictated by the geology.

The main sources are at the top junction of the 50 million-year-old Bagshot Sands and the underlying Claygate Beds, and the lower junction of the sandy-silty Claygate Beds with the much-less-permeable clays of the London Clay. The British Geological Survey Map from the 1920s shows the routes of these rivers in the Redington Frogna area between Branch Hill Pond and Finchley Road.

Part 2 begins at the West Hampstead stations for ease of communications. It is hard to imagine the River Westbourne running lazily through the fields with such a mass of railway lines at this point. The river is now encased in a sewer that runs underneath, to reappear in Lowfield Road.

Walk down West End Lane to Sherriff Road on the right hand side with St. James' Church on the corner. Here, take a sharp right to join the course of the river again at Lowfield Road. Note that the first road on the left along Sherriff Road is named Hilltop Road and there is a distinct dip down towards Lowfield Road as you walk down the east bank of the river.

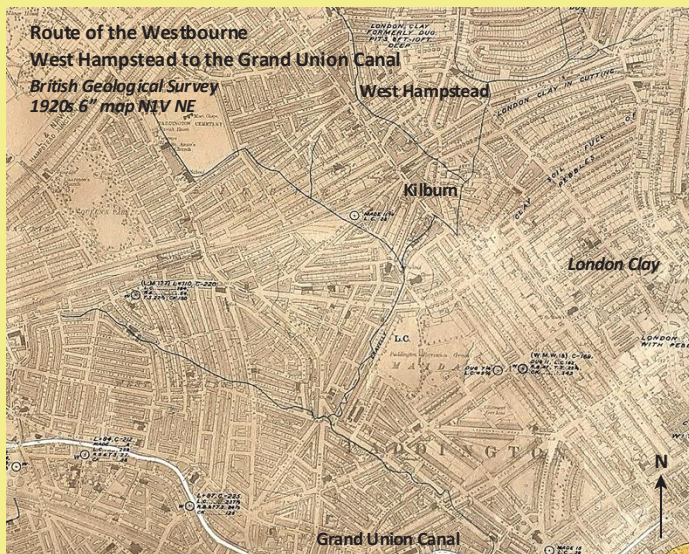
Stop 2.1

Lowfield Road

The name says it all, and it is clearly in a dip. The top of the road to the right is where the river emerges from under the railway. Gratings in the middle of Lowfield Road, and the continuation of it into Kingsgate Road give an opportunity to listen. Also, look for steep sides to the banks to both right and left. It is obvious that, not only the sewer runs down the middle of these roads, but also the original river.

The British Geological Survey 6" map portion of 1920s shows the Westbourne and its tributaries in solid blue, from original surveys in 1862. The section shown below features the Kilburn area and extends from West Hampstead to the Canal. The background brown colour indicates that the entire area is underlain by London Clay.

On this map, text at the top notes: London Clay formerly dug pits 8'-10'. The reason for digging clay just here is something of a mystery. The London Clay is not a good potting clay, as it contains too much gypsum and iron. The Claygate Beds are much more useful in this respect. However, London Clay, dug when creating the railways, was usually used for making bricks, but why clay should have been dug here is not known.



Lowfield Road becomes Kingsgate Road at the crossing with Hemstal Road. At this point, the Westbourne is joined by a small tributary. At the junction with Quex Road, cross at the low point to look into Quex Mews to see the route of the former river. You will need to walk up the east bank along Quex Road, then right down Mutrix Road to West End Lane, where the low point will indicate the route of the river again. This low point is occupied by the Bird in Hand Pub.

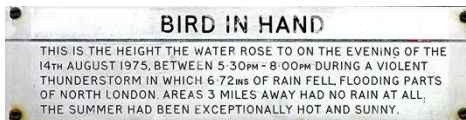
Stop 2.2

Bird in Hand pub

The Bird in Hand pub closed in 2003. Old photos show a plaque on an internal wall that marked the 1 metre height of floodwater, following a violent thunderstorm on August 14th 1975. Over 6.7 inches (170mm) of rain fell in just a few hours, overwhelming the culverted stream that ran beneath West End Lane. This is the point where the river crosses Quex Road. However, it is more likely that the flooding was from road run off at this low point.

Further severe flooding in the area occurred in September 2019 and February 2002.

*Bird in Hand Flood Marker,
D. Clements, May 2012*



Cross West End Lane and walk through the Kilburn Vale Estate past Marshwood House, another possible reference to the former landscape. Exit the estate onto Kilburn Vale and, where the route meets Belsize Road, the Kilburn Priory pub indicates that the ancient priory once existed near here.

Stop 2.3

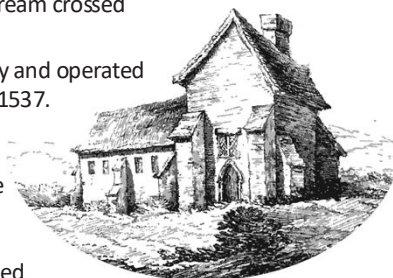
Kilburn Priory Pub

The name of the pub, and other local street names, provide clues that the ancient Kilburn Priory was somewhere near here. At the junction with Belsize Lane, the road named Kilburn Priory crosses the road just a little to the left, and beyond that is Abbey Road. This is the location of the zebra crossing featured on the Beatles' Abbey Road record album. The Priory was strategically situated near an important crossing point, where the Westbourne Stream crossed Watling Street (now Edgware Road).

Kilburn Priory was founded in 1139 as a Benedictine nunnery and operated for over 400 years until its dissolution by Henry VIII in 1536/1537.

The building, however, survived until at least 1722.

Like many small religious houses, it was self-sufficient, requiring water for cooking and washing, brewing and waste disposal. A moat or water-filled ditch would have served practical purposes such as drainage, water supply, and symbolic or minor defensive roles. It would have also provided fish for the monastery.



Remains of Kilburn Priory as it appeared in 1722.

The name Kilburn / Kilbourne / Kylebourne / Kelebourne is a local name for the River Westbourne. The meaning of the name is the subject of much debate, but is likely to be derived from the Anglo Saxon Kyle (cold) and Bourne (brook). Other suggested derivations are Cow Brook, Cyaburne (an early Anglo-Saxon spelling or variant of Kilburn) or Royal Brook. The name probably pre-dates the founding of the Priory.

The road name 'Belsize Lane' also tells a story, deriving from the French 'Bel Assise' – Beautiful Place. This is another spot to reminisce about the lost waterway through the meadows.



The pub proudly displays its heritage, with a sign noting Truman, Hanbury & Buxton, London Brewers since 1666. It would be pleasing to think that beer in 1666 had been brewed using the waters of the Westbourne. But the brewery was in Brick Lane and had sourced water from a combination of artesian wells (drawing water from the chalk at a depth of 500ft (+150m)) and the New River Company, extracting water from chalk springs in Hertfordshire and then transporting it around the 100 foot contour in the New River, to New River Head in Islington, dropping only 18 feet in 40 miles – a massive feat in the early 1600s. Pilgrims would stop at the tavern on their way to St Albans along the Roman road of Watling Street, and it remains a popular pub with good food to this day.

At the pub, turn right down Belsize Lane to Kilburn High Road. The building at number 42 on the corner to the right is thought to have been the site of the old Kilburn Spa.

Stop 2.4

Kilburn Wells

When the red brick building at 42 Kilburn High Road was enlarged in 1898, a stone wall plaque was placed at the level of the first-floor windows. This records: This is the site of the Kilburn Wells Spa, while a black stone square set into the pavement at the front of the building notes that the Spa had been a going concern in 1770.



Wall plaque



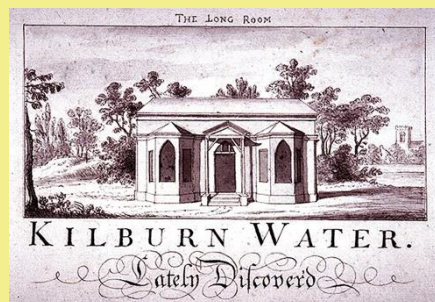
Pavement Plaque

The medicinal well at Kilburn Wells is thought to have been discovered in 1714 (from a keystone in the arch over the doorway), or even earlier. Other sources, however, suggest the later date of 1742. The well led to the development of Kilburn Wells as a spa destination, although it was most probably known about and used prior to then.

The railway is on the other side of Belsize Lane and parallel, on the far side, is Springfield Lane. The name Springfield is highly likely to refer to the presence of springs in the vicinity, but nothing about the topography or the geology just here indicates a reason for this particular spot.

A.S. Foord (1910), in his large tome *Springs, Streams & Spas of London* quotes a Dr Hales: 'The spring rises about twelve feet below the surface, and is enclosed in a brick reservoir of about five feet in diameter'. He goes on to say: 'The water was a mild purgative, milky in appearance, and had a bitterish taste, and was said to be more strongly impregnated with carbonic acid gas than any other spring in England.'

Analyses of the water show that a large proportion of magnesium was also present, along with common salt. These are the properties of Epsom Salts. Epsom Waters, known primarily from springs in Epsom, but also giving rise to spas in south London such as Beulah Spa and Dulwich Spa, are purported to have a strong and rather unpleasant taste, together with medicinal qualities. It is probable that the magnesium sulphate derives from weathering of the London Clay on the flanks of Hampstead Heath. As water flows through the near surface it is altered by seasonal wetting and shrinkage, the latter causing drying cracks, for which London Clay is notorious. Nowadays, Epsom Salts is obtained by evaporation from sea water.



Cross over the railway and turn left down Springfield Lane. At the bend, take the small path, adjacent to the railway (Springfield Walk) and continue to the junction with the road named Kilburn Priory. Turn right and then left onto Mortimer Place and right again into the Mortimer Estate, looking for the low point behind Remstead House. This is more or less where the junction of the two rivers, Westbourne and East Westbourne, lies.

Stop 2.5

Junction of Westbourne and East Westbourne Rivers

The BGS 1920s map section above (Stop 2.1) shows that the route of the Westbourne that we have been following is joined by tributaries arising further east, one of which is named East Westbourne on the Arup Map in Part 1. Look left within the housing estate for the junction somewhere there, although the ground has been significantly landscaped, making the junction impossible to detect. The East Westbourne had several tributaries of its own and so the size of the river will have increased considerably close to crossing Kilburn High Road.

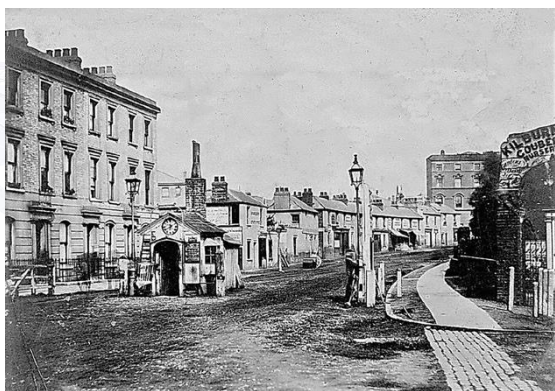
The BGS map shows a curious sharp V-bend when the combined rivers reach the Kilburn High Road before turning left again to run parallel to Kilburn Park Road on the north east side – this cannot be a natural feature but must have been engineered in antiquity.

Return to Priory Road and follow it down to the junction with Kilburn High Road

Stop 2.6

Kilburn High Road Toll Gate

Kilburn High Road Toll Gate, also known as Kilburn Toll Bar, was situated at the junction of Kilburn Priory with Kilburn High Road. This was the famous Roman road, Watling Street, from Canterbury to St Albans, now part of the A5. To the southeast at this point the road is called Maida Vale. This is where the Westbourne River used to cross Watling Street and where there was once a bridge.



*The Kilburn Toll Gate
1860. Brent Archives*

The turnpike, dated from 1710, was erected to collect money to help improve the surface of this important thoroughfare. The 1710 date makes the Kilburn toll gate one of the earlier turnpike installations in London, reflecting the importance of this route for traffic heading north and northwest from the capital.

There were tollgates on other major routes out of London, but the system was abolished in 1864. Prior to that, this tollgate was moved up the road to Shoot Up Hill, as the road is named to the north of Kilburn High Road. The name Shoot Up Hill is likely to be descriptive of the topography (in that travellers needed to shoot up it).

Cross the High Road at the low point and continue down Kilburn Park Road opposite until Rudolf Road is reached.

Stop 2.7

Tributary from 'Paddington' (Willesden Lane) Cemetery

At the junction of Kilburn Park Road and Rudolph Road, the BGS map above shows a tributary from the northwest joining the river, underneath the school on this corner. The origin is shown within Paddington Cemetery with a curious right hand bend around the perimeter – probably more human intervention when the Cemetery was developed.

Before the cemetery opened in 1855, the area was crossed by this tributary of the Westbourne. Its drainage valley underlay the land, and, looking at the topography within the cemetery, a depression is still visible. It would appear that the river originally flowed in a south-easterly direction from the northwest corner, right underneath the chapel. It was diverted around the perimeter in 1855, when the cemetery opened.

The cemetery is underlain by London Clay, examinable in a mound in the middle from the dug graves. Springs usually arise when water percolating through gravel or sand meets with a less permeable medium. However, here, the ubiquitous clay makes it difficult to understand the reason for a spring.

The London Clay has been divided into five units, each displaying a coarsening-up sequence as the marine basin filled. In the London Basin, this is often hard to detect, but the divisions have been identified in boreholes and are described by King, 2016. Springs could have arisen from the slightly sandy bands within the London Clay. Septarian nodules, or 'cement stones', which occur at certain horizons within the London Clay could also produce a spring line. These are calcium-carbonate-rich concretions which, when ground, could be used as cement.



*Septarian nodules in the cliffs at Sheppey.
Photo F. Clouter*

***Cross the road for a quick look at the impressive Church of St Augustine, constructed in 1879 by JL Pearson. At the time, it was one of the tallest spires in London.
Take the alley to the right of the church and cross Carlton Road to enter into Paddington Recreation Ground.***

Stop 2.8

Paddington Recreation Ground

The British Geological Survey map shows the Westbourne as a wiggly line down the west side of Paddington Recreation Ground, along the continuation of Kilburn Park Road: it seems to have been culverted in 1855. On the BGS map, it is labelled 'Gravelly'. The reason for this is unclear, as the London Clay contains very little in the way of pebbles. It is possible that the spring detailed in Stop 2.7 came from a layer that incorporated pebbles? Tom Bolton shows his route running through the Ground, close to the main path running from north to south, as do Barton & Myers. Kilburn Park Road as far as Shirley Road forms the boundary between Brent and Westminster and rather confirms the BGS route.

Either way, Paddington Recreation Ground would be a suitable location to acknowledge the existence of the River Westbourne, preferably with an explanation board, or with a bollard with a QR code that could link to this trail. The most suitable location would be the pond within the Wildlife Garden. To reach this, turn right close to the entrance of the park, but note that it is not always open to visitors, as the area is used for Forest schooling during term time and at weekends for children's parties.

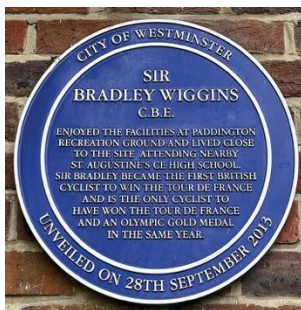


Appropriately the newly-created stream and pond in the Wildlife Garden is close to the route of the Westbourne.

Many thanks to Ruth Willmott Associates for use of the photograph.

If possible, follow the path through the Wildlife Garden and then around the Western perimeter of the park, closest to the route shown on the BGS map and exit the park at the Essendine Gate. If this is not possible, turn right at the path through the middle of the children's playground, continuing through the football pitches, to join the perimeter path. A snack bar and toilets can be found opposite the playground.

Should you wish to pay homage, you could make a diversion to the Club House, a little beyond this junction, where there is a plaque on the wall to Sir Roger Bannister who trained here for the 4-minute mile in 1954. More recently, plaques have been added to Sir Bradley Wiggins and Bianca Williams, who also trained here.



From the first exit around the south perimeter of the racetrack, take the Essenden Gate exit to the park, turn right and follow the road round the corner into Essenden Road. Stop at the junction with Shirland Road to meet the river again.

Stop 2.9

Junction with tributary from Kensal Rise

Just to the right of the junction of Essenden Road and Shirland Road, the Westbourne River, at the bottom of Kilburn Priory Road, is joined by a tributary from near Queens Park. The sharp left turn of the main river at this point is related to the topography. The BGS map shows that the tributary arises from a spring to the northwest at the corner of Kilburn Lane and Fifth Avenue. Reliable reports from residents living in the area to the west of Queen's Park, note regular flooding a bit further north, at the east end of Kempe Road and the west end of Chevening Road. Barton and Myers identify the source even further north, but not quite as far as the small patch of Claygate Beds that is just off the BGS map at the northwest, in Chambers Lane, Willesden Green. There is a clue to the route on the BGS map from the parallel bends of Third Avenue and Beethoven Street – it seems the stream ran between the two. Nevertheless, it is not far from the main river and will not have contributed a large volume of water.

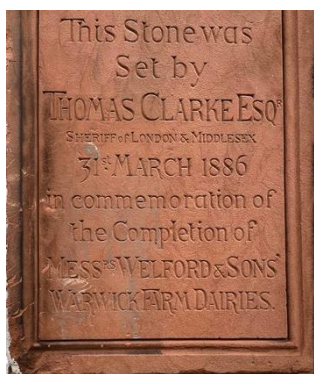
Greenwood, in his map of 1819, shows this portion of the River between the two tributaries from the west as 'Bayswater Rivulet'. The sewer, along Kilburn Priory Road and turning right onto Shirland Road, is named Ranelagh Sewer on the sewer map. More on the origin of these names at Stop 2.14 and in Part 3.

Map portion of C. Greenwood's 1819 Map of the County of Middlesex, showing the Westbourne as the Bayswater Rivulet. Reproduced with the permission of the National Library of Scotland.



Stop 2.10

Shirland Road



On the BGS map, the river is shown to run along the south side of Shirland Road until just after the junction with Elgin Avenue, where it crosses the road obliquely to run parallel to the north side of the road.

A plaque on the wall at this point acts as another reminder that this was once a farming community. It commemorates Messrs Welford & Sons who ran a model dairy on this spot, dating from 1886.

Just before Sutherland Avenue the river is shown with a little kick northwards close to the southeast edge of the BBC Maida Vale Studios that front Delaware Road. Occasionally, the basement becomes flooded near this point and a flood control pump has been installed to drain floodwater. A large acoustic space under the floor minimises any damage. A trap door allows the water to

be seen from time to time. Nowadays, the Ranelagh Sewer also runs close by. This parallels the north side of Shirland Road all the way from Kilburn Park.

Continue along Shirland Road to the end, then turn right along Formosa Bridge to cross the Regent's Canal at the footbridge. Notice that Bristol Gardens, straight ahead, before the right turn, slopes steeply up: it was the former bank of the Westbourne.

Stop 2.11

The Regent's Canal

Technically, the canal just crossed is the Paddington Arm of the Grand Union Canal. It becomes the Regent's Canal after Paddington Basin (Little Venice), just a few hundred metres to the east. The Paddington Arm opened in 1801 from Bull's Bridge in Hayes, for the purpose of bringing goods into Central London. Nowadays it is used for recreation, by barges and for walking and cycling along the tow path.

On the 1819 Greenwood map (above) the Westbourne is shown flowing underneath the canal, with ponds on either side of the canal.

Water required, both for the Paddington Arm, and later the Regent's Canal, was obtained by the creation of the Brent Reservoir, damming the River Brent just to the north of the North Circular Road and west of Brent Cross Shopping Centre. The sizeable reservoir is also known as the Welsh Harp after a pub situated there. It is now an SSSI for wildlife.

Keep straight on after the footbridge, following Lord's Hill Road, then follow the route, crossing Bourne Terrace to enter Westbourne Green beyond. Attractive blue glazed brick walls at the entrance are a reminder that you are still following the route of the Westbourne. But, apart from the numerous street names that refer to it in this area, the route has been so disrupted that it is impossible to pinpoint where the river had originally flowed.

Stop 2.12

Westbourne Green

Although there is no trace of the river flowing through Westbourne Green, this would be another good site to mark it, either with a board or a bollard with a QR code. Even better, a linear pond would increase biodiversity and make the point more visually.

Don't be confused by the landscaping. The hillocks are man-made with rubble from the creation of West Way. In 2025 a community project was under way to create a 'micro-forest' within the site. By mid 2025, 426 new trees had been planted, helping to mitigate the effect of air pollution from Westway and, ultimately, climate change. The trees will also boost biodiversity and reduce noise pollution in the local area.



The name 'Westbourne' may arise from the stream on the west side of this area, or it may have originated near its source on Hampstead Heath, as the stream on the west side of the Heath. The larger Fleet River runs from the east side of the Heath and the Tyburn is more central. The term 'bourn' or 'bourne' often refers to a streamlet that runs intermittently.

There is no evidence that this was the case on Hampstead Heath: nevertheless, the small size and proximity to the source seems a more probable origin of the name than the Paddington area, where the river will have become quite sizeable. It was considerably narrower than the Fleet by the time it reaches the Thames, but will have been wider and stronger than the Tyburn.

Cross the Green and exit by the gate on the south side. Turn left along Harrow Road to cross the road at the lights and walk under the flyover. Continue straight ahead to Royal Oak tube station

Stop 2.13

Royal Oak Station

The Elizabeth Line (opened in 2022) passes under Royal Oak Station and extensive excavations were carried out by Crossrail at the time. Approximately 100 bones were found at the site, enclosed in sediments that appeared to rest in a hollow within the London Clay at the edge of the valley incised by the Westbourne. Most of the bones were from reindeer and bison, which have been dated as being about 68,000 years old, so were alive at this spot during the most recent ice age. The animals seem to have died naturally, possibly during a flash flood as they were drinking from the Westbourne. There are signs of later scavenging, probably by wolves or bears, after which the river dispersed them, and some were broken by trampling. The site at Royal Oak Portal is considered to be of national importance because of the large number of bones, and because this 'bison-reindeer fauna' could be excavated and analysed under scientific conditions.

Bison and Reindeer bones unearthed at the Cross Portal of Royal Oak during excavations of the Elizabeth Line. With thanks to Simon Parfitt who worked on the project. © Trustees of the Natural History Museum, London.



From Royal Oak tube station continue over the railway on Lord Hills Bridge. This becomes Porchester Road. Continue until you reach Gloucester Terrace on the left. At the bend look left to another bridge crossing the railway.

Stop 2.14

Ranelagh Bridge

The Ranelagh Sewer takes its name from Ranelagh Gardens close to the Thames, adjacent to Chelsea Barracks Gardens, where it was first constructed, although subsequently extended as far north as Kilburn. It was constructed before Joseph Bazalgette created the sewer system for London (more in Part 3). In turn, the Ranelagh Bridge takes its name from the older sewer which crosses the railway at this point.

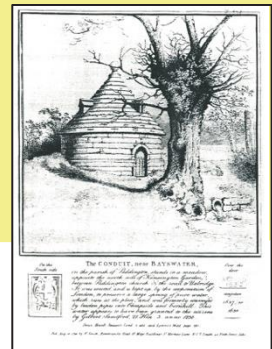
Continue round the bend along Gloucester Terrace, then right onto Cleveland Terrace. The Hallfield Estate in the middle of these two roads is at a lower level – in the valley of the Westbourne. The original route then went underneath Cleveland Terrace. After this, it can be followed more closely by walking down the centre of a series of Mews, which are at a lower level than the roads they cross. First, on the left, Gloucester Mews West, then Upbrook Mews, then Brook Mews North. A private garden forces the walking route to bend round onto Craven Terrace; then follow the edge of the garden round and finally turn right down the steps into Elms Mews, where the Westbourne was once lined with elms, before arriving at what is now Bayswater Road.

It should be noted that a spring used to arise just opposite Paddington Station and is remembered by the street names Conduit Mews and Spring Street.

A conduit, which once stood there, transported water all the way to the pumps in the City of London at Cheapside and Cornhill. The shape was similar to other medieval conduit houses. Originally, the pumps were supplied by the Tyburn where it crosses Oxford Street at Bond Street, but the flow was insufficient and the conduit was built at Paddington to take water from the Westbourne. The caption to the image of the Bayswater Conduit notes that it transported spring water, but it is unlikely that would have had sufficient strength without additional water from the Westbourne itself.

At the Tyburn conduit, an annual banquet was held on 18 September, at which the Lord Mayor would inspect the conduit and the bridge. The hunting of hares before dinner and a fox after formed part of the Tyburn Conduit inspections. There is no evidence of hunting at the Bayswater Conduit, even though Hyde Park was a Royal Hunting Ground.

The conduit was apparently in use from 1471, and remained active, supplying fresh drinking water until around 1820. The conduit system to the City was damaged in the Great Fire of 1666 and eventually decommissioned. A waterwheel once pumped water from the spring to service Kensington Palace until the Chelsea Waterworks assumed responsibility in the late 18th century. On the continuation of Greenwood's 1827 map, a small stream is shown flowing from this point into the Westbourne, shortly before it reaches Bayswater Road.



Stop 2.15

Bayswater Road



The name 'Bayswater' is said to have arisen from 'Bayards watering'. The road was a major route to the west out of London and the 'Bayswater' would have been an obvious place to refresh the horses, here by the bridge. The term 'Bayard' may refer to the colour of the horses, or possibly a contraction of 'Baynard' after Abbot Baynard, who ran the monastery that owned the land. A drinking fountain opposite Elms Mews at the low point in Bayswater Road is unlikely to be coincidental.

Prior to the 1830s, the route of the Westbourne River through Parts 1 and 2 remained uncovered.

The Swan Public House to the right of Elms Mews may be an appropriate watering hole, either for a pause, or as an end to Part 2. In 1775 it opened as a Coaching Inn adjacent to the bridge and surrounded by fields.

Alternatively, there are toilets and a café opposite, just inside the entrance to Hyde Park. Lancaster Road Underground Station on the Central Line is also conveniently placed.

To continue, enter Hyde Park by Marlborough Gate at the head of the Serpentine for Part 3

Part 3

The Serpentine to the Thames
5.5km, 3.4 miles