

The Clywedog Valley Trail



Introduction

The Clywedog Valley Trail runs from Minera Lead Mines to King's Mill. It is an easy to follow waymarked path along the river helping you to enjoy the natural beauty of this peaceful valley and uncover its rich history.

The River Clywedog has always been the lifeblood of the valley, watering crops and livestock since early times, powering corn mills and driving industrial machinery.

During the 18th and early 19th centuries the river was truly the powerhouse of the area, running 17 mills along its length – fulling mills to prepare cloth, mills for grinding corn and malt, and paper mills. Huge waterwheels powered the bellows blasting air into the iron furnaces at Bersham, and drove winding and pumping machinery in the lead mines.

The population grew dramatically as the industrial revolution drew workers to the Wrexham area, serving the rapidly developing coalmines, lead mines, limestone quarries, ironworks and lead smelting works. There was a never-ending demand for food to feed the rapidly increasing workforce. The fertile Clywedog floodplains had always provided rich pasture and corn but, to meet the increased demand, new corn mills were built and additional areas of woodland were cleared for growing crops.

When steam power took over in late 19th and 20th centuries new industries no longer needed to be sited close to the river. New technology and cheap imports from overseas gradually saw the demise of the Clywedog industries.

Today the Clywedog has returned to nature but still plays an important part in the life of the valley, as a place for wildlife and relaxation. Several of the old buildings and surrounding land are now museums, visitor centres and riverside country parks – Minera Lead Mines, Nant Mill Visitor Centre and Picnic Area, Bersham Heritage Centre and Ironworks and Erddig Country Park.

Walking is relaxing and good for your health, so why not enjoy a walk exploring the Clywedog Valley.





Minera to Nant Mill

Distance: 2.5 km/ 1.5 miles

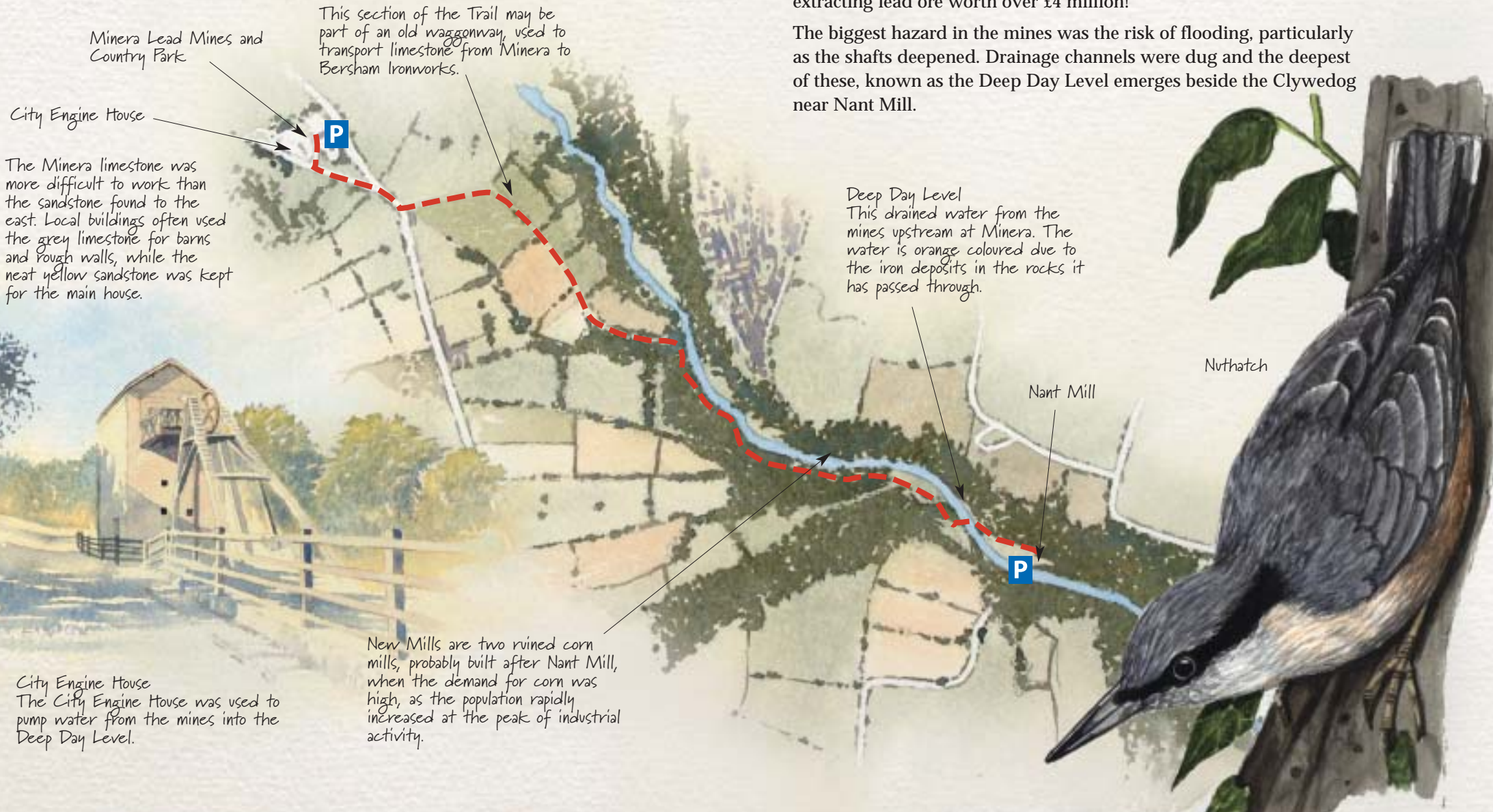
Start: Minera Lead Mines Country Park

Time: 1 hour

Lead & Limestone

Mining dominates this stretch of the trail as the underlying limestone around Minera is rich in metal ores, particularly lead. The trail begins at Minera Lead Mines, site of the deepest shaft and once one of the busiest mining centres. Between 1819 and 1919, over 30 different companies prospected for lead nearby, digging 50 shafts and extracting lead ore worth over £4 million!

The biggest hazard in the mines was the risk of flooding, particularly as the shafts deepened. Drainage channels were dug and the deepest of these, known as the Deep Day Level emerges beside the Clywedog near Nant Mill.



Minera Lead Mines and Country Park

This section of the Trail may be part of an old waggonway, used to transport limestone from Minera to Bersham Ironworks.

City Engine House



The Minera limestone was more difficult to work than the sandstone found to the east. Local buildings often used the grey limestone for barns and rough walls, while the neat yellow sandstone was kept for the main house.

Deep Day Level
This drained water from the mines upstream at Minera. The water is orange coloured due to the iron deposits in the rocks it has passed through.

Nuthatch

Nant Mill



City Engine House
The City Engine House was used to pump water from the mines into the Deep Day Level.

New Mills are two ruined corn mills, probably built after Nant Mill, when the demand for corn was high, as the population rapidly increased at the peak of industrial activity.

Mining

The Romans were probably the first to mine the lead – the name 'Minera' comes from the Latin word for ore. Mining continued throughout the Middle Ages and, by the 14th century, lead was such an important commodity that the miners received special privileges such as exemptions from taxes.

Early mining utilised seams of lead near the surface. The technological advances of the industrial revolution resulted in a great expansion in mining, with deeper seams becoming accessible. Steam-driven pumping engines were able to pump water from the deeper mine shafts. Regular disputes between the different mines often caused the flooding. Unless the pumps worked together, flooding from one mine would simply flow into adjoining mines. It was only when John Taylor amalgamated 11 of the companies in 1845 that the drainage issues were successfully tackled by coordinated pumping and completion of the Deep Day level in 1847.



Replica machinery at Minera Lead Mines



Hand winding gear used to lower men into the shafts

Limestone flora

Wildflowers flourish on the thin limestone soils. Look for the array of orchids in the spring, and throughout the summer, flowers such as Knapweed with its purple thistle-like flowers and creeping, yellow Birds Foot Trefoil. Fewer plants grow on the lead-contaminated spoil heaps, but they too have their own special flowers.



Simon Hughes

Accidents were remarkably few at Minera, considering the hazards. Part of the reason was due to the timbermen who kept the mine in good repair. Simon Hughes was employed as a timberman at the Minera City Mine, becoming head timberman in 1908. He worked at the mine until it closed in 1915.

His job was to repair and maintain all the timber in the mine, shoring and propping loose ground, making and fixing ladders, laying rails for the tramways and maintaining the pumps and associated pipes and pitworks in the shafts.

In addition to carrying out repairs, Simon and his colleagues made regular inspections of the levels and shafts. There are accounts of them inspecting the levels below the Speedwell Shaft – entering at Nant Mill and re-emerging at the day level in Minera village! They sometimes had to swim as parts were flooded but rarely suffered any after effects and were greeted with a bottle of whiskey to warm them!



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Nant Mill to Bersham

Distance: 2.5 km/1.5 miles

Start: Nant Mill Visitor Centre

Time: 1 hour

Millers & Landowners

There has been a mill by the river at Nant for hundreds of years, ideally situated by a fast flowing river. The original mill was probably for fulling – thickening woven woollen cloth – but, by the late 18th century, Nant Mill was a corn mill.

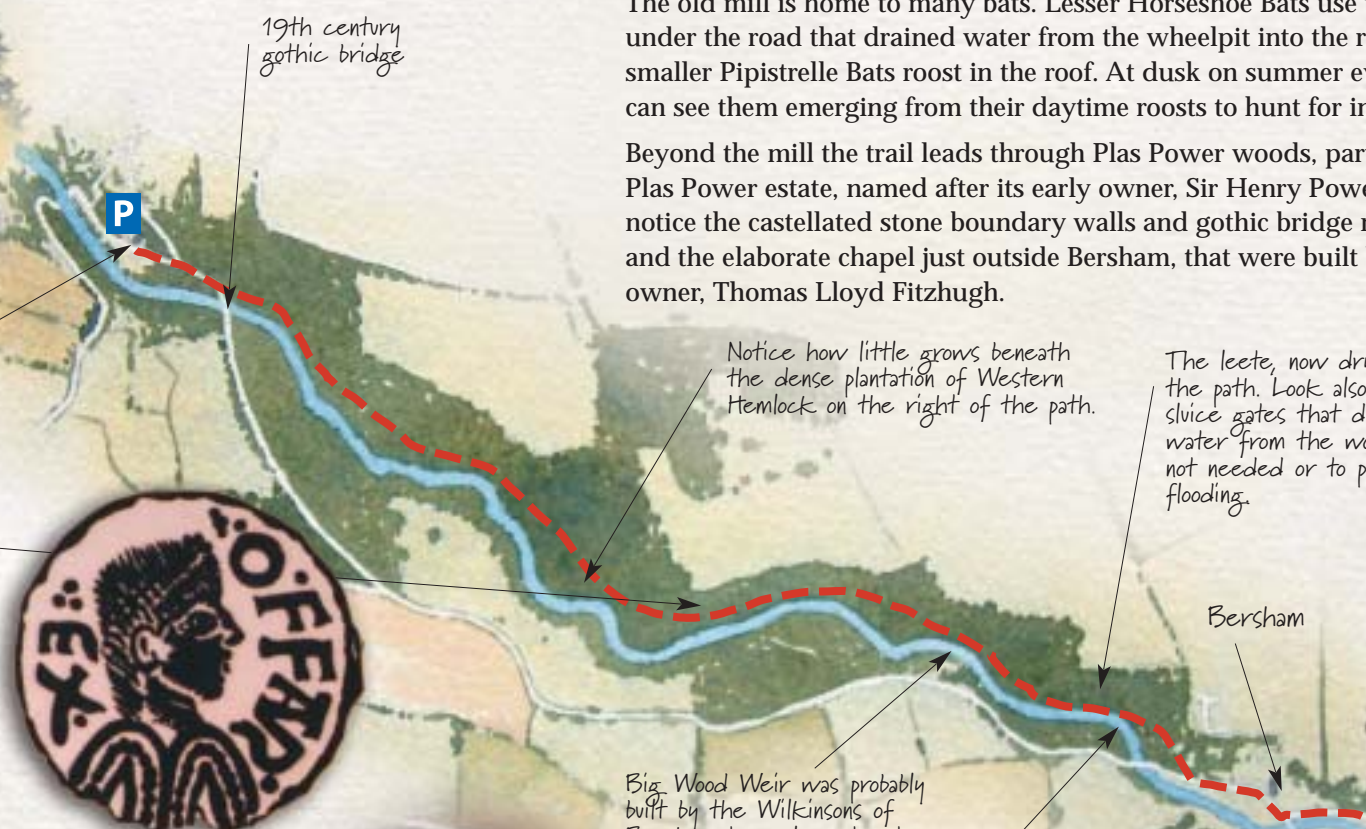
The old mill is home to many bats. Lesser Horseshoe Bats use the tunnel under the road that drained water from the wheelpit into the river and smaller Pipistrelle Bats roost in the roof. At dusk on summer evenings you can see them emerging from their daytime roosts to hunt for insects.

Beyond the mill the trail leads through Plas Power woods, part of the large Plas Power estate, named after its early owner, Sir Henry Power. You may notice the castellated stone boundary walls and gothic bridge near Nant Mill, and the elaborate chapel just outside Bersham, that were built by a Victorian owner, Thomas Lloyd Fitzhugh.

Nant Mill Visitor Centre



19th century gothic bridge



Nant Mill
The series of holes in the right side of the mill supported the overhead channel that brought water from the leete to turn the waterwheels.

Offa's Dyke, an earthen ditch and bank stretching from North to South Wales, was built by King Offa of Mercia – now the Midlands – to define and protect his border with Wales. The Clywedog was once frontier country and the dyke is clearly visible close to the path.

Notice how little grows beneath the dense plantation of Western Hemlock on the right of the path.

The leete, now dry, runs beside the path. Look also for the sluice gates that diverted water from the works when not needed or to prevent flooding.

Bersham

Big Wood Weir



A puzzle? The steps beside Caeau Weir are known locally as the 'Russian steps' and were reputedly built by prisoners of war. However photos date the steps from c. 1911 so what war would this have been? If the story is untrue who did build the steps?

Big Wood Weir was probably built by the Wilkinsons of Bersham to supply water to a small coal mine on the other side of the road.

Caeau Weir was used during the 19th century to provide a steady flow of water to Bersham Ironworks. The sluice gate controlled water flow into a leete that carried water to the ironworks.

Pipistrelle Bat



Fulling or grinding

To thicken woollen cloth it was beaten underwater with wooden hammers, powered by the mill's waterwheel. The flat field between the mill and the river may have been a 'tenter's field' where the cloth was stretched and hung up to dry. This is where the phrase 'to be on tenterhooks' comes from.

This corn mill was built in 1832 and continued to be worked until the early 20th century. It was briefly reopened during the Second World War. The large waterwheels no longer exist but you can see the wheelpit to the right of the building. Water to feed the mill was diverted from the river and channelled along a man-made leete that ran behind the mill.



'The cloth was beaten with wooden hammers'

Woodland

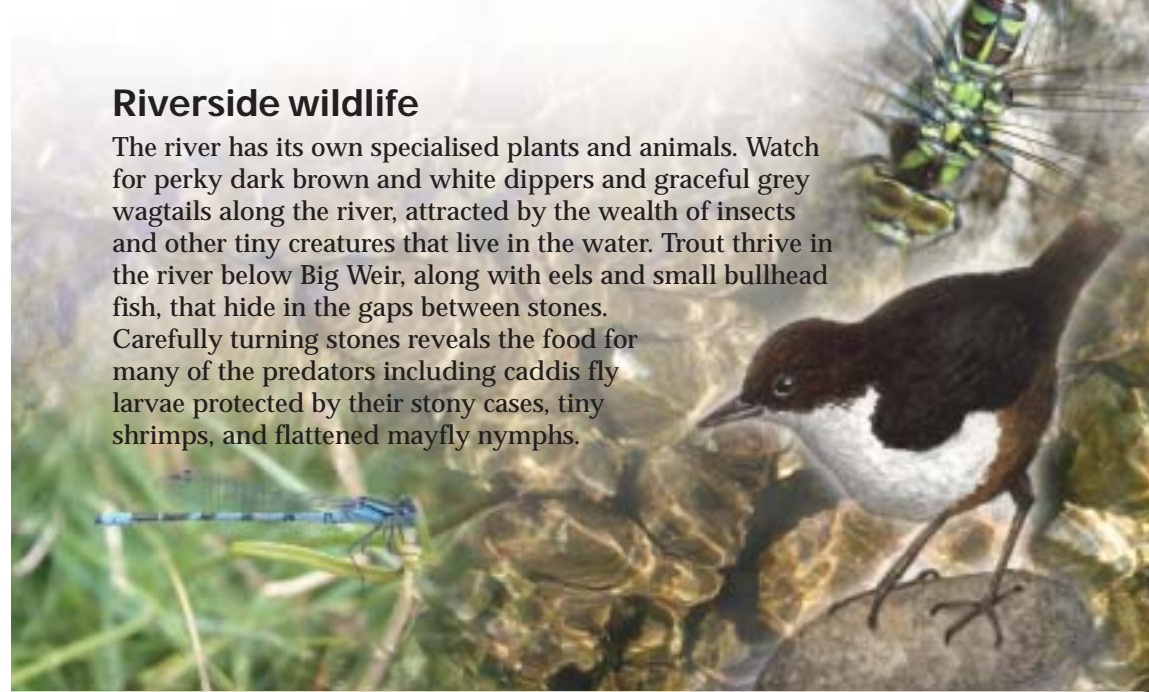
The woodland contains both conifer plantations and broadleaved woodland, including beech, ash, oak and hazel. Far more plants and animals live in the more open and varied broadleaved woodland than in the dense, dark conifer plantations, although squirrels and birds such as woodpeckers and finches feed on the pine cones. The lack of sunlight is one reason for the difference.

In the spring the smell of wild garlic wafts through the broadleaved woodland, and the floor is carpeted with its thick green leaves.



Riverside wildlife

The river has its own specialised plants and animals. Watch for perky dark brown and white dippers and graceful grey wagtails along the river, attracted by the wealth of insects and other tiny creatures that live in the water. Trout thrive in the river below Big Weir, along with eels and small bullhead fish, that hide in the gaps between stones. Carefully turning stones reveals the food for many of the predators including caddis fly larvae protected by their stony cases, tiny shrimps, and flattened mayfly nymphs.



The Evans family

The Evans family, Samuel, Sarah and their 10 children, worked Nant Mill and ran the adjoining farm from 1889 to 1930. They lived in the farmhouse, now ruined, on the opposite side of the ford from the mill. The whole family were involved running the farm and mill. The family were virtually self sufficient in food, growing all their own vegetables and keeping pigs. (You can still see the pigsties beside the children's play area).

Sarah baked bread once a fortnight, making 16 loaves and one currant loaf. She also made a large amount of butter from the farm milk in a special butter room at the end of the farmhouse. The churn was turned by a water wheel powered by water fed from the mill race.

Every afternoon Samuel loaded milk churns onto his pony and cart and delivered milk to local houses, pouring milk from the churn into the householder's jug or milk can. (There were no milk bottles then!) He also sold butter and surplus vegetables on his round.

The children also worked hard, feeding the animals and harnessing up the milk cart pony, picking fruit and tending the vegetable patch, helping with harvesting corn and milling in the early autumn.





Bersham to Felin Puleston

Distance: 1.5 km/1 mile

Start: Bersham

Time: 45 minutes

Iron & Paper

It is hard to imagine that this peaceful section of the trail was a hive of industrial activity for over 200 years. Bersham Ironworks was at the forefront of the industrial revolution, producing world-renowned cannon and steam engines.

It was ideally situated as all the raw materials were close to hand. Iron ore was mined at nearby Llwyneinion and Ponciau. Limestone that was used as a catalyst in the smelting process came from Minera. Fuel to fire the furnaces, was initially charcoal from nearby Coedpoeth and later coal from Llwyneinion and Ponciau. The river provided plentiful water to drive the bellows blasting air into the furnace.

When the ironmaking focus moved to nearby Brymbo, papermaking became the dominant industry. Three water-powered papermills produced handmade paper, until machine-made paper destroyed the market in the 20th century.



Bersham Heritage Centre

The Heritage Centre was originally a school, built on the site of the east ironworks.

Site of the Turkey Paper Mill that produced the highest quality paper, used for banknotes, cheques, account books and fine writing paper.

Bersham Mill, was built as an ironworks foundry, but converted to a corn mill when the ironworks closed.

Cannon were possibly cast in the octagonal building.

This weir provided a steady flow of water for the Turkey Paper Mill.

Look out for herons feeding in the river.

You can see where this stone railway bridge has been reinforced with bricks. The coming of the railways to Wrexham in the mid 19th century, further boosted the industrial development.



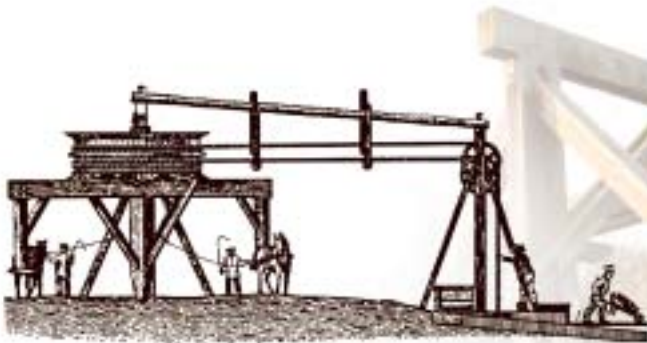


Water supply, Turkey Paper Mill

Paper Mills

Papermaking needed a good supply of rags, as a raw material, and clean, relatively hard water with an even flow to power the mills. A series of weirs and leetes were built to ensure an even water supply. Rags were plentiful - the 1851 Wrexham census shows there were large numbers of Irish immigrants collecting rags for the paper mills. The rags were soaked in water and then pulped by water-powered hammers to separate the fibres. The mixture of water and fibres was then formed into sheets.

Many young children worked in the paper mills until child labour was abolished in late 1800s. Girls cut rags, glazed and sorted the paper, whereas boys were employed as 'engineers' on the beating machine.



Horse whimsey at Bersham Heritage Centre

The reconstructed horse whimsey, in front of Bersham Heritage Centre is a replica of one previously used at Llwyneinion mine. It was used for winding men and ore up and down the shafts.

The Wilkinsons

John Wilkinson took over the lease of the Bersham Ironworks in 1763, from his father, Isaac, who had been unable to run Bersham profitably. John, an innovative engineer and farsighted businessman, was determined not to repeat his father's failure. He wanted to have control of everything that affected the iron production, so he bought coalmines, opened limestone quarries and developed ways of transporting the iron. They even diverted the River Clywedog to ensure that the ironworks had enough power.

There was a huge demand for arms in the late 18th century due to wars with the French, Dutch and Spanish. Wilkinson prospered as he had designed a new, more effective, method for boring cannon. He was adaptable and had modified his cannon-boring machine, to bore cylinders for James Watt's newly invented steam engines. By 1790 he was making most of the parts for Boulton and Watts' steam engines.

During this time of rapid expansion, John's brother William was often abroad, advising the French on the establishment of foundries following the example of Bersham. In 1792 John Wilkinson purchased the Brymbo estate to build a new ironworks, but did not involve William. This caused much ill-feeling amongst the brothers. Legend suggests that John took a gang of men to strip the Bersham foundry, but William arrived with a rival gang to stop his brother, and the ironworks was destroyed in the resulting fight!

In revenge, William informed Boulton and Watt that John had made several steam engines without their permission, to avoid paying royalties and John was prosecuted. The two brothers were never reconciled and both died in 1808, still not on speaking terms.



John Wilkinson

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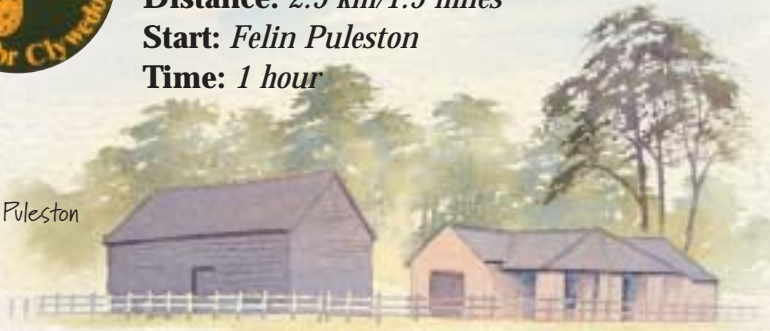
Felin Puleston to King's Mill

Distance: 2.5 km/1.5 miles

Start: Felin Puleston

Time: 1 hour

Felin Puleston



Felin Puleston is now an educational centre but the buildings were one of the tenanted farms on the estate.

The weir near the bridge and millstone in the Sensory Garden are all that remain of Felin Puleston Mill.

Coed-y-Glyn
How many different types of tree can you find in the woods?

The bridge at Felin Puleston is a good place to look for trout that thrive in the clean fast flowing river.

This natural lake was formed by subsidence and now attracts breeding swans and wildfowl.

Erddig

Grain & Grandeur

The wide, meandering river threads through fertile farmland in this final section. It has always been productive, with regular flooding enriching the flat riverside pasture, giving lush grass for fattening cattle. Plentiful corn was also grown and ground at the mills dotted along the river.

Most of the surrounding land is part of the Erddig estate, once one of the most important in northeast Wales. It was built for Joshua Eddisbury in 1683 when he became High Sheriff of Denbighshire but each subsequent owner has left his mark on the house and estate. The National Trust now owns it and the parkland is managed as a Country Park.

The trail continues through the mature woodland of Coed-y-Glyn, alongside Erddig's parkland. It then follows the river to historic King's Mill, which held the monopoly on milling in Wrexham for over 600 years.

King's Mill Leete
The ditch running along the woodland edge is the leete that fed water from the Clywedog to King's Mill.

King's Mill

The domed brick structure beside King's Mill is a beehive kiln that was moved from a nearby brickworks.

Grey wagtail

Look for stems of great horsetail, often over 1m tall. Horsetails are primitive plants that were common millions of years ago. They were even around with the dinosaurs!



Where to grind your corn?

King's Mill, that dates from the 14th century, was always the foremost mill. Its owners had 'suit of mill' that obliged all residents of Wrexham and Ansty to grind their corn and malt there. Despite this there was still much illegal competition, particularly from Felin Puleston, a short distance upstream.

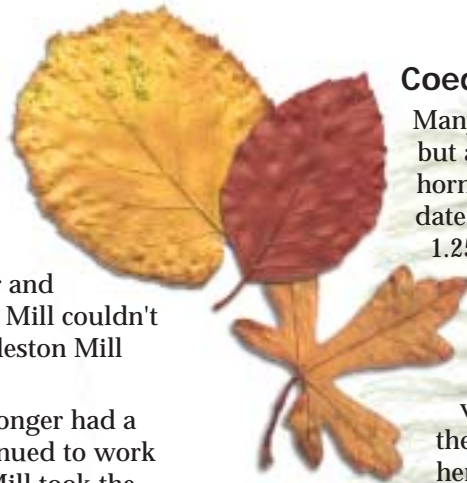
Felin Puleston was built in the 16th century by the father of the King's Mill tenant. King's Mill was then in a poor state of repair and couldn't cope with the increasing demand for milling. If King's Mill couldn't perform its function the 'suit of mill' didn't apply, so nearby Puleston Mill was well sited to pick up the surplus milling.

In 1624 the capacity of King's Mill was increased so people no longer had a legal justification to go elsewhere. However Puleston Mill continued to work illegally. The two mills shared the same leete and, as Puleston Mill took the first water, it could restrict the water flow to King's Mill. By keeping their sluice gates open, even when they weren't milling, they drained water from the leete. This continued until a separate weir and leete were built in 1668. The competition finally ended when Philip Yorke rebuilt King's Mill in 1769 but also bought Puleston Mill and converted it for farm use.

The monopoly on milling was fully broken in 1854 when 29 influential innkeepers, brewers, millers, malters and auctioneers formed an association to resist what they claimed were illegal tolls. Once steam-driven mills were built in Wrexham, King's Mill was unable to compete. It closed down totally in 1940.

Mining and Erddig

Wealth from coal had supported the estate since the 18th century but, ironically, coal almost destroyed it in the 20th century. The National Coal Board drove shafts from Bersham colliery directly under the house in the late 1940s, causing subsidence that seriously damaged the house. Fortunately it was rescued by the National Trust, who acquired it and began restoration in 1973, partly funded by compensation from the Coal Board.



Coed-y-Glyn — a wildlife haven

Many old trees grow here, mainly oak and beech but also more unusual species including hornbeam and field maple. You can roughly date a tree by its girth as it grows about 1.25cm per year. This variety of trees, and the shrubs, ferns and flowers growing beneath them, provide homes for many birds and animals. The supply of nuts, seeds and berries attract many insects, mice, voles and birds – a plentiful supply of food for the foxes, badgers, owls and kestrels that also live here.

The woodland between Sontley Road car park and King's Mill is boggier and the woodland floor is carpeted with clumps of ferns, wood rush and huge horsetails that thrive in the damp conditions.



Philip Yorke 1 (1743-1804)

Philip was the first owner actually born on the estate and did more to shape the special character of Erddig than any other. He inherited the estate, aged 23, when he had just been called to the bar in London. He had 13 children – his first wife died in childbirth aged 30, having given birth to 7 children in 8½ years but he remarried two years later and had another 6 children!!

Although an MP for Cornwall, he never spoke in the Commons, disliked going to London and wasn't interested in national politics! Instead he focused on local issues and became passionately involved in managing and developing his estate. He aimed to both improve the agricultural value of the estate whilst also landscaping the parkland. He diverted the course of the Clywedog to provide a more reliable water source for King's Mill and to protect it from flooding.



Useful Information

There are plenty of opportunities to stop along the route.

Nant Mill Visitor Centre, nestling in woodland beside the river, offers refreshments and displays, including a giant mole tunnel. Opening hours 10.30am - 4.30pm daily, weekends only during winter. Tel: 01978 752772. (Refreshments, toilets, picnic area, play area, shop.)

Visit *Bersham Heritage Centre and Ironworks* to discover the history behind 300 years of iron and steelmaking at Bersham and nearby Brymbo.

For opening times Tel: 01978 261529. (Refreshments, toilets, picnic area, play area, shop.)

Learn more about the lives of miners at *Minera Lead Mines Visitor Centre*,
For opening times Tel: 01978 261529.

Minera Lead Mines Country Park.
Tel: 01978 762122.

Erddig Country Park. Tel: 01978 355314.

The *Clywedog Valley Trail* is managed by Wrexham Countryside Service, Wrexham County Borough Council. The Countryside Service look after six parks across the County Borough, each with its own unique character. They also run an exciting programme of events throughout the year. Tel: 01978 762122.

Public Transport

If you wish to walk the whole Trail, there is a regular bus service between Wrexham and Minera (No 11) running from Monday to Saturday and 11a on Sunday.

For timetable details:
Traveline: 0870 608 2 608
Wrexham Bus Line: 01978 266166
Tourist Information Centre: 01978 292015
www.wrexham.gov.uk
www.arriva.co.uk

Large print and Welsh versions of this leaflet are available by calling 01978 762122.

"This project has been part funded by Adfywio, a Welsh Assembly government grant scheme, managed by the Countryside Council for Wales and the Wales Tourist Board".



We hope you have enjoyed your walk and have found the booklet informative. We would welcome your feedback, if you have any comments about the trail or booklet, please write them below and return it to Nant Mill Visitor Centre, Rhosberse Rd, Coedpoeth, Wrexham LL11 3BT. Alternatively e-mail us on: countryparks@wrexham.gov.uk.
