



The Hayle Railways Walk



**A brief history and guide compiled by
Georgina Schofield B. Sc.**



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Introduction

Do small boys still want to be engine drivers when they grow up?
I certainly know of one small girl who did!

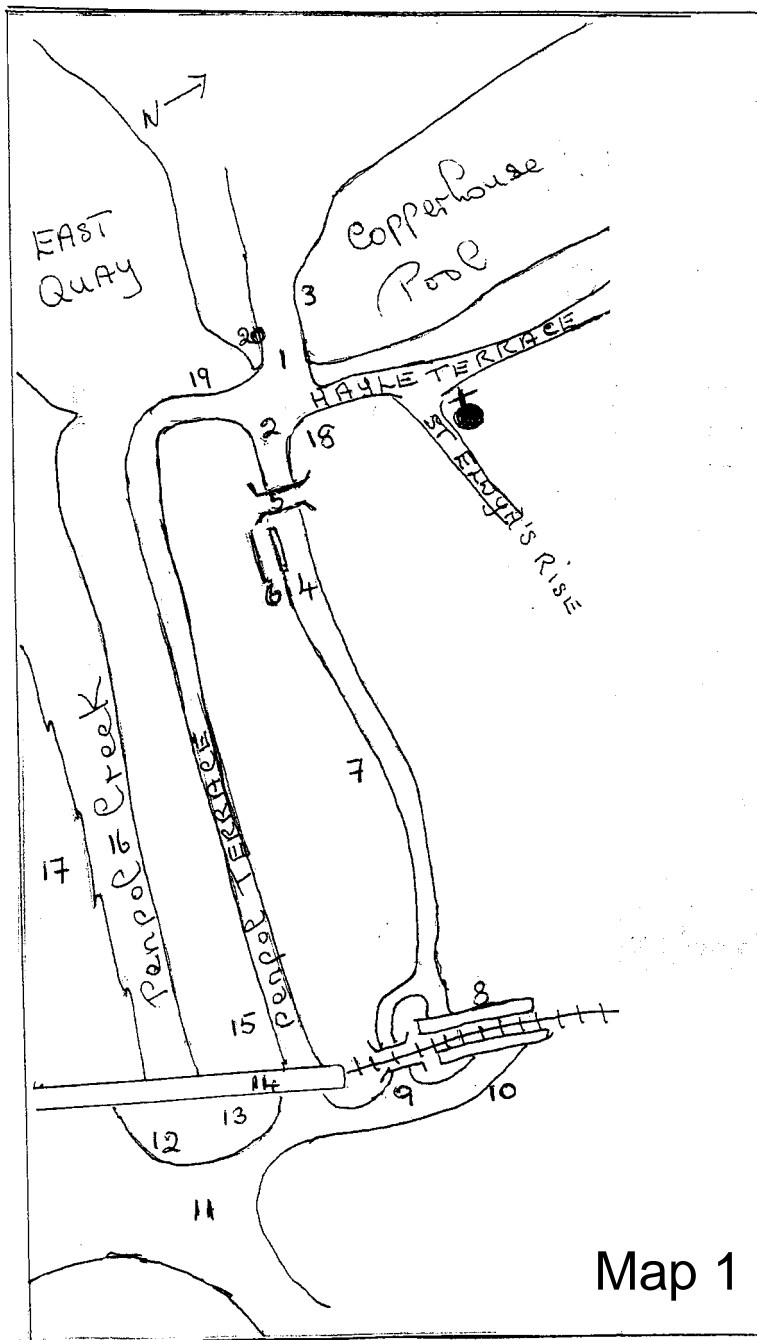
Unfortunately, when diesel replaced steam all the romance of travelling on trains pulled by those majestic “Iron Horses” melted away like clouds of steam on a warm summer’s day.

Hayle was always a “Railway Town”. As it’s importance as an industrial centre grew in the 19th century, the town began to be built alongside the track of the newly-created Hayle Railway Company. Even when its fine Victorian Station was down-graded and eventually demolished, Hayle still fought to retain it with a fierce sense of pride.

This booklet is my salute to a long and proud tradition. It follows the routes of the three main railway lines which served the town, looking at their history and what has become of them now.

The Railway Walk can be tackled as a single entity or as a series of shorter walks, depending on the time available and the physical ability of the walker. It goes almost without saying that I am a self confessed railway enthusiast, but this is not a prerequisite for anyone wanting to follow the routes which I have set out. The only stipulation I would make is to go out and see for yourself, and hopefully enjoy doing it.

Georgina Schofield - 19th September 2003.



Map 1

The Hayle Railways Walk

This walk is not a specific journey from one point to another, but follows the routes taken by the three main railway tracks, the Hayle Wharves Branch-Line, the Hayle Railway and the National Explosive Works Spur-Line. To make the entire circuit of the walk easier to interpret it has been divided into three sections. It can also be started and finished at any point along its route at the walker's discretion.

Section One

A Circular Walk

The walk begins at the Swing Bridge¹ which was built in 1880 to replace the original 1835 drawbridge carrying the Hayle Railway across to the north bank of Copperhouse Pool until its demise in 1852. The track was then utilised by the Hayle Wharves Branch-Line² for transferring freight to and from North Quay, but the abutments of the drawbridge can still be seen at the back of the Swimming Pool³.

From the Swing Bridge, cross the road and follow the route of Branch-line track-bed. Constructed in 1852 by the West Cornwall Railway, it linked its new main-line Railway Station with the Harbour and was still in use until 1983 when the track was removed. The whole length of the Railway Cutting⁴ has now been turned into a Nature Trail.

NATURE NOTES

The old track of the Wharves Branch-Line is a superb area for beginners to see how many different plants, animals and birds they can see and identify.

Among the better-known flowers are the bright pink spikes of the Rose—Bay Willow-Herb, the Purple Toadflax and the golden splashes of Bird's Foot Trefoil. Less familiar are the pale yellow stars of the Ladies Bed-straw and garden "escapes" such as Pink Oxtails, white clumps of Snow-in-Summer and the deep orange spikes of Monbretia, sometimes referred to as the "Cornish Weed" because it seems to grow in every hedgerow from the Tamar to Land's End.

About 200 trees were planted along the Nature Trail. These include Oak, Rowans, Alder, Hazel, Beech and Amezchier, but a number of large trees such as Hawthorn, Elderberry and Blackthorn were already there together with a fair number of Buddlias.

It is the Buddlias which make the Railway Cutting a good place to find a variety of Butterflies and Moths, such as Red Admirals, Painted Ladies and Yellow Underwings. Orange-Tips feed here on the clumps of garlic in the early Summer.



Orange-Tip Butterfly

Most of the animals appear to be nocturnal, perhaps because the area is well-frequented during the daylight hours by local residents, but in the early morning Common Lizards bask on the stones in the pale dawn sunlight, warming up for their daily forage for insects and other tasty morsels.

All the familiar garden and hedgerow birds come and go among the trees, with the occasional hunting kestrel hovering overhead.

Tawny owls are the “night hunters” seeking out the unwary vole or shrew, as it ventures out along the track-bed looking for food. Tiny Pipistrelle bats are also among the nocturnal species found here.



Walk on the Railway Cutting, passing under the iron and granite Wharves Line Overbridge⁵ which also dates from 1852 and apart from a few minor repairs is still much as it was when it was built. Under the bridge is the Wharves Line Sand Drag⁶, the first to be built in Cornwall.. This acted as a buffer to stop the train in an emergency. It still has a piece of the original track in place which was found during the conservation work carried out by the Groundwork Trust.

Continue up the 1:30 incline towards Station Hill, passing the remains of the G.W.R. Stables⁷ where the wagon horses were housed. The last pair were retired in the late 1960s. A small building one stood at the top of the path by the Station. This was demolished in April 1997 after being badly vandalised. The football pitch was probably located in the small meadow next to the railway line.



Hayle Station⁸ was moved to its present site in 1852, when the West Cornwall Railway, constructed a main line extension to Penzance. The service to Paddington opened in 1859 from Truro because the different gauges meant that the Hayle line could not be connected. In 1866 the laying of a Standard Broad Gauge Line finally brought passengers and freight all the way from Paddington to Penzance and in 1876 the Great Western Railway brought the franchise from the West Cornwall Railway. Unfortunately the original Victorian buildings have all gone, but it did once boast a fine signal box, waiting rooms, booking office, engine sheds and an overbridge, as the photographs from that area clearly show.

Like so many small stations it underwent “Modernisation” under Dr. Beeching’s reorganization of British Rail. It may have lost its character and Victorian Elegance, but at least it is still in use, even though it is now unmanned.

On reaching the Main-Line Station, in the interest of safety, turn right at the top of the Incline, then left, into the Lane passing under the overbridge leading to Station Hill⁹. Opposite the Station is a row of villas dating from around 1800, one of which was Wagner’s School¹⁰, owned and operated by William Wagner, a relative of the composer, Richard Wagner. After his death it became the Hayle Grammar School and William’s daughter Edith, was its first Head Mistress.

From the villas walk down Station Hill into Foundry Square¹¹. The original Hayle Railway Terminus (1837-52) stood in front of the Viaduct



Hayle Wharves Branch-Line



on the present site of Isis Gardens¹². The garden serves as a memorial to Hayle's first lifeboat which was given to the town by the University of Oxford in 1866. The lifeboat was in service for 21 years, saving 51 lives before being replaced in 1887 by a new boat the "New Oriental Bank". This was later renamed the "E.F. Harrison" in 1892.

The Memorial Stone¹³ is the original Pinnacle Stone from the Hayle Lifeboat House which stood on North Quay. It was found in St.Ives and placed in the Gardens by the Hayle Branch of the R.N.L.I. on 7th July 1995. An R.N.L.I. flag was presented to the Hayle Branch in August 2003 to fly permanently beside the Memorial.

At the bottom of Station Hill, turn right and pass under Isambard Kingdom Brunel's magnificent Viaduct¹⁴. Built in 1850, in readiness for the opening of the West Cornwall Railway's extension to Penzance in 1852, the viaduct is 841 feet long, 34 feet high and has 37 spans. The original structure was of timber carrying a single broad-gauge line supported by twin post wooden piers on the Eastern side and masonry piers on the Western side. 34 years later between 1883-6 the viaduct was rebuilt to carry the present double standard-gauge track, but during the work on the Foundry Flood defence scheme in 1990, one of Brunel's original timber piles came to light alongside its masonry counterpart.

Continue along Penpol Terrace¹⁵, crossing the road at the Pelican Crossing and follow the track-bed of the original 1837 Hayle Railway. The second freight and passenger service to be established in the far South West. The Portreath to Poldice Tramway was opened in 1809.

The Act for the Hayle Railway was passed by Parliament in 1834 and the line from Hayle to Redruth was opened on 23rd December 1837. The line started at Hayle's Foundry, trains being horse-drawn within the town's confines to prevent fires from the sparks from the engines, a practice which continued until 1843. The Hayle Railway's track was built to Stephenson's Standard Gauge (4 feet 8.5 inches) and one of the Railway's five steam locomotives, the "Cornubia" was built in Hayle at the Copperhouse Foundry in 1838.

It is strange to note that the two great Foundries were not really

interested in this “new-fangled” mode of transport, despite the fact that Richard Trevithick pioneered steam locomotion. In 1804 he demonstrated the world’s first railway locomotive at Pen-y-diarran Iron Works in South Wales and built the “Catch-me-who-can” railway, a circular tracked sideshow in London in 1808. It was left to others to develop its potential to carry people and goods quickly and cheaply and industry and commerce grew in the 19th century.

The Hayle Railway ran alongside Penpol Creek¹⁶. This was already an important waterway by 1769, when the Cornish Copper Company carried out improvements to the quay for the importing of coal and the exporting of copper. Harvey and Co. deepened the channel in 1780 in spite of the opposition from C.C.C. Both Foundries disputed the use of the water frontage and access to the quays until 1818 when a Non-Aggression Pact was signed to end the “30 Years War” between them. In 1819 South Quay¹⁷ was built by Harvey’s as their maritime trade increased.

The line ran past Harvey’s Ship Yards which opened on South Quay in 1795. 79 vessels were built there including the 4,000 ton “Ramelleh” in 1891, the largest ship to be laid down in Hayle. The yard closed in 1893. Continue walking along Penpol Creek towards the harbour. Although the railway track is now part of the town’s public gardens, it was still in use until the early 1960s, as a siding for shunting wagons. These were horse-drawn, in the same way as the original trains and the turntable was situated on the present side of Philp’s Bakery.

At the end of Penpol Terrace, opposite the Royal Standard¹⁸ are the brick and granite showroom and offices of the Hayle Gas Company¹⁹ a small private company formed in 1889. It continued to supply the town with gas until it was eventually taken over by the South West Gas Board and was the only gas company operating independently of the Cornish Copper Company and Harveys in Hayle.

The lines of the Hayle Railway and the Hayle Wharves Branch-Line were joined in 1852, crossing over the Swing Bridge, and from 1917-22 the “Dynamite” Line used this section of track to join their spur-line to the main-line. This is the only point during the walk where the lines of all three railways actually come together.

The iron bridge's cantilevered beam was hydraulically operated to lift and pivot to allow ships through into the Copperhouse Canal. The red-brick Engine House²⁰ is built over the canal bank and the former steam engine lifted and turned the swing bridge. It has a rounded arched door and window frames and the building stands on a segmented arch spanning the leat. The machinery is virtually intact and only three such bridges were built, the one in Hayle being the most complete. Badly damaged by vandals in 2001, the Engine House has recently been restored by Rail Track Properties Ltd. and the Railway Heritage Trust.

This completes the first circular section of the Walk.



1904



1930s



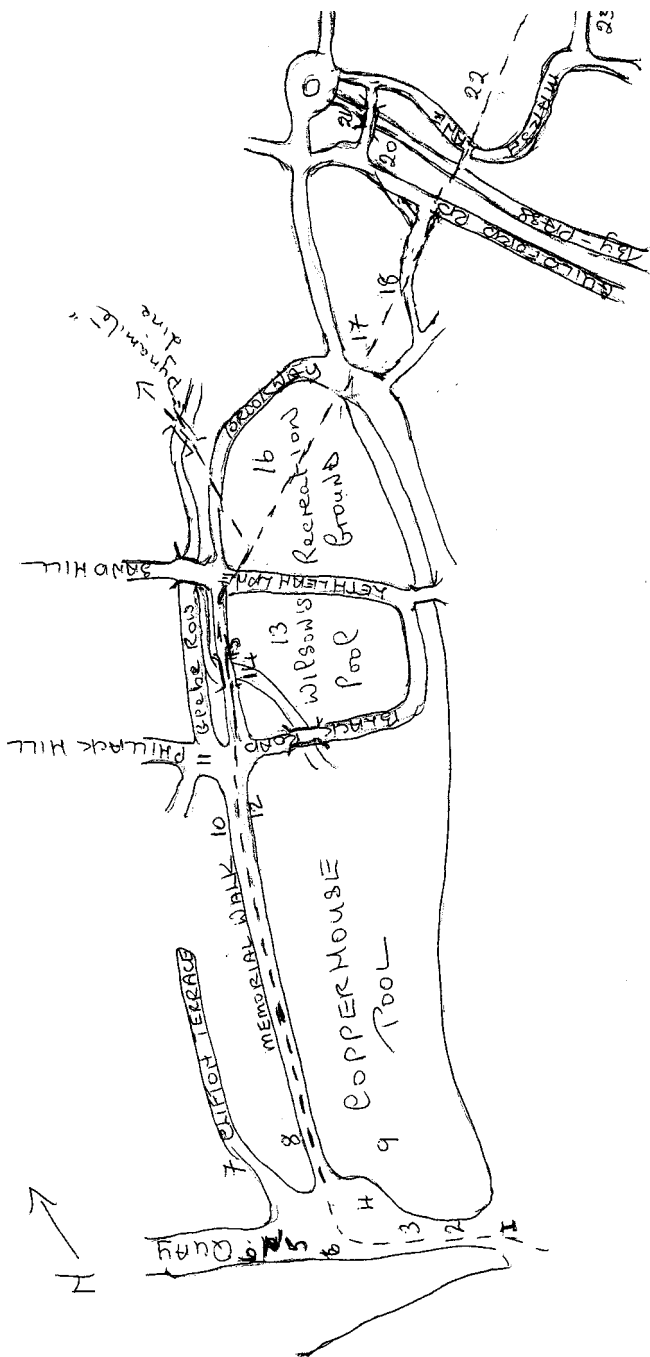
The Hayle
Railway's
Track-Bed,
Penpol Terrace



Hayle Station



The Swing Bridge Wheel House (1880)



Map 2

Section Two

The Hayle Railway

Following the track of the Hayle Wharves Branch-Line¹ over the Swing Bridge² until you come to the Custom House³.

The original Custom House was sited in St. Ives, but from the early years of the 19th century it became clear that Hayle was fast becoming the busiest port in West Cornwall and the Custom House needed to be re-sited. In 1836 The Cornish Copper Company and Harveys sent a joint petition to the Treasury to move it from St. Ives to Hayle which caused a great deal of friction between both ports. In 1837 both Companies also jointly petitioned for the repeal of the St. Ives Port Bill which allowed St. Ives to levy 7 pence per ton on all ships entering Hayle which they felt was unfair because of the tonnage of shipping using the port. The petition was upheld and Hayle was allowed to set its own harbour dues. Finally in 1862 the Custom House was built in Hayle.

After the port closed in 1979 the Custom House became redundant and except for an office used by Employment Services remained virtually empty. In 1988 it was extensively restored by the Hayle Harbour Company and is now used as their offices.

Past the Custom House turn to your right by the Hayle Swimming Pool⁴ and start to follow the route of the Hayle - Redruth Railway Line. On the Corner once stood North Quay Halt⁵ where passengers alighted to catch the Steampackets to Bristol and Swansea.

Both Harvey and Co and the Cornish Copper Company sailed Paddle Steamers from Hayle starting in 1831 and continuing until 1917. The passengers embarked and disembarked at Bristolman's Dock, on North Quay, convenient to the "Steam Packet Inn"⁶. Built in 1811 it was originally called "Burt's House" and then the "Britannia Inn" before being given its much more familiar name. The Inn was demolished in 1961.

Riviere Cliff runs along behind the Memorial Walk and on 18th March 1849 an Act of Settlement was signed by the Trustees of the Cornish

Copper Company to complete the building of Clifton Terrace⁷ along the ridge of the cliff, overlooking Copperhouse Pool. These elegant detached and semi-detached Victorian houses were formerly called Riviere Terrace when building began in 1840, but they were renamed in honour of C.C.C.'s contract to forge the chains for Brunel's Clifton Suspension Bridge in Bristol. The houses which were occupied by senior members of the Company were bought in 1868 by Reverend Frederick Hockin, the Rector of Phillack after C.C.C. closed down and he added the final pair of houses in 1870.

There is a railway footnote to the above. Due to financial problems the chains ordered for the Clifton Suspension Bridge were used to construct another of Brunel's masterpieces, the Royal Albert Bridge at Saltash in 1859. Out of the 2,800 wrought-iron chain links forged by C.C.C., 1143 were used to span the River Tamar and nearly 150 years later the bridge is still carrying the main railway line into Cornwall.

From Clifton Terrace carry on walking along the former Hayle-Redruth railway track. Although the connection with Redruth ceased in 1852, the Memorial Walk section remained in operation carrying freight for C.C.C. until 1868. The track was operated as part of the "Dynamite" Line from 1917-22 and then it became a wagon siding until the early 1930s when the line was finally made redundant.

In 1936 the land was purchased from the G.W.R. by the Harvey family and was given as a public amenity to the town. Renamed the King George V Memorial Walk⁸ it commemorates the Silver Jubilee of King George V and Queen Mary. With its fine Arboretum, the Walk runs along the entire length of the North bank of Copperhouse Pool⁹. Built in 1788 by the Cornish Copper Company, the pool was originally used as a tidal reservoir for sluicing sand and silt out of the main



estuary basin.

The walls are constructed from scoria blocks. This building material made from the gassy waste from the smelter furnaces is widely used, particularly in the Copperhouse area, and is unique to Hayle.



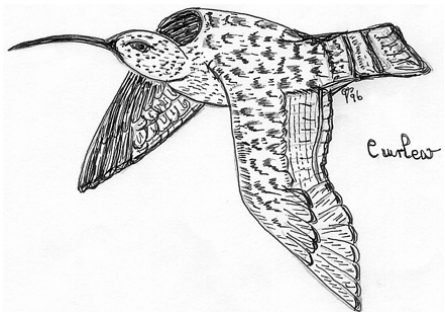
NATURE NOTES

Copperhouse Pool has become an important over-wintering ground for the hundreds of wildfowl and waders which fly in each year to escape from the colder conditions of the Arctic, Northern Europe and other regions of the British Isles. It is site of Special Scientific Interest and Estuarine Nature Reserve administered by the R.S.P.B.

The whole of Hayle's extensive estuary annually plays host to upwards of 8,000 birds, but in very harsh winters up to 18,000 birds have found food and shelter there. The mudflats usually stay free of ice because of the predominantly milder Cornish climate allowing birds to feed throughout their stay and brings in less familiar species of wildfowl for short periods while their usual wintering grounds are affected by heavy frost and snow.

186 species have been recorded around the Pool. These include a number or rarer "vagrants" such as the Avocet, Spoonbills and the Red-Throated Diver.

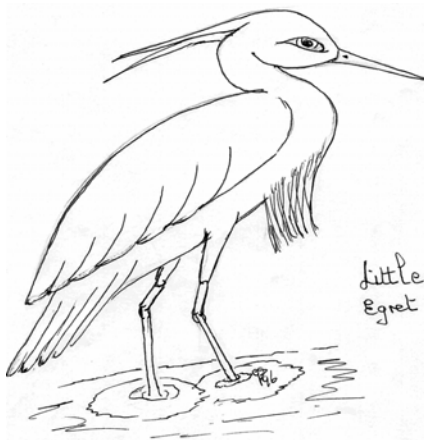
Teal, Widgeon, Little Grebe and Shelduck are regular visitors and the Shelduck actually breed on the estuary each summer. Goldeneye, Scaup, Long-Tailed Duck and Megansers come singly or in small family groups.



Up to 3,000 Golden Plovers have been counted feeding on the Pool, together with

several hundred Lapwings and a small number of Grey Plovers. Oystercatchers, Ringed Plover, Dunlin, Redshank, Curlew, Wimbrel, Bar-Tailed Godwit and Turnstone are usually to be seen there from late summer onwards.

Egrets had been visiting Hayle for quite some time in small numbers, now they are resident on the estuary and the population is increasing. They are no longer counted as “vagrant” but are listed among birds resident throughout the year in Britain.



Scarce migrants such as the North American Ring-Billed Gull, Glaucous, Bonaparte and Sabine Gulls regularly visit. Other birds, like the Blue-Winged Teal, Bewick and Hopper Swans are blown off course by the winter gales. Ospreys stay over for short periods in spring and autumn during their annual migration.

Many interesting plants grow in the scoria wall alongside the Pool and on the cliff face behind the Memorial Walk. Among their number are Fennel, Rest-Harrow, Kidney Vetch, Blue Alkanet, Glasswort and Three-Cornered Leek. Rarer plants such as Ivy Broomrape, Rosy Garlic and Italian Arum-Lily can also be found there, together with Balm-Leaved Figwort, which is a nationally rare “Red Data Book” species.



Continue walking along the Memorial Walk until you reach Riviere Cottages¹⁰. Built by the Cornish Copper Company in 1791, they were used as the Phillack Parish Alms House for about 150 years before being converted into a private residence. After being derelict for a number of years the cottages were restored in their original Georgian style. The original well and a cold-storage tunnel were found in the rear courtyard plus two sections of rail from the Hayle-Redruth Line which had been used to strengthen the wall of a small outhouse. These have been given to the Harvey Heritage Collection.

The cottages stand at the bottom of Phillack Hill¹¹ where there is an Information Panel¹² describing the other sites of interest which can be found in the surrounding area.

From here, take the Public Footpath which follows the line of the track bed across the Wilson's Pool Saltmarsh¹³, formed on the site of the Copperhouse Millpond. In 1842 the Cornish Copper Company built a grist mill, the only tidal-powered mill to be built in Cornwall.

Known locally as "Paddy's Mill" after its first Miller, Richard Paddy of Menadarva, it was bought by Hosken, Trevithick and Polkinghorne (H.T.P.) who operated the mill until the 1930s. Most of the building was demolished, but the 40ft chimney stack and small engine house survived until 23rd July 1982 when they were dynamited in spite of local efforts to save the building and restore it.

NATURE NOTES

The saltmarsh has a large area of reedbed, and is divided into saltwater, brackish water and freshwater zones, an unusual combination of habitats in Cornwall.

The saltmarsh supports a number of halophytes, salt-resistant plants such as Sea-Aster, Thrift and Spear-Leaved Orache, Sea Spurry and Long-Bracted Sedge. A notable occurrence in this habitat is the Round-Fruited Rush, known from only one other site in Cornwall.

In the Winter it is an auxiliary feeding and roosting ground for the wildfowl and waders on Copperhouse Pool. It is also a long established nesting ground for Pied Wagtails.



The Footpath crosses over the Loggan's Mill Leat¹⁴, by way of one of Cornwall's oldest surviving railway bridges¹⁵. Built in 1835 it was lovingly restored by the Hayle Scouts as their Conservation Project in 1982 and as a scheduled Ancient Monument it will undergo future maintenance under the auspices of English Heritage.

After crossing over Lethlean Lane the track goes in a straight line through the Recreation Ground¹⁶ and then crosses the main road to the Penmare Hotel¹⁷. Here it passes through the garden of the former Coaching Inn.

Built in 1824 as the “Hayle Hotel”, it was bought in 1873 by William Hosken, one of the partners in H.T.P. as a private residence and renamed Penmare House. It became a hotel again in the 1930s, but sadly it is due to be demolished to make way for a housing development.

The line then traverses the Westfield Caravan Park¹⁸ behind the Penmare, where a small section of one of the track buttresses can still be found. The line then goes along Love Lane¹⁹, and then crosses over Guildford Road in the direction of Angarrack.

From Guildford Road, turn left into Marsh Lane²⁰ and walk alongside the Angarrack River until you come to the footbridge²¹ over the Hayle Bypass. From the footbridge you can pick out the line of the raised track-bed²² of the Hayle-Redruth Railway line running across the fields towards the village.



Until 1843 the wagons were hauled up the notoriously steep Angarrack Incline by horses, but after that date a steam engine was used to winch them up the 1:10 gradient. The name Steamer’s Hill²³ is a legacy of those difficult early days of rail travel and the incline can still be seen from the top of the footbridge as a line of trees and shrubs.

This system of wagon haulage was discontinued in 1852, when the West Cornwall Railway decided to re-route the main line to Truro. In the interests of passenger safety it was decided to avoid the incline altogether and the magnificent Angarrack Viaduct²⁴ was built.

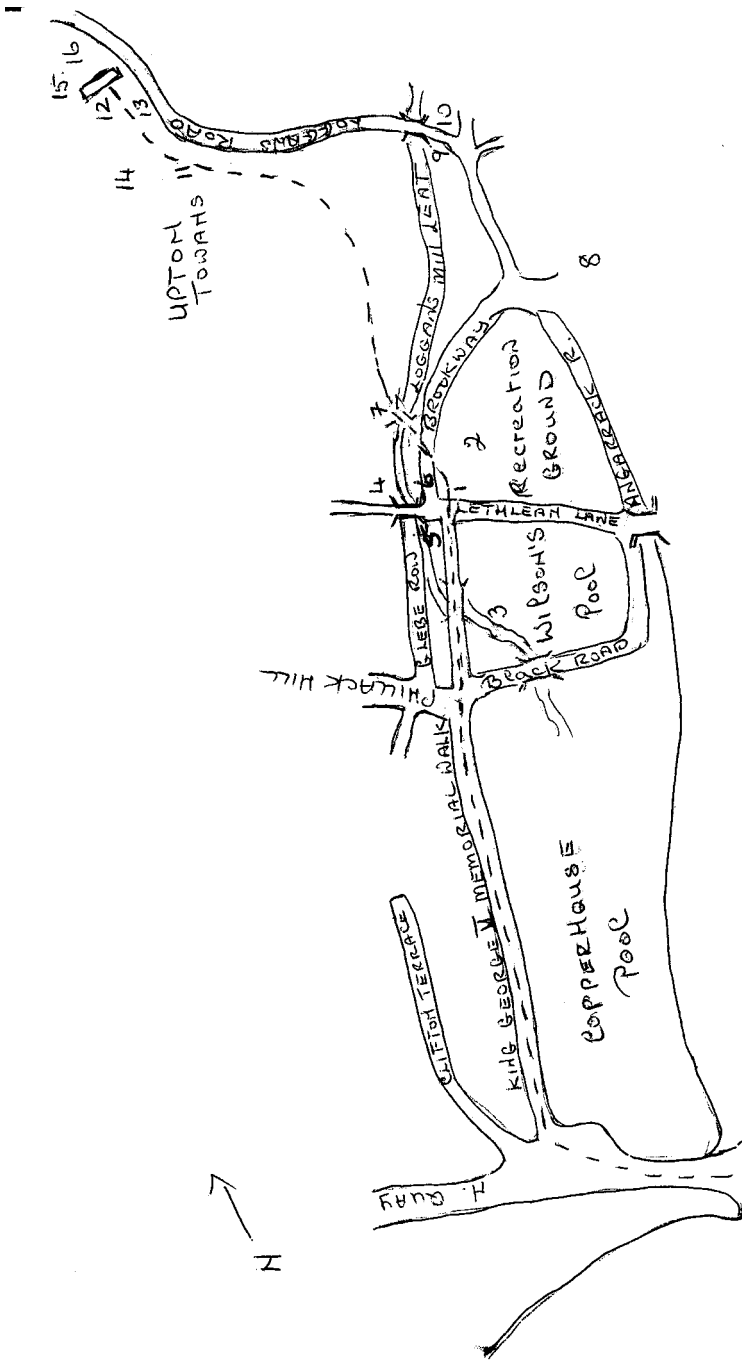
The original 1852 wooden structures at Foundry Square in Hayle and Angarrack were both rebuilt in granite in 1886 by G.W.R. Due to the

influx of labourers during the work, it is said that the population of the village trebled.

Angarrack had its own station on the new main line, but it was very short-lived. It was closed in 1853, within a few months of its opening. It stood on the North Side of the track at Milestone 318, but nothing of it remains today to indicate its exact location.

The second section of the walk can be ended here, with a visit to the delightful village of Angarrack. Called Vellan Vrahan the “Mill by the Rookery” in Cornish it has some very fine 18th and 19th century buildings set along the banks of the Angarrack River.

Map 3



Section Three

The “Dynamite” Line

This walk can be used as an alternative route to the previous section and follows part of the most short-lived of Hayle’s railway lines, the Spur Line¹ of the National Explosive Works which ran from Hayle Station to Upton Towans from 1917 to 1922. From 1888-1917 the railhead for the Works was been sited at Gwinear Road.

The total length of the line was about two and a half miles but half of the route utilised the existing tracks of the Hayle Wharves Branch-Line and the Hayle-Redruth Railway. The only new section of track ran from the Level Crossing at Lethlean Lane to the National Explosive Works and was laid on a continuous uphill gradient.

The Spur-Line was built to carry explosives from the Dynamite Works to their warehouse on Dynamite Quay at Lelant. From Hayle Station the wagons travelled to St. Erth and then transferred to the St. Ives Branch Line which had opened in 1877. Some explosives were also loaded at North Quay, but most of the Nitro-Glycerine went to the more isolated Lelant Quay.

Sections One and Two have already covered the first part of the “Dynamite” Line, and to complete the route, Section Three starts at the Recreation Ground² which is probably the closest point to the site of the Phillack Road Level Crossing.

Walk up Leathlean Lane towards the Towans. Cross over Loggans Mill Leat³ by way of the Clapper Bridge⁴ which was built by Reverend William Hockin Senior, the Rector of Phillack in 1812. It replaced an original wooden bridge which had become too narrow for the traffic of the day and has the initials “W.H. 1812” carved into the granite span on its Western side.

Beside the bridge, on the South bank of the leat is a granite post with the letters “C.C.C. 3”⁵ on it. This is one of the Cornish Copper Company’s boundary markers. After 1868 when the land was acquired by Harvey’s, the letter “H” was added to some of them.

Turn right into Brookway⁶ and stand on the bridge leading to the Housing Estate at St.Mary's Gardens. If you look upstream from this point you can see the remaining span of Dynamite Bridge⁷. Constructed in 1914 of brick and iron girders it carried the line over the Leat to the terminus at Upton Towans. It is the only notable structure along the entire length of the track and now stands in the garden of a private residence.

Continue along Brookway to the junction with the road opposite the Penmare Hotel⁸ and turn left into Penmare Terrace walking towards the roundabout. Here, the line crosses the ancient Withy (or Willow) Gardens, once an important crop grown by the medieval Loggans Estate, and disappears for a while under the gardens of the houses until you reach Loggans Road⁹ where on the corner, to your right, stands Loggans Mill¹⁰.

The present five-storey Grist Mill dates from 1852 when it was completely reconstructed and modernised by William Hosken following a disastrous fire which destroyed the Mill in 1851, but the site has a very long tradition of milling.

The first mill probably predates the Norman Conquest and a mill is recorded as an asset of Connerton Manor in the Domesday Survey of 1085. The name Luggan appears in the local Land Register of 1150 and it was one of the small Estates of Connerton Manor once held by Robert, Count of Mortain, William the Conqueror's half-brother. Loggans changed hands many times and in 1539 it was the property of Sir William Godolphin who is recorded as having built a water-mill there. In 1852 Loggans Mill was owned by Hosken, Trevithick and Polkinghorne and was one of the largest and most efficient producers of flour in Cornwall. Since H.T.P. closed in 1936 the Mill has become very neglected, but it is now due to be renovated as part of a new housing development.

Turn Left into Loggans Road, following the route of the line which now rejoins the road where it levels out behind the Mill. The line then runs parallel to the road under a row of bungalows, before running diagonally across a large field just beyond the entrance to the St.Ives Bay Holiday

Camp¹¹.

This is where the Spur-Line terminates but the main Platform¹² can still be seen behind a row of houses and bungalows at Upton Towans. The actual entrance to the site of the National Explosives Company (Dynamite Works) is through the gate next to the former depot of Triplet Car Spares¹³.

Established in 1888, to produce dynamite for blasting in the mines, the National Explosives Company expanded rapidly to produce three tons per day in 1890. The Works covered 300 acres and over 1800 people worked there. Up to 2,000 tons of Cordite, Gelatine, Nitro-Glycerine and Gelignite were manufactured there for the Army and the Navy until 1919, when all production was stopped. The site was still used to store explosives until the 1960s, when it was finally abandoned.

The Spur-line remained in operation until 1922, while the Works were being stripped and cleared. The Company had had it's own engine specially-built by Peckett and Son of Bristol. It was a four-coupled saddle tank locomotive which, because of the dangers of setting off an explosion, had been fitted with a spark-arresting funnel, which was believed to have been sold in 1924 to the Wire Works at Cwmbran in Monmouthshire.

All that remains of the factory buildings, storage bays and nitrating vats can still be found to the North and East of the site. The Chimney Stack¹⁴, although partially stripped of its special acid-resistant bricks, is still standing and was renovated in November 1998.

The Denitrification Towers were lined with blocks of Volvic Lava from the Puy-de-Dome region of France because it was resistant to acid and had thermal properties. Some of the Volvic stones were used to line the original kiln at Bernard Leach's Pottery in St. Ives.

Great care should be taken when visiting this site. The Dynamite Works have been closed for nearly forty years and many of the vats and storage pits are very overgrown. Four of the five shafts of the Boiling Well Mine¹⁵ were still in existence until the spring of 2000 when they were capped by

the Cornwall County Council's Countryside Agency. The shafts crossed the Towans on a line, E.N.E.-W.S.W. in direction.

Boiling Well was opened in 1815 and was finally abandoned in 1862 having produced almost 4,000 tons of copper ore, 5,000 ounces of silver and lead ore during its working life. Two 60 inch pumping engines operated at the mine, one of which was built by Harvey and Company and the other by Perran Foundry.

One of these engines was on the King's Shaft, which lies in the gorse thicket to the left of the Chimney Stack and the second stood on the Engine Shaft, about 100 meters (120 yards) to the south-west of the main entrance to the Works. This shows up as a hollow inside one of the ruined buildings.

The Boiling Well Spring, which was first documented in medieval times, is believed to have healing properties. The Spring now rises below ground in the main adit of the mine and later provided the pure water needed for producing Nitro-Glycerine.

The site of Upton Barton Farm¹⁶ lies close to Boiling Well. The house and outbuildings were covered with sand during the second "Great Storm" in 1869. The inundation happened virtually overnight and the family and their livestock were lucky to escape with their lives. This, and a previous storm in 1760, shaped Hayle Towans as we know them today.

NATURE NOTES

After the closure of the National Explosives Works the entire site was left virtually untouched and it developed its own unique eco-system.

Upton Towans is a site of Special Scientific Interest and a nationally significant area of Calcareous Fixed Dune Grassland. In August 2000 it became a Nature Reserve and is now jointly managed by the Cornwall Wildlife Trust and the Cornwall County Council's Countryside Agency. In 2003 it became part of the national "Wildspaces" Project which will ensure greater protection for it's fragile ecology.

250 species of plants are listed including the Early-Purple, Southern Marsh and

Pyramidal Orchids, Viper's Bluegloss, Sea Holly and Great Mullien (Aaron's Rod) can be found there as well as Cowslips, Cornish Heather, Vernal Squill and Wild Thyme.

It is an important habitat for many butterflies and moths, among them the Silver-Studded Blue, Cinnabar, Yellow-Spotted Burnet, Ringlet and Dark Green and Silver-Washed Fritillaries.

There are dense thickets of Sea Buckthorn and Furze around the site which provide good cover for Foxes and Badgers as well as for the many birds which frequent Upton Towans and the cliffs at Gwithian.

Migrating birds such as Stonechats and Wheatears and over-wintering Redwings and Fieldfares feed and roost there. Gold and Greenfinches, Whitethroats and Blackcaps also find these thickets a safe haven from predators, Kestrels, Peregrines and Buzzards all hunt along the clifftops.

Upton Towans is an excellent place to spot Glow Worms on late summer evenings.

BEWARE OF ADDERS during warm weather.

This brings the Hayle Railways Walk to a conclusion, but it is only a small part of the Rail network which existed in West Cornwall and throughout the whole County from the early days of locomotion.

Further information can be found in the Hayle Town and other County Libraries.

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OTHER BRIEF HISTORIES AND GUIDES

Footloose in Hayle with David H. Philips.

Hayle Harbour

St. Elwyn the Martyr. - Church Guide

St. Gwinear

Historic Hayle Trail with Malcolm W. Williams.