
FRIENDS of FOREST FARM and Glamorganshire Canal Local Nature Reserve

Newsletter No 5 - April 1991

EDITOR'S FORUM

In Spring
Canassed by birdsong
We wait with wonder
The exquisite blossoms
Which welcome the arrival
Of another season.

Whether we have sunshine or showers, Spring is here. Greetings to all Friends and a special welcome to new members who now swell our ranks to 107 - a still coming.

Your Steering Committee look forward to the first Annual General Meeting of the Friends and discussing with you our shared concerns. Full details are enclosed separately in the Newsletter. The Subscription Notice is also enclosed. Let us know if either is missing. I am grateful for the excellent contributions in this edition.

Our thanks are also due to Robin Sotheby for printing, and Councillor Neil Salmon for help with producing copies - all done on a voluntary basis.

Advance Notices

Please make a note in your diary - on Monday 20th May, the beginning of "Wild Flower Week", Dr Mary Giffham will be your guide on a walk commencing at 7 pm from Forest Farm car park. On Sunday 23rd June the Country Craft Fair will be held. This is a highlight in the year's events. Further details will be issued nearer the day by the Cardiff Leisure and Amenities Department.

The Steering Committee would like to hear from anyone out there who can help with professional expertise; the subject is "The Action Plan for the Protection of Glamorgan Canal Local Nature Reserve and its Environment." Please contact our Secretary, Dennis Davies.

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THE "RHUAD DWR"

The name Rodyn is a corruption of the Welsh "Rhuad Dwr", or "Water Roar" - that is, a waterfall. Its origin can be traced back to the age when Druids were practising here, and the Taff Valley above Taffs Well was a vast lake. At that time, the Little Garth and the hill on which Castell Coch stands were joined practically along the line of the viaduct which used to span the valley at this point, thus forming the southern side of the lake. Over this natural dam the waters fell into the lower valley of the Taff near the old Ynys Bridge, forming what must have been a magnificent and spectacular waterfall. The shores of the lake at the northern end, it is thought, were in Pontypridd at the foot of the Craigwen, somewhere along the line of Tyfica Road and at the level of the Merthyr Road at the foot of the Common below the Rocking Stone. Lower down the valley at Treforest, where the more modern Druid stones now stand it is probable that a landing stage existed, and this led to a site where the Druids would have carried out their ceremonies.

From brief references in old manuscripts, it is obvious that the bursting of the southern shore of the lake was a catastrophe of great magnitude; it is not difficult to imagine how the whole nature of the terrain down to the coast would have been altered by this event. When excavations were being carried out for the building of the East Dock at Cardiff in the last century, large deposits of red sand were found, and in this sand vast quantities of bones and horns of cattle were embedded. These were presumed to have been carried down and deposited by the massive inundation of water when the 'dam' was breached.

When my wife and I were married, our first home was a cottage in Taffs Well. At the rear was a yard, above which was a large garden, some eight feet above the level of the yard. Whilst constructing a rockery on the bank I came across large quantities of sand and pebbles, which indicated that at one time this had in fact been the bed of the original lake. Looking down from the 'peak' of the Garth mountain into the valley below, it is not difficult to visualise how the lake must have appeared, and where the waterfall would have carried the waters down over the southern edge.

Ken Kennick.

WINTER ON THE RESERVE

This winter has been the coldest for a good few years. Flocks of Redwing and Fieldfare were to be seen everywhere (always a sign of a hard winter). Birdwatching in general has been very good, one of our wardens (Ted Edwards) spotting a female Goosander on the river (a rare bird in these parts).

Most of the canal was frozen over at one point, and in the freshly fallen snow covering the ice, the single tracks of a fox were seen zigzagging from towpath to wood and back; he was obviously hunting and taking the opportunity to walk on the frozen canal. Several sightings of foxes have been reported to me over the winter, and I had a good view of a large dog fox crossing the meadow myself. There seems to be no shortage of food for them with an abundance of rabbits about.

One of my tasks this winter was to lay the hedgerow running along the track in front of the new British Telecom building. I had planted this hedge 10 years ago, but hedges like everything else have to be managed. A lack of management leads to a hedge full of gaps, and it will die prematurely. Hedges form very important habitats, used by many different birds and animals. It generally consists of 4 distinct layers:

Ground layer - plants such as primrose (*Primula Vulgaris*) and foxglove (*Digitalis Purpurea*). All sorts of mammals - mice, voles, rabbits. Lower layer - birds such as Robin and Dunnock.

Middle layer - Blackbird and Songthrush nests.

Upper layer - Warblers sing, and you might find Mistlethrush and Woodpigeon nests. As well as feeding and nesting sites, hedges act as important highways for wildlife.

There are many different types of hedge laying, each county has its own particular style. I use the Glamorgan Upland style - 'Double brush, stake and pleach, with heathering'.

Double Brush - the hedge brushwood faces out on both sides of the hedge.

Stake - cut stakes are placed at an angle opposed to the hedgelaying, the hedge is interwoven between them.

Pleach - the cut stem, partially severed.

Heathering - the hazel wands used to interweave between the stakes on top of the laid hedge, binding everything together.

The completed job should act as a tightly woven living fence and, with all the gaps filled will form an impenetrable barrier and help to screen the ravages of BT.

The Scrape. We have just completed the creation of a new winter wet area, located 100 yds south of Forest Lock, in one of the meadows. With the help of a bulldozer we scraped the topsoil off a large area to form a basin. An overflow pipe was then inserted under the towpath, an open ditch leading to the scrape. When the canal level was raised, the excess water ran through into the excavated area, forming a wet area some 200 ft x 120 ft to a depth of about 6 in. Already I have counted up to 14 Mallard, and Common Snipe seen on the periphery. With the new ponds formed last year, these wetlands make up a very important habitat, and it will be interesting to see what wildfowl come in.

Being part of the Glamorgan Frogline (Hopline), I have received lots of offers of frogspawn this Spring from the general public, whose garden ponds seem to be alive with the stuff. Already I have tipped several buckets full of spawn into the new ponds.

The Forest Farm Watch group have been busy cleaning out and checking the Reserve's bird boxes, 8 of which were found to have had the entrance holes enlarged. The culprits are the grey squirrel, who do this to 'force an entry', and then take the eggs or young birds. We have since secured metal plates around the entrance holes, thus denying the squirrels their easy meal.

Winter over, Spring flowers are already abundant. The first to show are the bright yellow Lesser Celandine (*Ranunculus Ficaria*), Coltsfoot (*Tussilago Farfara*), whose flowers appear some time before the leaves, and Dogs Mercury (*Mercurialis Perennis*). Hopefully it won't be long before we hear the welcome notes of our first Cuckoo. However, I was surprised on the 14th of March by the first sighting of a Spring migrant much earlier than usual - a Willow Warbler singing away from the top of a tree.

Mike Wiley (Reserve Warden)

Editor's note: This article was written in the middle of March.

The Glamorganshire Canal 1790-1951

Towards the end of the 18th century Merthyr Tydfil was well established as an iron manufacturing town of importance, with at least 4 major ironworks: Dowlais, Cyfarthfa, Penydarren and Plymouth. They were all expanding very rapidly to meet the growing demand for iron and attracting workers from all over Wales and parts of England; the 1801 census recorded the population of Merthyr & District as 7700.

The nearest port from which iron could be exported was on the river Taff in Cardiff, a small town with a population 1870, 25 miles south of Merthyr. The products of the ironworks were carried there on the backs of horses and mules over rough mountain tracks via Gelligaer and Caerphilly. There was also a turnpike road along the Taff valley, and horse-drawn wagons could be used on this road. This slow and costly method of transport (approx £14000 pa) led Richard Crawshay of Cyfarthfa, supported by the other ironmasters, owners of Melingriffith Tinsplate works in Whitchurch and some business men from Brecon and Cardiff, to promote a Parliamentary Bill for obtaining powers to construct a canal from Merthyr to Cardiff. The Bill became 'The Glamorganshire Canal Act, 1790'; construction work started in August 1790 under the control of Thomas Dadford (Senior), Thomas Dadford (Junior) and Thomas Sheasby. Their contract was to construct the Canal at the cost of £48228 exclusive of the cost of land, but extensions at both ends eventually brought the total to £103600. The whole length down to Cardiff was constructed by 1794; the extra length under the Glamorganshire Canal Act, 1796, including the construction of a sea lock and basin to give direct access to the sea, was completed by June 1798.

Statistics:-

1. Canal basin at Merthyr, 558 ft higher than Sea Lock at Cardiff.
2. Length of the Canal, 25 miles, with 52 locks, including the Sea Lock.
3. Cardiff Canal basin extended for over a mile above the Sea Lock, 100 ft wide, with up to 13 ft depth of water, allowing entry to vessels of up to 200 tons.
4. Sea Lock, 103 ft long, with gates 27 ft wide.
5. Cardiff tunnel, under Queen Street, 115 yds long; the barges pulled themselves along by means of a chain attached to the side of the tunnel.
6. Between Quakers Yard and Abercynon, 18 locks in the space of 1 mile, 11 of them inside 1/4 mile.
7. Canal boats, 60 ft long by 8 ft 9 in wide, could carry 25 tons on the way down and 15 tons on the way up, manned by one man and a boy.

Even though iron was the chief commodity, there was considerable traffic in general goods - sand, bricks,

flour, timber, stone, animal feeding stuffs - and coal was beginning to make an impact. This traffic increased to such an extent that in December 1833, 24-hour working was introduced, necessitating the installation of lights at all locks.

New industries were established alongside the Canal, such as Brown Lennox chainworks in Pontypridd and the famous Nantgarw Pottery works. Cardiff itself benefitted greatly from the increased commerce - its population shot up and soon surpassed that of Merthyr.

The Canal was extremely prosperous during the first 60 years of operation, reaching a peak of 580000 tons/annum, and as there was a ceiling of £8% per annum dividend distribution, the problem of surplus revenue arose quite often. After 1860 the competition from the railway, plus a decline in the production of iron in Merthyr led to a gradual lessening of traffic on the Canal. In 1882 the Marquess of Bute purchased all the shares in the Canal Company and made some improvements, but he was not really interested in keeping it going, and the decline continued.

The Merthyr to Abercynon section ceased to be used in 1898, largely due to damage caused by mining subsidence, and this section was sold in 1920 to the Cardiff Corporation for the purpose of laying the water main from the reservoirs in the Brecon Beacons to Cardiff.

The Abercynon to Pontypridd section closed in July 1915 after a burst at Cilfynydd. This left the section Pontypridd to Cardiff, and in January 1944 Cardiff Corporation claimed that the traffic on the Canal was almost non-existent and that the Canal route through the City caused much inconvenience to the public. Therefore, under the Cardiff Corporation Act, 1944, the whole of the Canal undertaking was bought by the Corporation for £44000 on 1st January 1944.

The Act stipulated that all navigation then ceased except, under a special clause, the section between Queen St and the Sea Lock was to be left open to allow 3 named traders to bring in their sand and gravel dredgers to unload at Harrowby St wharves.

It was on the night of 5th Dec 1951 that the steam suction dredger 'Catherine Ethel' entered the Sea Lock, failed to stop and collided with the inner lock gate, causing them to collapse. The water rushed out of the Canal into the Channel, and that was the end of the Glamorganshire Canal; but luckily for us it is not the end of the story...

E.O. Edwards

Editor's note: the period 1951-1991 of this interesting piece of history will be included in the next newsletter.

THE MELINGRIFFITH WATER PUMP

The outcome of litigation between the Glamorganshire Canal Company and the Melingriffith Tin Plate works at the turn of the 18th century was that the Melingriffith works would pay £600 towards the cost of providing "a fine engine on the site of the engine in the ditch". The ground was set for the construction of probably the finest industrial monument that has survived in Wales.

The story began in 1760 when the site at Melingriffith was acquired by the Bristol Adventurers as a suitable location to develop a tin plate rolling mill. Iron billets were transported down the valley from the Penttyrch iron furnaces, initially by pack-horse. Later, in the 1800's a tramway was constructed. However, there is evidence that tub boats may have been used. This is apparent from the remains of locks by-passing the sluice gates at Radyr Weir, and the width and size of the Melingriffith feeder and the height and width of the bridges. Basically, transport was a problem, and as the metalurgical industries developed in the Merthyr Valleys, more efficient methods of long distance transport had to be developed. This came in the form of a canal, starting in Merthyr, descending 568 ft in 25 miles and ending in Cardiff some 52 locks later. This immediately put another strain on the water-power resources of the Taff; even today the remains of aqueducts can still be seen zig-zagging to and fro across the river, bringing water to strategic points along the canal. Industry, however, still needed water power from the Taff to drive machinery, and at Melingriffith in 1802 it came to a head. Action was taken against the Canal Company for depriving the Tin Plate works of the necessary water to drive the turbines. Likewise the Canal Company counter claimed, pointing out their similar need for water rights. A settlement in 1806 was made to build a "fine engine on the site of the engine in the ditch".

This in itself is an interesting statement - what is meant by "fine engine" and what's more, what is this "engine in the ditch"? All we know is that a water pump was constructed in 1806, driven by a 16 ft diameter water wheel, which drove two horizontal beams and lifted water in two cylinders. The stroke was about 6 ft and each lifted about 1 ton of water per revolution of the wheel. It is though the wheel turned at some 6 to 10 rpm and, according to Mr Roger Aston's calculations, developed some 10 horsepower. This it continued to do right up to 1943 - 137 years of continuous operation!

Oxford House Industrial Archaeological Society, during a particularly wet summer's evening in 1974, were taken to the site. We were shown this enormous structure, overgrown with brambles and saplings and on the point of collapse, and someone mentioned those immortal words, "Now look 'ere, something should be done about this." A few quick enquiries first to the City Council, who admitted they owned the land but had given the water pump to the Museum. The National Museum remained within their portals and ventured "we have Roger Aston's model of it", adding "also his survey." This left OHIAS firmly grasping the nettles.

Work started in the November to stabilise the structure with a view to rebuilding it to its original condition. This alone would fill several volumes - but will be abridged in future articles.

Roger John (OHIAS)

FOREST FARM WATCH GROUP SATURDAYS in 1991-92

- 6 April 10am - noon. Sowing seeds in Butterfly Garden.
- 18 May 10am - noon. Environment Week activity.
- 15 June 9.30 - 5pm. Outing to Pen Puch (Rhondda Fawr).
Train to Treherbert, walk in hills, picnic, return to Cardiff by train.
- 20 July 10am - noon. Pond Dip.
- 21 Sept 10am - noon. Llandaff City and its natural history.
Meet at the Cross, The Green, Llandaff
- 19 Oct 10am - noon. Explore Radyr Woods.
- 16 Nov 10am - noon. Constructing bird boxes.
- 7 Dec 10am - noon. Tree planting.
- 21 Dec 10am - noon. Christmas Party.
- 18 Jan 1992 10am - noon. New Year walk around the Reserve

(Meet at Warden Centre unless otherwise stated)

