DISCOVERING BATH'S LOST CANAL

Derrick Hunt and Liz Tuddenham

Along the southern edge of the Bathscape area lies a lost canal waiting to be rediscovered. The Somersetshire Coal Canal was built at the same time as the Kennet & Avon Canal, but is far less well known. Although it closed over 100 years ago, the remains of it are still visible from public footpaths.

THE PROBLEM

The coal mine owners of Somerset were staring ruin in the face. The year was 1792 and the scene was a meeting of the mine proprietors at the Old Down Inn near Chilcompton. There was plenty of coal in Somerset and there were ready markets for it in Bath and all across southern England, but the problem was the transport. Welsh coal was flooding into Bath, via. Bristol and up the River Avon by boat, far cheaper than Somerset coal could be transported by pack horse through the rough muddy lanes and byways that ran from Timsbury, Paulton and Radstock to Bath.

THE SOLUTION

Something had to be done to improve the transport corridors of North Somerset and the buzzword of the day was 'Canals'. In contrast to modern planning, it took only two years after that first meeting for the biggest transport link Bath had ever known to be agreed, financed, passed through Parliament and begin construction. The 'Somersetshire Coal Canal' (the 'Shire' part of the name was intended to make it sound more appealing to investors) linked the coal pits of Paulton and Radstock to the Kennet and Avon Canal, which fed the developing markets. The Paulton branch ran through Camerton, Dunkerton and Combe Hay while the Radstock branch ran through Wellow; from a junction at Midford, they continued through Monkton Combe to meet the K&A Canal at Dundas Basin near the bottom of Brassknocker Hill.

PLANNING

Canals have to be built level, which makes them ideal for easy walking but gave the early canal planners a major headache. Radstock and Paulton were both much higher than Dundas Basin, so the canal level would normally have been brought down by a series of locks, which lowered the boats by letting water out of a large masonry chamber. This meant wasting a lot of water which, at Paulton, would have to be taken from the Cam Brook. The millers along the Cam had the legal rights to the water, which could not be taken away from them, so the canal engineers had to think again. Their ingenious solution was to keep the canal at 'Paulton level' until it had passed the last mill, then bring it down to 'Dundas level' at Combe Hay with a close-spaced flight of locks. The water to feed the locks would have to be pumped up from the Cam, which at that point was 135 feet below the canal. This was to be done with a Boulton & Watt pumping engine, the twin of the one now at Crofton on the K&A Canal.

WILLIAM SMITH 'INVENTS' GEOLOGY

There were no accurate maps showing contours in those days, so the Canal company had to do their own survey. A promising young surveyor named William Smith was surveying coal mines in the area, so he was engaged to do a survey of the canal under the guidance of the engineer, John Sutcliffe. One evening, Smith was writing up his diary at the Swan Inn, Dunkerton, he had realised that fossils could be used to identify strata and his diary notes that evening formed the basis for the science we now know as Geology.

BATHSCAPE LANDSCAPE PARTNERSHIP
HERITAGE FUND

THE CAISSON

Before the high-tech pumping engine could be installed at Combe Hay, an even more high-tech solution was suggested in the form of Robert Weldon's 'Hydrostatick Caisson Lock'. This mongrel cross between a lift and a submarine embodied a principle which was so clever that it took a demonstration model to convince the Committee it could work. The boat was loaded through an airlock into a watertight box which floated underwater in a huge masonry tank built into the hillside; being neutrally buoyant, like a submarine, it could carry the boat to the bottom of the tank and release it through another airlock. No water was wasted and the whole process was a lot quicker than the planned flight of locks, so they were put on hold whilst a Caisson Lock was built.

DISASTER

Unfortunately the hillsides around the South of Bath contain layers of Fullers' earth clay, which contracts in dry weather and expands in wet weather, leading to slips and landslides which, even nowadays, can quickly turn newly-resurfaced roads into switchbacks. When pressure from the Fullers' earth clay distorted the masonry tank of the Caisson, it jammed the mechanism and trapped the 'submarine' under water. True to the engineering dictum that "If anything goes wrong, it will do so at the worst possible moment", the Caisson went wrong on the day the Committee had agreed to take a ride in it to demonstrate their faith in its safety. They escaped with their lives - but only just - and went off the whole idea of Caissons.

PICKWICK TO THE RESCUE

With the failure of the Caisson, the canal could no longer afford to build the lock flight. Once again the mine owners were staring ruin in the face; the mines were producing coal in quantity and the K&A Canal was nearing completion, but there was still the 'missing link' of a 135 foot drop at Combe Hay. Coal had to be unloaded at a wharf in Dunkerton and brought up the hill and into Bath by horse and cart. The owner of the horse and cart, who, incidentally, was also a shareholder in the canal, was a Mr. Eleazer Pickwick. No doubt he did very well out of it, as he had done with his coaching enterprise and the inns he owned in Bath - and Yes, he was the very same Pickwick immortalised by Charles Dickens.

THE INCLINED PLANE & LOCK FUND

Although Pickwick's enterprise halved the price of coal in Bath at a single stroke, there was still the embarrassing gap in the canal at Combe Hay. A temporary gravity-operated railway, an 'inclined plane', was laid down the hillside and boxes of coal were loaded on and off the boats at each end by cranes. This was one of the earliest known examples of containerisation. A separate company was floated, with shareholders from both the K&A and the Somersetshire Coal Canal companies to raise money for the 'Lock Fund'. Once again, Pickwick was prominent among the shareholders in this new company. The lock flight was built in great haste and the whole enterprise opened for business in 1805. Trade rapidly increased and by the mid 1800s the Somersetshire Coal Canal was one of the most profitable canals in England.

USING A RAILWAY TO BUILD A RAILWAY

When the coal began to run out, the canal began to decline and the land was sold to the G.W.R. for a railway. The roads in that area were so bad that it was cheaper to build a temporary railway to bring in the heavy equipment and materials that were needed to build the main railway line. The remains of this forgotten 'contractor's railway' puzzled historians for some while until they realised that they weren't part of the canal.

REMAINS TO BE SEEN

The derelict canal from Dundas to Brassknocker Basin was rebuilt and connected to the Kennet & Avon Canal in the 1980s. It is used as boat moorings and is a valued amenity for boaters, cyclists and walkers, with parking facilities and a café. The canal junction is adjacent to the spectacular Dundas Aqueduct and has an unusual lifting bridge and a curious triple-gated entrance lock; if either canal is breached, this arrangement of gates will protect the other one from catastrophic water loss. The Canal Centre at Brassknocker has an exhibition which makes an excellent starting place for anyone who wants to begin an exploration of the canal, or who just wants to stroll along and enjoy its picturesque boating atmosphere.

Photographs, from top:

Lock 15 after heavy Autumn rain
Upper Midford bridge
The old Swan Inn, Dunkerton

Photographs, from top:

The straggling lock flight
Midford Aqueduct
Dunkerton Big Aqueduct viewed from the A367

THE COAL CANAL WAY
For the more enthusiastic walker, the 'Coal Canal Way' takes you the whole length of the Paulton branch of the canal by easy stages. A booklet describing the walks is available or there is a free downloadable copy online www.coalcanal.org/books/CCW/ccw.php. The booklet describes each section of the walk in each direction and includes maps and notes on the various features of the canal which still remain.

MIDFORD
The canal company had its headquarters at Midford, next to the Hope & Anchor! One of the houses nearby was built from the remains of a boat-weighing machine that was used to work out how much each boat had to pay. A short walk up the Cam valley brings you to a spectacular low aqueduct where the Radstock branch joined; a little further on is the last remaining bridge built in typical S.C.C. style.

COMBE HAY LOCKS
This was the jewel in the crown of the canal in its heyday and the remains of the lock flight in Rowley Bottom is still a spectacular ruin. The haste with which the locks were built is obvious from the straggly line they take up the hillside, where individual contractors were working simultaneously, apparently each with his own idea of where North lay. Compare this with the lock flight on the K&A Canal at Devizes, where everything is tidy and well laid out. To fit all the locks into the smallest possible space, the flight was turned back on itself at the 'Bull's Nose', the sharpest canal bend in the world. Above this, at the top of a steep climb, is the site of the pumping engine with little remaining above ground to suggest what a busy, noisy and smelly industrial site this must have been.

NOTHING LEFT OF THE CAISSON
Sadly there are no remains of the caisson on the surface or for some considerable depth, so please don't trespass in search of them. When it failed, the caisson was dismantled and the stonework was probably used to help build the lock flight. There is a trace of the Inclined Plane running up the hillside between Inner Meadow Cottage and Caisson House, it can still be seen as a dip in the land each side of the path which now follows the line of the railway. Just to the East of that is a mound jutting out of the hillside, which may be the site where a second caisson was planned but never built.

THE SWAN INN & DUNKERTON AQUEDUCTS
The Swan Inn, where William Smith made his momentous discovery, is now a private house beside the A367 Bath-Radstock road almost opposite the turning to Dunkerton. There were two aqueducts in Dunkerton, the smaller one has been demolished but the larger one is visible from the footpath of the road up the hill from the layby on the Bath side of Dunkerton. It is the largest aqueduct on the canal and probably the least glamorous in the world, being nothing more than a large hole in an embankment lined with rough Somerset stone. In some ways it typifies the whole philosophy of the Somersetshire Coal Canal: solid, practical and only pretentious in the places where the shareholders needed to be impressed.

ABOUT THE AUTHORS

Derrick Hunt is a member of the Executive Committee of the Somersetshire Coal Canal Society and is responsible for organising the walks and talks programme. He is also an amateur local historian who specialises in researching the original shareholders or proprietors of British canal companies.

Liz Tuddenham is the magazine and website editor for the Somersetshire Coal Canal Society and also ran the work parties for several years. She has specialised in researching the engineering side of the canal and has a background in engineering and the restoration of historic artefacts.