



The **R**o **I**e **C**ana
& Northern Devon
Waterways Society

Spring Issue 2011

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What to look out for in the next issue!



How and where limestone is quarried

described by Ian Harrison.

Steventstone Park

Norman Richards continues his looking at a family and where they lived.

Building replica tub-boats

Adrian Wills outlines the progress of this project.

Comments from the Chair!

A well attended AGM was held on Sunday 8th May 2011 in the lecture room of RHS Rosemoor followed by a fascinating talk on 'Pentewan in the Past' presented by Robert Evans.

During the AGM Matt Edworthy (NDAOB) presented a resume of 'The Journey of Life' grant application about to be presented to Heritage Lottery Fund. It is hoped that news of its successful acceptance will have been received by August.

Plans to develop permissive footpaths, exploratory excavation of the inclined plane and wheel pit and other major developments of the Rolle Canal can then begin in earnest.

Your committee is working hard to produce a programme of interesting talks and walks across the coming year. Information about the like will be advertised well in advance here, in the local press and those of you with internet access will be contacted via email.

If you have an email address that the society does not have a record of then please contact me at:

info@TheRolleCanal.co.uk or by the postal address on the back page. In order to save RCS money the bulletin can be sent to members by email. If you are happy to receive it by this means and you have not already indicated this then please use the same email address to let me know.

Adrian Wills

Front cover picture:-

Swan family on the Bridgwater & Taunton Canal





BARGE in a BASIN.

Featured on the front cover of the last (February) bulletin is this picture of an old barge which has been ‘moored’ in the loading basin of Lord Rolle’s Canal for a number of years.

Not abandoned, she forlornly awaits the time when funds can be raised to restore her to her former glory.

She is the **North Devon Trading Motor Vessel ‘Advance’** and is a barge of quite some significance and provenance.

The MV ‘Advance’ was built in 1926 by P. K. Harris & Sons shipyard, in Appledore, for the North Devon Trading Company Ltd. She was designed to carry sand and gravel dredged from the sand banks of the double estuary of the Rivers Torridge and Taw. Originally loaded by hand the advent of the conveyor belt eased the effort of loading and unloading such vessels dramatically.



Designed to be a sailing boat, ‘Advance’ was actually powered by a 15BHP Widdop hot-bulb diesel engine. Her overall length measures 51ft 6ins(15.66m) and her extreme breadth is 15ft 10 ins(4.85m). She had an optimum draft of 4 feet, a net tonnage of 12½tons and a gross tonnage of 20tons.

She is recorded on the International Register of Historic Ships and is the last remaining example of a North Devon barge, a once common vessel of this area.

Like all other vessels of her type, ‘Advance’ was built of very large timbers in order to withstand the pounding exerted on her when she was grounded on the gravel banks and be strong enough to carry very heavy loads put in her. Once loaded, her

hatches were usually battened down since it was not uncommon for sea water to wash over the top of the holds, making the vessel appear to be sinking!



Photograph of the Advance motoring down the River Taw with Fremington Power Station behind.

The passage of time and the harsh treatment to which 'Advance' was subjected gradually took its toll and after fifty years of service she became reduced to being used as a scrap metal storage hulk. She was moved to various moorings around the Taw -Torridge estuaries before finally ending up on the mud flats, alongside three other vessels, at East-The Water, Bideford.



M.V. 'Advance' manoeuvring in the River Torridge. Brunswick Wharf in the background.

Torridge District Council received many complaints about the state of these vessels and in 1985 it began to dispose of them by cutting them up with chainsaws.

Peter Herbert, the captain of 'Advance' at that time, on seeing the fate of the other vessels, promptly moved her to a new berth further downstream, with the intention of restoring her for future generations. He was keen that she be conserved as a working example of the last of the Devon barges and to offer an experience of the way of life of previous generations of Taw -Torridge watermen.

In May 1986 a project was initiated to restore 'Advance' and in August of that year she was towed back to the same slipway in Appledore on which she was built in 1926,

By 1987 Captain Herbert had passed over all her registration papers to a local community group so that it could undertake restorative work. Plans were drawn to have her modified and considerable repair was done. The Oak frames, stern post and deck comings were replaced as was some of her hull planking. Unfortunately the project finished in 1989 with the work on 'Advance' incomplete.

Captain Herbert, who was in poor health by this time, repossessed ‘Advance’ and asked Barry Hughes, a local historian and barge enthusiast, to remove her from where she had been left and tow her back upstream to a mooring at East-The-Water.

Mr. Herbert’s failing health prevented he himself from dealing with ‘Advance’ so he passed the registration documents, to be held in trust, to Mr Hughes who had been continuing basic maintenance on the barge. Following the death of Captain Herbert, Mr Hughes started looking for a safe place to berth the barge while trying to raise money to have her properly restored; the loading basin of Lord Rolle’s Canal was an obvious solution to her long-term safe-keeping.

In 1992 Mr Hughes towed ‘Advance’ up the River Torridge and into Sea Lock; the first vessel to do this since the canal’s closure in 1871. At this time the lock chamber was in a very poor state of repair and badly silted up. It was necessary to dredge some silt from the mouth of the lock chamber and loading basin in order to accommodate the barge and Mr Hughes personally contributed considerable funds to facilitate this work.

Today ‘Advance’ is lying inside the loading basin sadly deteriorating rapidly. Most of the caulking between the hull planking has totally disappeared. Many of the timbers cladding the hull and the deck are rotten and large holes have appeared in them. The ship’s bungs have been removed from the bottom of the hull in order to keep the timbers wet, to prevent them drying out, cracking and shrinking. However, the hull is now well past being water-tight and she is fast approaching the point where only a massive and vastly expensive restoration programme may save her. Attempts to get grant-funding for her restoration have, to date, been unsuccessful.



Photographs of working barges (circa 1955) - courtesy of B. D. Hughes.

A.W.

Of Lime and Lighthouses

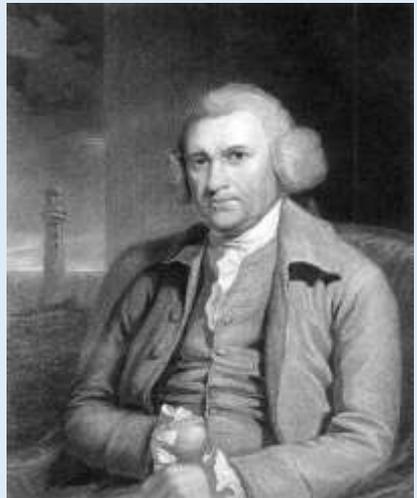
Part two of **LIME MORTAR AN INTRODUCTION** by Ray Patt.

Lime is produced by heating limestone in a kiln and then the resulting quicklime is usually made ready for use by first slaking it with water. A basic mortar of sand mixed with slaked lime hardens by taking carbon dioxide from the air (carbonation) but this is a slow process. Since ancient times other materials, such as volcanic ash, have been mixed in and if they have suitable properties, they react with the slaked lime, accelerating the rate of set. Such reactive additives are known as pozzolans and a variety of natural and artificial ones have been used. Some limestones themselves contain impurities which, after heating in a kiln, provide reactive material to give so called hydraulic lime.

In massive lime-concrete engineering structures, it is not possible to rely solely on carbonation to provide a set. Research and development in the use of locally available natural and artificial hydraulic limes by incorporating pozzolans, had increased dramatically by the late 1700's.

Leaders in the field were John Smeaton (1724 – 92) and Louis J. Vicat (17786 – 1861) In 1783, following extensive research, Smeaton concluded that the most satisfactory mortar for use in the construction of the Eddystone Lighthouse was a mix of one part Blue Lias hydraulic lime from Aberthaw with one part of Italian Pozzolana.

Other pozzolans researched and used by Smeaton for other marine projects included Dutch Tarras and English Minion, a name given to burnt and crushed iron stone. One way of obtaining this was by using cleaned, powdered and sifted smith's forge scales. Smeaton recorded 20 different compositions for 'Water Mortar' or hydraulic lime mortar and even sand was graded. The mortar used in the construction of the Calder Canal Lock contained one part of coarse sand and one part of fine sand.



Smeaton stressed the importance of thoroughly mixing all the ingredients in a dry state first and then with the addition of minimum amount of water to form a paste of even consistency.

Relative to modern day cement-based mortars even the fastest setting lime mortar is slow. The Eddystone mortar joint surfaces were coated with plaster of Paris for initial protection against immediate washing out by the sea.

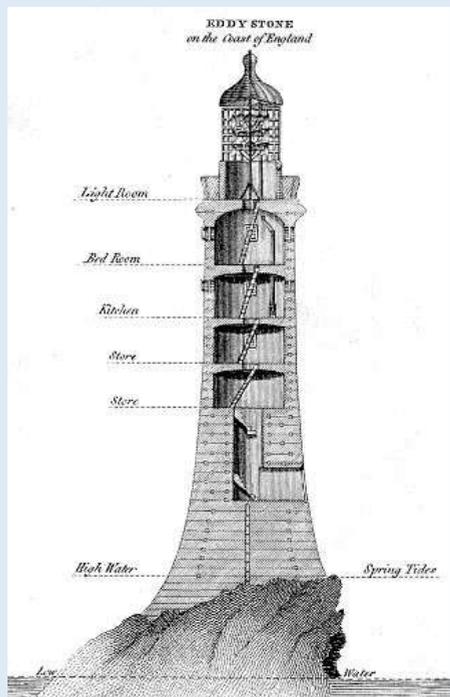
Addendum:

Smeaton's lighthouse was the third to be built on the infamous Eddystone Rocks 9 miles (14km) south west of Rames Head. The first built in 1698 was destroyed in the Great Storm of 1703. The second lasted a little longer, built in 1709, it was destroyed by fire in 1755.

The lighthouse designed by Smeaton was revolutionary in many aspects; the tower was built in the shape of an Oak tree trunk, the granite block were dovetailed together and pinned with marble dowels and Smeaton pioneered the use of hydraulic lime concrete to secure the granite blocs to each other and the rocks. Construction began in 1756 and the light was first lit in 1759

Smeaton's lighthouse stood 59 feet (18m) high, was 26feet (8m) in diameter at the base and 17feet (5m) at the top. The lighthouse was in use until 1877 when erosion to the rocks began to threaten its stability.

It was decided that the lighthouse be dismantled and re-erected on Plymouth Hoe as a monument to Smeaton which is where it stands today. However the stub and foundations of the tower remain close to the new and more solid foundations of the modern lighthouse because they proved to be too strong to be dismantled so the Victorians left them where they were.



MORE ROLLE CANAL ACCESSABLE?

Proposed link to Tarka Trail at Beam

Report by Chriss Hassall

Members will have read of the on-going proposals to make a Permissive Path along the route of the canal around the foot of Furzebeam Hill from near Beam Weir to the crossing of the Tarka Trail at Torrington Commons.

Some of those who have taken part in our guided walks in recent years will have walked this stretch of canal which is probably the most intact and unaltered length of the waterway, although made difficult by the presence of fallen trees and some subsidence in the towpath. Few however will have explored the site of the wharves serving Beam House, which was one of Lord Rolle's residences, and the point where the railway cutting destroyed the line of the canal between the Aqueduct and the old carriage drive bridge.

An essential part of the Permissive Path scheme will be a new link from the Tarka Trail to the canal walk at this point, where there is a difference in level of some 12 feet or so to be overcome. The North Devon AONB & Biosphere Service (NDABS) who administer the Tarka Trail, and Clinton Devon Estates (CDE) who own the canal and the land around, both agree in principle so it is the detail of the work involved and above all the costs, both initial and ongoing, that remain to be sorted.

As you- walk north along the Tarka Trail from the bridge above Beam Weir (point L on the site plan), you immediately enter the cutting and pass under the tall railway bridge (K) that carried the old Carriage Drive. A flight of worn and usually muddy steps leads up to the driveway, but this is private property. Lying alongside the Trail is a broken concrete railway gradient post which used to indicate where the slight incline changed to a level track along the valley bottom.



A few yards further along the cutting, the east bank falls away to a height of only some 8 feet above the track and this is where the line of the canal used to be. There are places where adventurous people have climbed up the bank here to explore further into the undergrowth and up to the boundary of the railway land, where in winter they will have been able to see through to the site of the canal basin (F) and

the restored canal bridge (H). Here the towpath (shown by a dashed line) ran along the north side of the canal (G) and crossed over the bridge to loop round on itself and pass under the bridge on the south side (J). All this is on private CDE land but if the Permissive Path goes ahead it will follow the line of the canal (F) to the boundary bank (C-E) at the edge of the cutting and then descend to the Tarka Trail either by steps CD) or a gentle ramp cut at an angle CB) to allow disability access.

The original line of the canal (A) towards the Aqueduct is completely obliterated in woodland of massive conifer trees which look ancient but can not be more than 136 years old having probably been planted to shield the big house from the sight and sound of the railway. Also when the canal was closed, the carriage drive which ran over the two bridges eastwards to Torrington, was abandoned in favour of a new driveway using the disused aqueduct to join the Bideford-Torrington main road.

The Stevenstone Estate.

A brief introduction to the leading players in the rise and fall of the '*Torrington Canal*' and the properties in their ownership.

The canal was built by **John Lord Rolle** whose family residence was at Stevenstone House in the parish of St. Giles in the Wood. This, and following articles, is intended to give the reader an insight to some aspects of the Rolle family and the Stevenstone estate during the years surrounding the canal operation. The canal being built to make a more efficient way of transporting limestone to inland kilns, these being nearer the uplands where it was needed for soil improvement.

Denys Rolle (1725-1797) was born at Beam House, the approach to which, at that time, dropped down from the Weare Giffard to Torrington road. Subsequently this drive had two



bridges built, first across the canal and later, over the railway. After the canal closed the trough in the aqueduct was filled in and this was used as the main drive as it is today connecting to the main Torrington to Bideford road. It was Denys who first had canal plans drawn up to run on the other side of the river through

Weare Giffard village, but this route, as far as we know, was never started.

His son, John, Lord Rolle (1756-1842), on inheriting the estate, built the canal on the present route, starting in 1823 and taking about three years to build at his own expense. As the whole length ran through his own lands he went ahead and built it without Parliamentary approval, which he obtained later, circa 1835.

By building the canal he created new buildings and businesses along the route which would have brought trade to the area. As well as limestone and culm coming in, clay and agricultural produce would be exported. All this extra activity would have increased employment for the local population and although it would have been

hard work by today's standards it was probably a lot better than what they had before.

The Honourable Mark Rolle (1835-1907) was a nephew and inherited the estate through John Lord Rolle's second wife who came from the Trefusis (Clinton) family. The estate was run by trustees for several years until Mark came of age, changed his name to Rolle in 1852 and took the title of 'The Honourable.'



Mark Rolle took an active interest in the canal, oversaw the transition of the closure and the extension of the railway from Bideford to Torrington.

In future newsletters it is hoped to bring you information about how the canal and estate worked with each other.

Article by

Norman Richards.



Editors Note:

Portrait of **Denys Rolle** (1725 1797)

by Sir Thomas Hudson

Portrait of **John Lord Rolle** (1756—1842)

by Sir Thomas Lawrence P.R.A

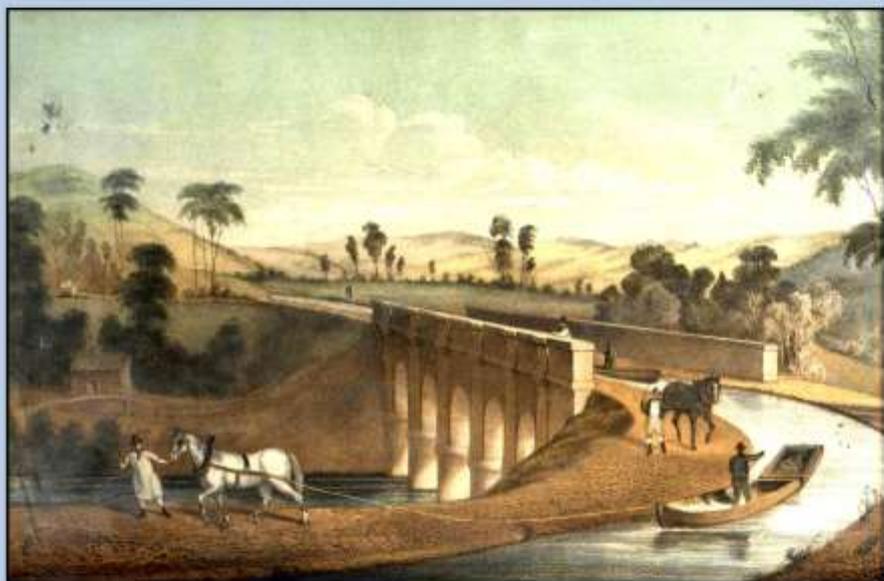
Portrait of **The Honourable Mark Rolle** (1835—1907)

by Sir John Collier R.A.

All of these paintings belong to the portrait collection of
Great Torrington.

Tub boats on the Rolle Canal once again!

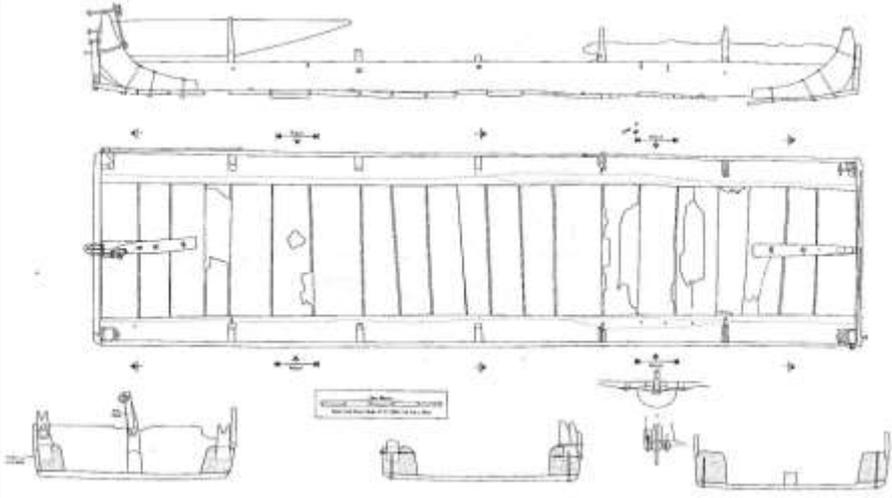
The picture below is a well known print of a painting depicting tub boats being towed across a graceful aqueduct which today is the main approach to Beam House from the Torrington to Bideford road. (Artist unknown).



Never again will tub boats float across here but they may well be seen within the Sea Lock basin before too long!

Boat building work at Sea Lock, after a lay off of around 150 years, has begun once again in order to construct two full-size tub boats, as shown in the print!

Copies of structural drawings based on an original but incomplete tub boat housed in the Bude Canal Helebridge Workshop, have been acquired, courtesy of Bude Stratton Town Council and will be referred to in the reconstruction process.



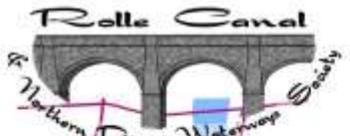
Some of the timber to be used has been donated by British Waterways in the form of redundant balance beams. These had to be sawn down to remove split and rotting sections. The very large pieces, known as 'Chines' have had to be purchased.

Tub boats were probably constructed from Oak and/or Elm. The chines for the new boats have been cut from Larch since Oak and Elm is expensive, very heavy and extremely difficult to source in such large sizes.

It was decided to construct the square ended, trailing boat first since its shape is easier to make than the leading boat which has pointed bows, and will solve problems with this build.

Sections of the sawn Oak balance beams have been cut to shape for ribs, and mortises and rebates have already been cut to locate them and side planks on the chines. Progress is being made quite rapidly although there is still much to do before a launching is attempted but you will be kept fully informed of further development in future issues of this bulletin.

Report by A. Wills



The **RC&NDWS** welcomes anyone who is prepared to help run society activities. Many of these tasks do not require long term commitment or massive physical ability but are all equally important to the successful running of the society. If you feel you can help in any way then please do not hesitate to make contact with the committee through the address below:

Our archives Officer, **Norman Richards** is always looking for material, maps, text or pictures, relating to the Rolle family, estate and canal. If you have anything which may be of interest please contact him by email at norm@fhsinternet.com or at the address given below:

Adrian Wills tel. 01237 477705

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