



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

SOCIETY NEWS AND VIEWS

AUTUMN ISSUE

November 2014

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Front cover picture:

Newly laid Peters Marland bricks outlining the course of the Rolle Canal where it crosses the Tarka Trail at the head of the inclined plane, looking south.

COMMENTS FROM THE CHAIR

The long, hot and dry summer we enjoyed this year now seems a life time away and once again heavy, persistent rainfall seems to have become the norm. Not so long ago the ground surface at Sea Lock was rock hard and bone dry but is now almost suitable for planting rice on. All outside work has ceased but never-the less there have been projects under way in sheltered areas of the yard.

A great deal of repair and adjustment to the 22RB crane has been undertaken by Mike Chambers who has been poring over the workshop manual and disappearing into the crane's innards armed with spanners, screwdrivers and oil cans. Trevor Fordham and I have been unbolting body parts from the Priestman crane, removing rust and applying copious amounts of primer and top coat paint to them.

Barry has been active with paint brushes and rollers as well, attacking the weed boat with a vengeance.

Tony Barnes, aided by his faithful band of volunteers has undertaken sterling work at the wheel pit site and turned this feature of Lord Rolle's Canal into something well worth stopping and looking at.

Once the task of outlining the edges of the canal in white brick, where it crosses the Tarka Trail is complete, this complex structure should become more easily understood by those not familiar with inclined planes and underground waterwheels. This work has to be undertaken by contractors since the surface of the Tarka Trail needs to be dug up and the bricks laid in a manner which does not impede or be hazardous to users of the

trail. As the front cover shows part of this work has now been completed

Chris Hassall, as always, has continued fascinating those attending his guided walks with his knowledge of the flora and fauna surrounding the canal and enthusing them on its history and function

A group of 40 or so people visited the Sea Lock site recently and were suitably impressed by what they saw. I led this group but am very grateful to Chris for being present at the time and being prepared to take over since I had been feeling rather 'odd' a day or two before. *Anyway, 'All's well that ends well', as the old saying goes.*

As was mentioned in the last issue of this newsletter, your committee is contemplating organising volunteers to clear invasive vegetation at the head of the canal in RHS Rosemoor Gardens next year. This is a very exciting prospect but until health and safety issues, and access have been addressed and agreed with the Rosemoor managers we will have to wait patiently and bide our time before we can actually set to with tools and intent.

The next issue of this newsletter is not due now until February 2015 so until then your committee and I wish you all



a Very Merry Christmas
and a
Prosperous New Year!



Adrian Wills

VOLUNTEERS ON A ROLLE

Sometimes professional artisans are paid to undertake specific tasks on the canal, but usually it falls to volunteers to get on with the clearing, grading, digging, shovelling, cutting and general maintenance required to make the canal suitable for the general public to explore and admire. I'm pleased to say that over the past two years our team of 'navvies' have discovered skills that they never knew they possessed, as well as muscles the likewise! The results of their efforts have been impressive.



Towpath at Furzebeam 2006

Tony Barnes

With funding from Heritage Lottery and permission from the owners, Clinton Devon Estates, a section of towpath at the foot of Furzebeam Hill has been extensively cleared of trees and shrubs, and restored sufficiently for a permissive route to be opened to the public. More needs to be done to ensure that it is usable in most weathers, but it is already well used. A section of the stone embankment was repaired by Alan Mitchell of

Taddiport and the whole route is in surprisingly good condition for its near 200 year age.

As part of the same project, a small section of canal was totally cleared next to the accommodation bridge and could be the forerunner of a much larger clearance. It is holding water well.



Towpath improvement under way

Tony Barnes

The volunteers were called in to erect five information boards describing points of interest on the Tarka Trail and towpath. The stony nature of the strata alongside a railway track was a challenge.

Later in the year the upper basin at the Ridd inclined plane was cleared of vegetation and seeded with wild flowers. A picnic table will shortly be erected there for trail users to linger a moment and enjoy the Tarka Trail countryside.

The basin wall was discovered under the banks at the side and cleared for trail users to see.

Then the wheel vault which housed the water wheel was partly cleared, its protective fence relocated and brick supports placed under the broken arches to ensure no further collapse would occur.

The vault is home to a colony of bats, which hibernate there in winter, so the entrances had to be fitted with steel mesh to protect against animal invasions. The whole area has now been landscaped and will be tended by the Society. The personnel entrance, used by maintenance engineers to tend the water wheel when it was operational, had already been cleared by the Society some three years earlier, and the whole inclined plane area is now easily viewed.



Completed wheelpit site

Chris Hassall 2014

The picture on the previous page shows the installation with its bat friendly grille and viewing aperture, where the top of the personnel entrance to the wheel can just be seen some 6 feet down. A further notice is planned to give an idea of the massive size of this Victorian engineering.

The volunteers meet about once a month, sometimes twice, all tools are provided as well as a picnic lunch and hot drinks, and are a cheerful hardworking bunch. There is always plenty to do and we swap jobs around where practical to give everyone a change of scene. We would welcome newcomers to become part of the team, which would enable us to undertake more tasks, so if you are interested please contact the address on the back cover of this newsletter or you can contact:

Tony Barnes on **01237 473801**

Email: **anthonybar@gmail.com**

You will made very welcome!



Not just a hole in the ground! The wheel pit before work began. Hardly an impressive sight at this time. A.Wills

A CRAVING TEMPORARILY SATISFIED!

For a number of years now, following the end of the summer season and children's return to school for the beginning of the autumn term, Hilary and I have endeavoured to enjoy a couple of weeks or so away on holiday. In the past, these breaks have been in our caravan but more recently in our Wilderness Trailboat but, either way, we try to go somewhere where we can be beside or on a waterway and near something of an industrial heritage nature.

However due to family commitments, in early September this year, we were obliged to attend the wedding of a niece and her betrothed, near Dunbar, in Scotland.

The wedding took place in an area of outstanding beauty, known as Scotland's Golf Coast. Now you may have noticed a clue as to the main interest of the majority of people in this area and it is NOT inland waterways!

While we were up in the 'frozen North' we took a day out to explore Eyemouth where there is a small maritime museum that we had been told was well worth a visit. Included in its collection is a beautifully restored Clovelly Picarooner and a Bucks Mills 'Ledger boat. These vessels and a huge, iron drag dredger boat built in 1844 by I.K. Brunel and worked in Bridgwater docks, were once part of the now defunct Exeter Maritime Museum's collection.

The Eyemouth Maritime Museum is housed in a renovated section of the old fish market adjacent to the harbour wall and as we approached the building I saw behind it, swinging through the air, a large clamshell bucket. We rushed over to have a closer look to discover a very grubby tramp 'steamer' in the

harbour with a Priestman Lion crane mounted on the deck which was being used to dredge sections of the harbour basin. Shades of Lord Rolle's Sea Lock! The trip north was taking on a whole new complexion!



Anyway, having fulfilled family obligations (actually we thoroughly enjoyed the wedding and subsequent ceilidh, and had a really good time with the various relatives afterwards) we travelled south to meet up with old friends who live in Sedgefield, near Newcastle.

From Sedgefield, Hilary (chief planning officer and navigator) had originally plotted a course moving us on south, travelling down through the Trough of Bowland and ultimately to Devon but she hadn't allowed for a fiendishly clever plot devised by me! Whilst on vacation I was determined to get a massive dose of industrial and engineering heritage one way or another!

I had some time ago, on the Internet, come across the Threlkeld Quarry & Mining Museum in the Lake District. This museum is not only based in one of the most spectacular regions of Britain but also happens to be home to the largest collection of still working, vintage cranes and excavators in the country and I wanted to visit it. I really am becoming a very sad person!

Threlkeld, near Keswick, is only a 2 hour drive, even towing a caravan, from Sedgfield and just happens to have a farm caravan park within walking distance of the museum and a highly recommended pub nearby. It just gets better!

Hilary provided me with a new 'flight-plan' (not too much persuasion required!) calculated on magnetic variation, wind direction and strength, with traffic jams allowed for, etc., all aided by our Sat' Nav', which duly enabled us to touch-down, unscathed, at the caravan site where we were about to spend the next few days.

Having set up camp, we spent the next day looking around the mining museum and quarry site.

BIG BOYS' TOYS OR WHAT?

Examples of various makes and models of cranes and excavators are on display ranging from dinky little 10RBs (RB-Ruston Bucyrus) right up to a monstrous 110RB. There is also a narrow gauge railway providing visitors with rides into the main quarry and back again on vintage rolling stock.

Having come to the museum with the express purpose of trying to find sources of various bits and pieces required for my newly acquired Priestman Cub, it was extremely fortuitous to discover that on the Saturday and Sunday of this same week a Vintage Excavator Trust Working Weekend (20/21.09.14) was being staged when many machines would be fired up and could be seen actually working. Fortunately for me, we had no specific schedule of where we had to be on any set date so we decided to stay a little longer than originally planned to take in Saturday and leave on Sunday.

When we first visited the museum (on Tuesday) we were lucky enough to meet Richard Bragg, the owner and operator of a beautifully restored Priestman Wolf face-shovel excavator. Richard also just happens to be a crane fitter, working for a commercial quarry and was kind enough to give us a personal guided tour around the site and machines as well as providing me with some very useful and important tips about setting up and operating my own machines properly. Ironically, one of the larger machines in the collection was run by Richard's father, during his working life, clearing bombed buildings in London during the Blitz. Also, quite coincidentally but a bit 'spooky', a Priestman Cub Dragline excavator, in British Waterways livery, same make and model as mine, in the Threlkeld collection (the green one pictured below), has the model serial number 13932 stamped on it. Mine, also in British Waterways colours, is number 13933! They obviously came off the production line one in front of the other and probably on the same day.



On the Saturday (20th Sept) Hilary and I returned to the museum/quarry to see various drag-line and face-shovel excavators going through their paces. Watching and listening to them was awesome and almost hypnotic. The degree of skill demonstrated by some of the operators was immense and the movement of the machines smooth and almost balletic. Driving vintage excavators requires a great deal of hand, foot and eye co-ordination and, considerable physical strength is needed to apply foot brakes and pull long levers: driving a manual car is child's play in comparison. It does seem, however, slightly ridiculous to watch grown men operate big machines to excavate large quantities of quarry spoils, move them from one pile to another and later back again. *I only make this comment because I wasn't allowed to have a go! I'm not sulking, honestly!*



Hilary preventing the 110 RB from blowing away!

As a matter of interest, the Threlkeld quarry is still being worked commercially but on a very limited scale, mostly due to its location within the Lake District National Park. The stone extracted is rather unusual because it is a non-slip granite and, in crushed form is used extensively by the National Park authority for resurfacing footpaths, or, in block form, for the construction of prominent walls. To ensure that the quarry is not a blot on the landscape a careful programme of re-naturalization is being followed which allows for the regrowth of indigenous flora and visually the existence of the quarry is already far from obvious. Its in the centre of picture left below.



Picture left: View of the quarry museum from Threlkeld Village

Picture right : View across the quarry site, looking towards Threlkeld.

In addition to having a fascinating time looking at bits of vintage kit, Hilary and I have had a wonderful few days enjoying the stunning scenery of the Lake District taking full advantage of our concessionary bus passes to travel free of charge on a variety of spectacular routes around the area, enjoying glorious 'Indian summer' weather. I'm now looking forward to playing with my own excavators once various their 'Gremlins' have finally been banished.

Article by Adrian Wills

Ships measurement and tonnage 1786-1835

Scattered among the articles I wrote about the Rolle Canal shipbuilding, were several mentions regarding tonnage and dimensions. This gives the impression that the vessels were periodically being lengthened or shortened, widened or even made narrower and deeper or shallower. This, of course, was not the case, but over a period of many years the formula used to measure the dimensions was altered in order to try and get a more accurate idea of the cargo carrying capacity of any individual ship.

With the introduction of the Universal Ships Registers in 1786, as opposed to the wool or plantation registers which exempted coasters, all ships were measured under the same rules. For the period from 1786 to 1835 all tonnage ended in a fraction of 94ths, but it seems that in the early days different Custom Offices must have interpreted the rules as they seemed fit, so much so that in 1799 Barnstaple, and I supposed other ports, had the same order to write and explain how the tonnage at their port was determined. The original letter sent from London has not survived, but the reply has and is kept in letter books which contained hand written copies of any correspondence that the Custom Officers sent out.

On September 13th 1799, letter number 64 instruction as to the method used was given as follows:-

'John Atchison, Tide Surveyor at Appledore is the person appointed to admeasure vessels at this port - He is always assisted by a shipbuilder - In consequence of the advanced age of the Tide Surveyor and his not being perfectly acquainted with the manner of working the Dimensions he hath been constantly

assisted in the execution of his duty by the present Acting Collector'.

Method practiced by John Atchison, tide surveyor at Appledore within the port of Barnstaple in taking the dimensions of vessels for the purpose of Registry.

LENGTH OF KEEL

In case the vessel lays perfectly horizontal a plumb line is dropped from the forepart of the main stem and the distance from that line to the after part of the stern post is taken along the rabbet of the keel with a long staff (where the same can be used) or otherwise with a line but if the vessel lays by the head or the stern, or so much on one side as to preclude the use of the plumb (which is generally the case) a long square is substituted, upon the edge of which if properly fixed, a line is drawn to the forepart of the main stem / in taking the breadth a long staff is placed across the deck in the broadest part from the ends of which at a proper distance from the side of the ship gunwales of both sides, a plumb is suspended and the distance from the plumb line and the side of the ship accurately marked off on the staff, the intermediate space between these marks on either side constituting the exact breadth. / the depth of the hold or the height between decks is taken with the same staff from the ceiling of the hold or from the upper part of the second deck to the under part of the upper deck plank. / the length on deck is generally taken with a line drawn from the forepart of the main stem to the after part of the stern post aloft, from both which points it sometimes becomes necessary to raise perpendiculars or draw parallel lines.

An example of the method practiced in the port of Barnstaple in 1799, working on the dimensions of an unnamed vessel, of an

extreme length of keel of 55feet 6 inches (55. 5') and an extreme breadth of 17' 3" (17. 25'), is as follows:

Formula
$$\frac{(\text{keel} - 3/5 \text{ breadth}) \times \text{breadth} \times 1/2 \text{ breadth}}{94}$$

Calculation
$$\frac{(55.5 - 10.35) \times 17.25 \times 8.625}{94} = 77 \frac{43}{94} \text{ tons}$$

As no vessels are admeasured afloat at this port and the method to be pursued is so minutely pointed out by the 1st section of the Act of 26 Geo.3, Cap.60 the operation is deemed unnecessary to be subjoined—It is the practice at this port to admeasure new built vessels on the stocks before they are launched.

An example of tonnage changes on the **LORD ROLLE**

Built 1829 under the 1786-1835 system

64' 4" long x 19' 10" beam x 10' 9" hold = 104 85/94 tons

Under the 1836-1855 system

62' 3" long x 17' 9" beam x 10' 6" hold = 88 3500/540 tons

Under the 1855 system

(only slight alterations to the present day)

65' 6" long x 18' 6" beam x 11' 7" hold = 97 77/100 tons

Then and now tonnage equals taxes so it in the interest of ship-owners to keep the ships tonnage as low as possible. When I worked at Appledore shipbuilders, for many years ships that went over certain tonnage levels came into different classes of things such as safety and manning. Many of the ships built in the 1970/1980's had a gross tonnage of either 499 tons, 999

tons or 1599 tons despite the fact that they came in all shapes and sizes. A major adjustment(blatant fiddle?) to the formula came with a series of four bulk carriers commencing with the LESLIE GAULT of 1977 being 1592 gross tons, 1240 net tons and 3256 tons deadweight when built; at the end of her working life the tonnage had been altered (corrected?) to 1991 gross tons , 1119 net tons and 3285 tons deadweight. The cargo holds were of single skin construction and inside the hold the ships frames were visible with the deepest of the frames being about 900mm deep. To minimise the hold size timber battens were fixed along the face of the deepest frames and it was to these battens that cargo capacity was measured. After the Lloyds surveyor had finished all the battens and welded fixings were removed and the hold repainted. This now increased the hold width by about 1800mm, multiplied by the height and length of the hold making an actual capacity of many tons more than registered, but it was all legal at the time although I believe things have now changed

Michael Guegan

Editors Comments:-

Michael had explained to me before he wrote this article that the means by which tonnage is calculated is extremely complex and not easily understood. He wasn't joking, was he?

A comprehensive description of ship's riggings, nomenclature and tonnage calculations can be found in

'Shipbuilding in North Devon' by Graham Farr

Maritime Museum Publication No 22 1976

AW

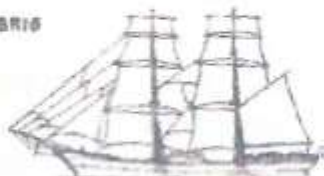
BARQUE



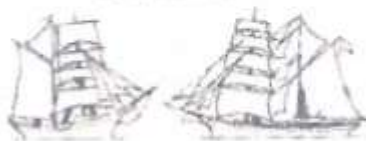
BARQUENTINES



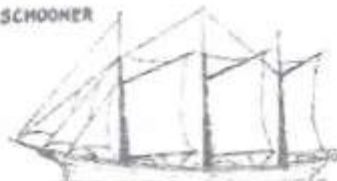
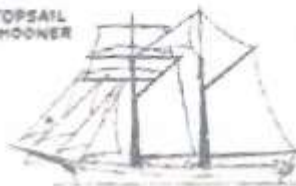
BRIG



BRIGANTINES



SCHOONER

TOPSAIL
SCHOONERSHIP
FULL RIGGER

LUGGER

CHASSE
MARÉE

CUTTER



SMACK



SLOOP



To further confuse the issue of ship's description and tonnage ratings, riggings were also often changed. In different accounts the **Sedwell Jane** is referred to as a Brigantine, a Schooner and as a Barquentine!

AW

A SHARK BECOMES A *FROG?*

Past visitors to Sea Lock have been intrigued by the bizarre design of the weed cutting launch there which I acquired a few years ago. This vessel was bought from a gentleman residing in Bude who had spent considerable time in restoring it but for various reasons had allowed it to fall into a poor state of repair and could no longer keep it.

Following its delivery to Sea Lock, Trevor Fordham and Norman Richards set about removing the 10 horse power, 4 cylinder, petrol driven Ford engine and mounting on a bench in the shed where they stripped it down. After a period of frustration and dogged persistence they managed to persuade the ancient engine to fire up and run easily and smoothly.

In the meantime, John Gordon was devoting his spare time and attention to cutting out large sections of the hull of the vessel which was suffering badly from rust. To facilitate this work the boat had to be lifted and turned on its side, a slightly precarious operation but safely achieved. Having welded new sheets of steel back on the floor, a coat of paint was applied, the boat turned to its right way up and the engine reinstated.

A lull in activity on the weed boat followed due work being undertaken on other jobs.

The boat was built in 1954 by Howard & Dennis Ltd of Bedford under the name of '*The Crossley Water Weed Cutting Launch, for clearing rivers, canals, lakes, fens etc., of the rankest weed growths with remarkable speed and at trifling cost.*'

This wonderful piece of engineering, which might well have been designed by Heath Robison, is paddle driven and relies on the scything action of a fearsome pair of 4 feet long, double

edged, serrated blades working under water to a maximum depth of 6 feet. A number of these vessels, each affectionately known as 'Jaws,' were built and a fully restored model is on display at the Ellesmere Boat Museum, near Liverpool.

A day or two ago, being at a loose end, Barry Hughes arrived at Sea Lock and volunteered to give my weed boat a coat of paint. I had previously bought a tin of green enamel so Barry set to and soon had most of the primed metalwork covered. Trevor, in his usual quiet manner, promptly renamed the launch 'Kermit'.



At the moment 'Kermit' is short of the plate which holds the blades in place. Another friend is in the process of fabricating this missing piece but there is one thing for sure that once 'Kermit' has his blades attached he will truly be a frog with ATTITUDE!

Thanks to the Ellesmere Boat Museum, I have been provided with considerable information about these launches. Of particular interest is the advertising brochure extolling the virtues of the vessel and the list of clients to whom launches had

been supplied. I have to say that I found it quite amusing and unashamedly copy it here:

The Crossely Water Weed Cutting Launches have been supplied amongst others to:-

<i>His Majesty the King of Spain.</i>	<i>Palace Royal, Madrid,</i>
<i>His Grace the Duke of Bedford,</i>	<i>Woburn Abbey,</i>
<i>His Grace the Duke of Marlborough,</i>	<i>lenheim Palace,</i>
<i>His Grace the Duke of Portland,</i>	<i>Welbeck Abbey,</i>
<i>The Right Hon. Earl Manvers,</i>	
<i>The Right Hon. the Earl of Home,</i>	
<i>The Right Hon. the Earl of Warwick,</i>	
<i>The Trentham Estate,</i>	<i>Stoke-on-Trent,</i>
<i>Wickstead Village Trust,</i>	<i>ettering,</i>
<i>The Right Hon. the Earl of Radnor,</i>	<i>With repeat orders,</i>
<i>Sir William Houldsworth,</i>	<i>Bart,</i>
<i>Baroness Lehn,</i>	
<i>Sir Swinfen Eady,</i>	
<i>Countess Holnstein,</i>	<i>Bavaria,</i>
<i>Lady Muriel Parsons,</i>	
<i>The Demarara Water Conservancy,</i>	
<i>The Lake Copais Co,</i>	<i>Greece,</i>
<i>The Egyptian Government</i>	<i>With many repeat orders,</i>
<i>F.A. Konig Esq.,</i>	<i>Tyringham Estate, Newport Pagnell,</i>
<i>The Government of Mysore</i>	

The Municipality of Bombay

The Crown Agents,

*The Christchurch Drainage Board,
repeat orders*

The Corporations of Melbourne & Ballard,

Toronto,

Bedford,

Thos, Cook & Son,

W. Neilson, Esq.,

The Clerks to the River,

Grand Junction Canal,

Whitehall,

New Zealand With many

Australia,

Canada,

England,

Leven Trustees, Fifeshire,

England,

CROSSELY BROTHERS LTD.,

Elstow Works, Bedford, England

Telephone Bedford 788

Telegrams: Crossely, Bedford.



Editor's comment:-

I wondered if my name could now be added to this prestigious list? Unfortunately Crossely's won't answer their telephone calls.

Picture left

Trevor Fordham holding one of the blades of the weed cutting launch and looking somewhat apprehensive!



The RC&NDWS always welcomes volunteers who are prepared to help with a wide variety of 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:

BIDEFORD



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

All other enquiries to the Chair --
Adrian Wills tel. 01237 477705

info@therollecanal.co.uk

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