

THE SEVERN TROW: and the upper reaches of the Severn. On a recent walk, which I had done several times before. Leaving The Boat Inn on the river bank at Chepstow, crossing the bridge over the Wye built in 1817, just below the castle. Then, up and over the hill past the ancient watchtower and down through the nature reserve below Wintour's leap, the trail takes you once more down to the waters edge. There, half way up the bank beneath old quarry workings, lies the remains of a Severn Trow, with part of the main deck and its manual capstan still in position.

I had wondered why this vessel had finished its days in this now remote place close to a derelict chapel from the Norman period. The same day, I picked up a book on the Severn bore, which gave me an insight to the river traffic in this area. The Trows were operated up and down the Severn from Ironbridge to Ilfracombe, carrying coal, iron ore, stone and general cargoes. To get some of the atmosphere today, visit The Severn Trow a pub in the Welsh Backs in Bristol. [That's if you can drag yourself away from the Duke over the road]

The Trows used only sail power with an occasional assist of the oar, manned by two men and a boy. They had a capacity of 40 to 50 tons, shallow drafted rigged, with a gaff main, two jibs and a topsail. The boom being used for loading and unloading in the more remote places. The best place to see the remains of the Trow fleet is at Sharpness, as I mentioned in a previous article about wrecks. The reason for the aforementioned trow where it is and still recognizable, in spite of being covered by two tides a day, is that it was abandoned there just before the second world war, as it had been used as a dumb barge, transporting stone for the reinforcement of the river banks up stream from Sharpness.

It has often fascinated me looking down from the Severn crossing, that the upper reaches of the Severn could be navigated by powered vessels, never mind vessels entirely dependent on sail. It was not until 1999 when I made a trip up to Gloucester under power that I got some feel for that stretch of water. Of course I did the easy route only going as far as Sharpness and taking the canal built in 1827 the 16 mls to Gloucester.

So how did the sailing ships from the time of Elizabeth I manage to navigate up and back? The answer lies with accurate tide tables and a close check on the time. Timing was everything and keeping to the channels of course. It is necessary to leave Sharpness 40 mins before high water and ride the top of the tide all the way up to Gloucester arriving on the same tide.

The fascinating thing is that 40 mins behind you, the tide is on the ebb. As is 40mins ahead, but in between, you are on the flood building up to the bore which you don't want to get ahead of. The reverse journey is much more problematical, for a high tide at Gloucester means 2 hours after at Sharpness, so to get down to Sharpness, required up to 4 tides and this was only possible 2 weeks in every month using spring tides.

Even on spring tides, it is necessary to pull into the bank on the inside bend to escape the worst of the next bore. Navigation was made with favourable winds or the aid of oarsmen in Severn punts some of which can still be seen at Purton. 12.2004 JOHN WOOD.

PORT HOLE: The word "port hole" originated during the reign of Henry VI of England (1485). King Henry insisted on mounting guns too large for his ship and the traditional methods of securing these weapons on the forecastle and aft castle could not be used. A shipbuilder named James Baker was commissioned to solve the problem. He put small doors in the side of the ship and mounted the cannon inside the ship. These doors protected the cannon from weather and were opened when the cannon were to be used. The French word for "door" is "porte" which was later Anglicised to "port" and later went on to mean any opening in the ship's side, whether for cannon or not.

SKUTTLIBUT: The origin of the word "scuttlebutt," which is nautical parlance for a rumour, comes from a combination of "scuttle" — to make a hole in the ship's hull and thereby causing her to sink — and "butt" — a cask or hogshead used in the days of wooden ships to hold drinking water. The cask from which the ship's crew took their drinking water — like a water fountain — was the "scuttlebutt". Even in today's Navy a drinking fountain is referred to as such. But, since the crew used to congregate around the "scuttlebutt", that is where the rumours about the ship or voyage would begin. Thus, then and now, rumours are talk from the "scuttlebutt" or just Scuttlebutt.

BULWARK: Planking round the edge of the upper deck which stops the sea washing over the decks and prevents members of the crew being swept overboard in high seas.

STRIKE: To lower or let down a flag, sail, yard or topmast. Also applied to lowering the colours as a token of surrender to an enemy. In navigation to run ashore, or touch bottom when passing over a bank or shallow.

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FIVE POUND NOTES: It used to be said that owning and sailing an ocean racer is like standing under a cold shower and tearing up five pound notes. That still may apply - except that the notes will be of a larger denomination!

WANTED: Solar panel, suitable for charging 80 ah lead acid battery please call Mobile 07816 337904.

FEEDING GALE: A storm on the increase.

GONDOLA: hammock.

Why not visit the Club web site at www.cbyc.co.uk

FLYING FIFTEENS: Happy New Year to the Flying Fifteen sailors. I was unable to contribute this column to last months edition, so here is a brief summary of 2004 for the CBYC flying fifteens.

Various boats changed hands; Paul Taylor brought Julian Beeres boat, which has now been tuned up by Ivan Coryn. We welcomed several new people into the fleet Mike O'Halloran who has brought *Fuzzy Duck*. Jayson Harrison who brought Mark Williams boat *Chosen Slave* and has done a great job in refurbishing it, it is now one the slickest looking boats in the compound, and he has been out racing regularly. We also welcomed Mark Warilow and Andy Hall who both have brought two Silver class fifteens into the compound. We said good-bye to Stuart and Jen Jones (hopefully temporarily) as they sold *Squall* to Tim and myself. It is good that such clearly competitive boat stays at CBYC although the new incumbents may not have the competitive edge that Stuart and Jen had!

The number of boats in the compound currently stands at 18, with seven out regularly and another five that come out occasionally. There are six boats that are never used. With all this activity, I am optimistic that we will see some good fifteen racing in 2005, if we can build a core of six or more boats taking part regularly then we would be able to have our own starts.

One of the highlights of the year was when five CBYC boats went to the nationals in Abersoch. They were: Stuart and Jen Jones, Mike Jones and Tomo, Steph and Winston, Ian Horton and Mark and Duncan and Bill Turton. Stuart and Jen won the event with two races to spare- a great way to finish flying fifteen sailing. Mike Jones came sixth and Steph seventh. With Ian and Duncan fighting it out for wooden spoons. We all had a great time, learnt a lot from the experience and it has introduced a new vigour and competitiveness into our sailing. There should be an even better turn out from CBYC at the nationals at Poole next year.

Other highlights: the race training day organised by Helen Philips, which if there is interest we could organise again. Perhaps also a special mention to Brian Pingel who won a prize in the summer series, and (shock horror!) has brought new (to him) set of sails and is threatening to polish his boat!

Dates for your diary next year; Flying fifteen Sunday lunch (Sunday 16th January, 12:30), the Dinghy Dinner 29th January, the frost bite series start 6th Feb, we have the Cardiff Classic date set 25-26th June, hopefully several of us will make it to the Llangorse open 2-3rd July and the nationals at Poole (31st July-5th August). We are going to organise a flying fifteen excursion beyond the barrier, perhaps to flat Holm and back, the date for this is yet to be decided but we can discuss this at the lunch in January. So a good year is in store for the Cardiff Flying Fifteens. Duncan Baird. Fleet Captain. duncan.baird2@ntlworld.com

NOTICE BOARD (IN FOYER): For Crew or boats wanted & etc. Please kindly limit your notice's to postcard size (A6).

WELCOME TO NEW MEMBERS: I would like to extend a very warm welcome to the following new members who joined during November and December 2004 and to wish them all a successful 2005.

John Watts, Terry and Ida Houghton, Robert and Linda Chatwin, David Turner, Richard Jennings, Angharad Pocock, Tony and Sara Wakefield, Michael and Anne Swain, Wayne Cook and Katherine Scarpato, Michael Jones and Julie Morgan, Terence James Beecham and Jessica Billings Wakerley, Robert and Rosemary Freese, Lloyd Edwards (Junior), Alex Becu-Steinson (Junior), Richard Elmes and Jayne Elrayes, Norman Gettings and Louise Wilson and Chris Keatley

Whilst writing if there are any members out there, either newly recruited or existing, who have any queries or questions for me please get in touch. I can be contacted by email or if you would like to talk to a human being !! please contact me at home.

Happy sailing, motor boating, fishing and drinking to you all! Jane Hall
Membership Secretary.

CROW'S NEST: The raven, or crow, was an essential part of the Vikings' navigation equipment. These land-lubbing birds were carried on board to help the ship's navigator determine where the closest land lay when weather prevented sighting the shore. In cases of poor visibility, a crow was released and the navigator plotted a course corresponding to the bird's flight path because the crow invariably headed towards land. The Norsemen carried the birds in a cage secured to the top of the mast. Later on, as ships grew and the lookout stood his watch in a tub located high on the main mast, the name "crow's nest" was given to this tub. While today's Navy still uses lookouts in addition to radars, etc., the crow's nest is a thing of the past.

PASSAGE: Plan any passage, long or short, with consideration of the weather and of the crew's strength and ability. A trip that a strong crew can take in their stride can be too much for an inexperienced crew. Tiredness and seasickness can soon bring on an inability to cope. Ask any lifeboat coxswain.

SURGERIES: The Commodore holds a surgery on the last Thursday evening of each month at 20.30 for members who have a query on any aspect of Club business or policy.

WIND: Wind from the East, ten days at least.

RAIN: If the wind is north-east, three days without rain.

THE TABLECLOTH: The brand new pastor and his wife, newly assigned to their first ministry, to reopen a church in suburban Brooklyn, arrived in early October excited about their opportunities. When they saw their church, it was very run down and needed much work. They set a goal to have everything done in time to have their first service on Christmas Eve. They worked hard, repairing pews, plastering walls, painting, etc., and on DEC 18 were ahead of schedule and just about finished. On DEC 19 a terrible tempest - a driving rainstorm -- hit the area and lasted for two days.

On the 21st, the pastor went over to the church. His heart sank when he saw that the roof had leaked, causing a large area of plaster about 20 feet by 8 feet, beginning about head high, to fall off the front wall of the sanctuary, just behind the pulpit. The pastor cleaned up the mess on the floor, and not knowing what else to do but postpone the Christmas Eve service, headed home.

On the way he noticed that a local business was having a flea market type sale for charity so he stopped in. One of the items was a beautiful, handmade, ivory colored, crocheted tablecloth with exquisite work, fine colours and a Cross embroidered right in the centre. It was just the right size to cover up the hole in the front wall. He bought it and headed back to the church.

By this time it had started to snow. An older woman running from the opposite direction was trying to catch the bus. She missed it. The pastor invited her to wait in the warm church for the next bus 45 minutes later. She sat in a pew and paid no attention to the pastor while he got a ladder, hangers, etc., to put up the tablecloth as a wall tapestry. The pastor could hardly believe how beautiful it looked and it covered up the entire problem area.

Then he noticed the woman walking down the centre aisle. Her face was like a sheet "Pastor," she asked, "where did you get that tablecloth" The pastor explained. The woman asked him to check the lower right corner to see if the initials, EBG were crocheted into it there. They were. These were the initials of the woman, and she had made this tablecloth 35 years before, in Austria.

The woman could hardly believe it as the pastor told how he had just gotten the Tablecloth. The woman explained that before the war she and her husband were well-to-do people in Austria. When the Nazis came, she was forced to leave. Her husband was going to follow her the next week. She was captured, sent to prison and never saw her husband or her home again. The pastor wanted to give her the tablecloth; but she made the pastor keep it for the church.

The pastor insisted on driving her home, which was the least he could do. She lived on the other side of Staten Island and was only in Brooklyn for the day for a housecleaning job. What a wonderful service they had on Christmas Eve. The church was almost full. The music and the spirit were great. At the end of the service, the pastor and his wife greeted everyone at the door and many said that they would return. One older man, whom the pastor recognized from the neighbourhood, continued to sit in one of the pews and stare, and the pastor wondered why he wasn't leaving.

The man asked him where he got the tablecloth on the front wall because it was identical to one that his wife had made years ago when they lived in Austria before the war and how could there be two tablecloths so much alike. He told the pastor how the Nazis came, how he forced his wife to flee for her safety, and he was supposed to follow her, but he was arrested and put in a prison. He never saw his wife or his home again all the 35 years in between.

The pastor asked him if he would allow him to take him for a little ride. They drove to Staten Island and to the same house where the pastor had taken the woman three days earlier.

He helped the man climb the three flights of stairs to the woman's apartment, knocked on the door and he saw the greatest Christmas reunion he could ever imagine. Who says God does not work in mysterious ways? True Story - submitted by Pastor Rob Reid. (A.S.)

TRINITY HOUSE: Association established by Henry VIII to oversee the construction of Royal Navy ships, its later duties being the maintenance of navigational aids. such as lighthouses, and the supervision of pilots. Its managing board, known as the Elder Brethren, are elected, two from the Navy and eleven from the merchant service, and act as advisers and assessors in Admiralty courts. Other members of the House are known as the Younger Brethren. T.D.

DOUBLING THE ANGLE ON THE BOW: In a running fix, if the second angle is double the first angle taken then the distance of the ship from the object at the second bearing is equal to the distance run between the two bearings.

JOKE: Morris, an 82 year-old man, went to the doctor to get a physical. A few days later the doctor saw Morris walking down the street with a gorgeous young lady on his arm. A couple of days later the doctor spoke to Morris and said, "You're really doing great, aren't you?" Morris replied, "Just doing what you said, Doc: 'Get a hot mamma and be cheerful.'" [What did the doctor tell him?]

DID YOU KNOW: there is a mobile marine service available for repairs on GRP, painting, interiors, laminated tillers, equipment installation, hull fittings, anti-fouling, power washing, Taylor heaters, cookers, deck fittings. Yacht deliveries undertaken. Mechanical servicing and repairs. winter lay-ups, full range of mechanical diagnostics and repairs please call Dave on 07855 030146.

Please Remember the Club Restaurant Winter Opening Times

Thursday Evenings, Saturday Lunchtimes, Sunday Lunchtimes.

Why not enjoy a meal at Your Club!

Please return your trolley to the area near the skip when you have finished with it.

LIBRARY: Donations of nautical books (no periodicals please) for the Club library would be most welcome, please place them in the downstairs bar. Readers please be aware that information contained in these books is likely to be out of date, always use current Admiralty publications for navigation and reference purposes. Many thanks go to all the members who have donated books to the Club library, usually anonymously, your contributions are much appreciated... Tony Davies

JOKE: A man was telling his neighbour, "I just bought a new hearing aid. It cost me four thousand pounds and it's state of the art. It's perfect..." "Really" answered the neighbour. "What kind is it?"... "Twelve thirty."

WELL FOUND: Well equipped and well supplied with food, stores, grog, spare sails and other necessities

OPTIMISTS & PESSIMISTS: The difference between an optimist and a pessimist is that the pessimist is better informed.

FOR SALE: 23ft Catamaran (Hirondelle) 5 berth, Furling fore sail, Roller main, 10 hp mariner engine, Good condition, £5,000 o.n.o. For Quick Sale Tel John 02920 229646

YEAR BOOK: The 2005-2006 handbook is in progress, if you have any ideas for it's improvement, an amendment from this years edition or a photograph suitable for the front cover please contact...Tony Davies... tony@designbyrelish.co.uk

ARROWSMITHS TIDE TABLES: A limited number of Arrowsmiths tide tables are available on a first come first served basis, £4.00 each. Please contact: Tony Davies 16 St. Winifred's Close, Dinas Powis, Vale of Glamorgan, CF64 4TT - 029 2051 5376, Mobile 07816 337904 E-Mail: tony@designbyrelish.co.uk

SOME NAUTICAL TERMS IN COMMON USEAGE:
FOOTLOOSE is the bottom part of a sail, when, if it is not sheeted correctly it dances randomly in the wind.
OVERBEARING to sail downwind at another ship thus "stealing" or diverting the wind from her sails.
UNDER THE WEATHER If a crewman is standing watch on the weather side of the bow he will be subject to a constant beating of the sea and he will be under the weather.
GIVE SOMEONE A WIDE BERTH To anchor a ship far enough away from another ship so that they did not hit each other when they swung with the wind.
NO GREAT SHAKES When casks became empty they were "shaken" (taken apart) so that the pieces, called shakes could be stowed in a small space.
TOUCH AND GO This referred to a ships keel touching the bottom and getting right off again.
GO WITH THE FLOW sailing with the current in your favour.

ALFRED LORD TENNYSON:

Sunset and evening star,
And one clear call for me!
And may there be no moaning of the bar,
When I put out to sea,
But such a tide as moving seems asleep,
Too full for sound and foam,
When that which drew from out the boundless deep
Turns again home.
Twilight and evening bell,
And after that the dark!
And may there be no sadness of farewell,
When I embark;
For though from out our bourne of Time and Place
The flood may bear me far,
I hope to see my Pilot face to face
When I have crossed the bar.

HEAVENLY BODY: or celestial body.
Any body on the celestial sphere — star, sun, moon, planet or comet.

BEARINGS: Direction relative to the ship Relative bearings. Though for navigation the seaman usually uses compass bearings to indicate direction. For day-to-day purposes he more often uses relative bearings based on the ship's fore-and-aft line. There are eight principal directions (each separated by four points): ahead, starboard bow, starboard beam, starboard quarter, astern, larboard bow, larboard beam and larboard quarter. For greater precision, these can be qualified by saying: right astern; fine on the larboard bow; broad on the starboard quarter; abaft the starboard beam, before the larboard beam and so on. For greater precision still, the basic directions can be qualified by points: for example, 2 points [22°] before the larboard beam, or 3 points [33°] on the starboard bow. The use of degrees instead of points to indicate relative bearings is a comparatively modern innovation. (Note: From the 1840s, 'port' would have been used instead of 'larboard'.)

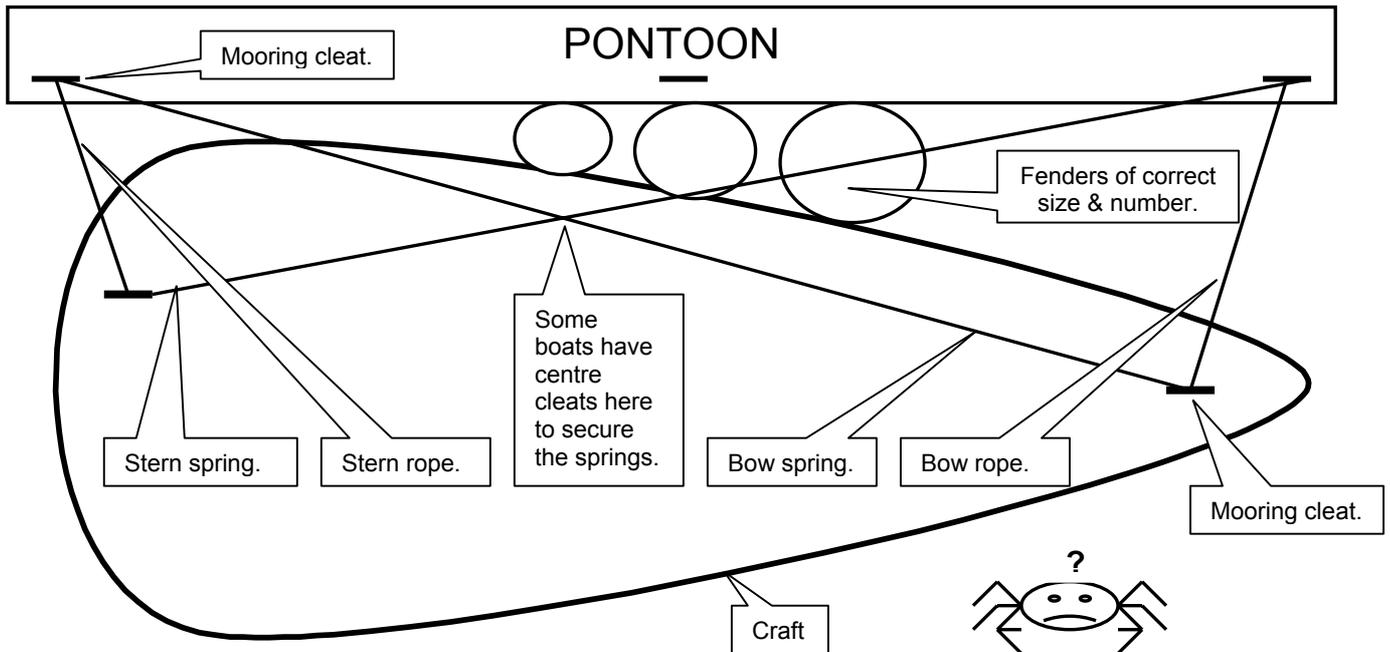
WEB SITE: Dave Cairncross administers the Club Website and he has asked to request that all sections send him details of their coming events.... This holds true for the Bear Essentials also. We are both hungry for content. The Council of Management minutes and reports can now be read on the Club web site and on the Club notice board; they will be posted after they have been ratified by the Council of Management i.e. a month after the C.O.M. meeting.

RUNNING FIX: When the position lines are not obtained more or less simultaneously, an allowance has to be made for the ship's run between observations. The position line on which this allowance has been made, is a transferred position line. Special cases of running fixes are doubling the angle on the bow and four-point bearing.

Bear Essentials: is the newsletter of the Cardiff Bay Yacht Club, it is produced monthly and is entirely dependent on articles contributed by members. Thanks go to the members who supply regular copy, it would be impossible to produce without your contributions. My ultimate goal is to obtain monthly copy from every section of the Club. The deadline is strictly the end of each month, if you have an article, anecdote, item for sale or wanted etc. please e-mail it to the editor... Tony Davies: tony@designbyrelish.co.uk

BRIDLE: length of rope or chain secured at each end.

TO HITCH: to make fast a rope.



A guide for mooring to a pontoon.

Please make sure your lines are of a size adequate for the weight of your vessel and are made of the correct material... nylon is best, terylene is also ok, polypropylene is no good (the blue stuff, sometimes it's white).

PONTOON MOORING: above is a diagram showing how to tie up to a pontoon, the most important lines are the "springs". These should be as long as possible, to absorb any shock from the wash from passing craft or strong gusting winds. The "bow" and "stern" lines are there to keep the vessel in position along-side and in line with the pontoon, ensuring the craft is correctly positioned with regard to the fenders. Tip: If you make loops on the end of the line that fits over the boats cleat (either by splicing or bowlines) all you have to do is throw off the lines when you leave the berth, then when you return they will be of exactly the right length, it saves having to adjust them every time you come in... simple really. If you require further advice, I am sure Barrie Metcalf, the Marina Manager, or one of the assistant berthing masters will be only too willing to help... Tony Davies.

COMPULSORY REPORTING OF ACCIDENTS AND INCIDENTS ABANDONED: The MCA published for consultation, at the end of last week, a draft Statutory Instrument to come into effect in May 2005, which deletes the obligation introduced last September for skippers of 'recreational craft under 45 metres' to report accidents and incidents to the Coast Guard. The background to this issue was covered in my circular to you of 30 October.

The firm position taken by the RYA against the new regulation was undoubtedly a main cause of the change of mind by the Government, and we have every reason to be grateful for RYA's efforts. Without the RYA there would probably have been no change. There are some consequential aspects that remain and the RYA is continuing to deal with these. The RYA rightly points out, however, that it is important for the yachting community to remain on excellent terms with the MCA and other authorities and this particular issue must not be allowed to create any adversarial impression.

The MCA does say in its consultation letter: "owners, operators and those in charge of any craft are reminded that the MCA strongly recommends a report to be made if the safety of the craft is, or is likely to be affected and that persons in charge of recreational craft should report an incident to HM Coastguard, irrespective of any legal requirement to do so, to enable the effective deployment of search and rescue and anti-pollution resources if necessary." Voluntary reporting of accidents and incidents via the Marine Accident Investigation Branch (MAIB), the Confidential Hazardous Incident Reporting Scheme (CHIRP) and the Nautical Institute's MARS scheme also remains important, as noted in my circular of 12 April 2004 to CYCC members. DAVID DARBYSHIRE

WESTERLIES: Area where the prevailing winds are westerly, though they are not permanent in the same way as the trade winds. The constant passage of depressions from west to east causes winds to vary greatly in direction and strength, with frequent gales, especially in the Southern Ocean, which has the Roaring Forties.

HULL SPEED: Here's an attempt to explain these things in layman terms... A boat displaces its own weight in water. When the boat is moving, it must push that much water out of the way as it goes forward. Since a heavy boat has to push more water out of the way, it makes bigger waves. (As a boat moves faster it has to push aside more water in less time, so that makes the waves bigger too.) Each boat creates a bow wave and a stern wave. When a boat reaches "hull speed" the bow and stern waves coincide to make one huge wave system. A heavy boat gets trapped in its own wave system. (For a 20-foot boat, hull speed is about 6 knots. For a 30 foot boat, hull speed is about 7.3 knots.) The best example of this is a tugboat. Tugboats are very heavy, since they have huge engines for shoving ships around; and when they are not shoving a ship, they are racing as fast as they can to the next job. That's why you see them with a huge bow wave, a huge stern wave, and a deep wave trough in between. In spite of their enormous horsepower, they can't break loose from the trap of their own wave system. They dig a big hole in the water, and can't climb out of it. (Well, not with the prop they need to do work, anyway.)

A light displacement boat such as a dinghy, a ULDB, or a multihull doesn't have so much water to move out of the way - so they make smaller waves. When they reach the speed that would be hull speed for a heavy boat the wave system is not big enough to trap them. They are able to exceed the "speed limit" where bow and stern waves coincide. A planing hull actually climbs up its own bow wave and is lifted partially out of the water. Obviously, ocean waves affect a light boat more strongly, since the weight of the wave is bigger, compared to the weight of the boat. Consequently light boats surf more readily; but are often slowed down more when going against the waves. The upwind loss is diminished though, because light boats tend to be narrower and more manoeuvrable. Therefore, they can sometimes slither through and around waves a bit better at the hand of a skilled helmsman.

Ah, and here's a more kayak-scale perspective: like prismatic coefficient, which is a much-loved phrase used by pundits and paddling "experts". "This boat has a high hull speed." (Few ever have a "low" hull speed) or "We were paddling at hull speed." are commonly used to imply that "hull speed" is a limit to displacement speeds and bloody fast at that. The more daring suggest that planing lies just the other side of the magic number. You know better, or will when you finish reading this. The great pioneer of hydrodynamics, William Froude, coined the phrase "hull speed" when he discovered that extraordinary amounts of power were needed to propel the ships he was testing any faster than in knots. It was, for him, a practical but not an absolute limit. The speed corresponds to the speed of a wave having the same length as the effective waterline length of the hull. To see why the resistance grew so rapidly we must first know that there are two major types of waves formed by a boat - transverse and diagonal. We can ignore the diagonal waves that have only minor impact on resistance and concentrate on the transverse system.

At this point things get a bit more complicated, because transverse waves are created at the bow and at the stern. As boat speed increases so do the wave lengths created and at some point the length of the bow wave will match the length of the boat and its crest will coincide with the first crest of the stern wave. When two waves coincide in this manner their heights are additive and resistance increases accordingly. Since wave size is a function of displacement, heavy boats make big waves and light boats make small ones. Additionally, the longer the boat, the faster it can go before the two waves coincide. Hence the common wisdom that long boats are "faster" than short boats, which is perfectly true to a point. The "point" is that small light boats make such small waves that they are easily driven beyond "hull speed". Long light boats have a higher wetted surface that offsets the reduction in wave making resistance.

You will recall that the bow wave lengthens with increased speed. Suppose you have enough power to get the bow wave crest aft of the stern. If you can, an interesting thing happens. The trough of the bow wave coincides with the crest of the stern wave and begins to cancel it out. The result is reduced wave making resistance. Once past "hull speed" wave making resistance increases very slowly and, can even drop, while frictional resistance continues to increase. Since a shorter boat has less wetted surface than longer version it is apparent that there are times when a shorter boat is faster. An interesting phenomenon is the change in trim as speed increases. As the trough of the bow wave moves aft, the stern sinks into the hole and the bow rises. Some writers have said that it is this "hill" of water that the boat must climb and attribute the "hill" to the increased resistance. A little common sense will clear this up. How do you climb a wave that is being constantly created by the bow? As fast as you climb it a new one is being created in front of you. One can just as easily lift oneself by his own boot straps.

Some eighty years ago Admiral Taylor the great naval architect explained that the change of trim, was a symptom of speed, not an obstacle. Few kayak designers have read Taylor's classic textbook on naval architecture, "Speed and Power of Ships" and can be forgiven for not knowing this important fact. So what happens if the boat does start to level off? Isn't that planing? Regrettably, not always. For a boat to plane its centre of gravity must lift bodily from the effect of dynamic forces on the bottom. It takes an enormous amount of power to do this (Imagine lifting a weight equal to yourself and the boat and then imagine how difficult it is to do it by paddling!). No one has yet demonstrated planing in a canoe or kayak despite the claims.

Any reduction in resistance at high speeds is due to wave cancellation and not wave size reduction due to the reduced displacement that accompanies planing. So, why did Froude screw things up with his "hull Speed" business? Well, he didn't. At least not for people who read the fine print. What Froude said was that wave making resistance increased rapidly as hull speed was approached. He did not say that hull speed was the limit to displacement speeds. He just didn't have the power or light construction we have today to make it an issue (nor was he much concerned about the resistance of native kayaks) Today modern ships, kayaks, and canoes are light enough or have enough power to easily surpass hull speed. In fact, we regularly test sea kayaks at S/L 1.5 and sprint kayaks and canoes can top S/L 2.0.

So how should we use the term "hull speed" when speaking Boat? That's easy. We shouldn't. And, when others do, just point out that "hull speed" is a term of convenience referring to the speed at which the bow wave length and boat length are the same and that it doesn't have any real significance for boats of low displacement length ratios like kayaks. I have also heard that when a boat gets very slender, it moves the water aside so slowly that no significant waves are produced. The trade-off is that the long shape has more surface area and drag per pound of buoyancy, so you don't want any more length than you need to keep the hull speed number up. The bit about "prismatic coefficient" pertains to the abruptness of the bow and stern. A relatively blunt hull will do its wave making closer to the ends, gaining a bit of hull speed, but possibly losing, to form drag and turbulence if this is done too enthusiastically. A rudder, being slender, does not add to hull length for the hull speed calculation. T.D.

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FIRST CRUISE OF A NEW BOAT: "Seascan", a Westerly Discus ketch, is the boat we chose for our retirement sailing. It was the ample accommodation, generous headroom (I am over six foot tall), large galley (I like to cook on board) and hot shower that attracted us, but - how would she sail? Roller reefing on both the main and the jib would, we thought, make sail handling easy. A ketch rig would give an element of flexibility and be easier to handle than one large mainsail.

Our first cruise was to be from Cardiff to Waterford via Oxwich Bay and Milford Haven. The first night we anchored off Penarth, to catch the morning ebb tide. The galley proved up to cooking a decent dinner, and the two separate sleeping cabins meant that the saloon was free from any clutter of bedding. The morning dawned with light wind, we hoisted all three sails and set off at a modest three knots - not bad, we thought. She felt like a proper little ship. The main unfurled easily but looked rather lean with its roachless leech. Just as we were getting into our stride we ran into a windless fog bank off Scar Weather Sands. The GPS suddenly came into its own. We set a waypoint and steered towards it, driven along by our trusty motor. Seascan has radar, but the picture was unclear to our inexperienced eye, so we did not rely on it. As the mist cleared and a strong reaching breeze picked up Seascan became alive, leaping through the chop, her knuckle bow throwing white spray into the air, well clear of the cockpit. The log may not have shown great speed, but it was an exhilarating sail.

Despite its reputation for roly-ness, we had a comfortable night anchored in Oxwich Bay. The only disappointment was finding the fresh water tanks completely dry, due to someone leaving a tap running (a big disadvantage to electric pumping)! Next day the wind was light and on the nose, so we motor-sailed to St Ann's Head. Then the wind strengthened and we enjoyed our best sailing yet, slicing through the water towards Milford Marina. Our new boat seemed to be saying "this is me at my best".

We waited a day for the wind to drop to force 3 to 4, before setting off in the early afternoon. Our course took us between Grassholm and Skomer, and, as the wind was North Easterly, we had to motor. By sundown we could see the lights from the Smalls and Bishop Rock, egging us on, and a school of dolphins inspected us in readiness for our first overnight passage. I tried to devise a passage plan allowing for the tide but in the end adjusted the autohelm every hour to the waypoint heading, we never seemed far from the Rhum line and I now wonder if allowing for the tide is worth the trouble and degree of uncertainty which exists. I was keen to sight the light house off Hook Head (Waterford) before it was obliterated by the approaching dawn so kept the boat speed above 5 knots by motor-sailing. Seascan took the regular crashing of the bow wave in her stride, and down below it was quiet enough for the off watch crew to sleep in peace.

After eleven hours we sighted the Coningbeg light, followed by Hook Head, then the mountain behind Waterford and we arrived off Dunmore East at eight o'clock. This is a good place to wait for the flood that would take us up the wide estuary and then winding river into the heart of Waterford. The pilot book warns of the salmon fishing nets during June and July but nothing prepared us for their near invisibility, or for the indistinct waving of their owners, sitting in small boats to guide us round them. We had to zig-zag round half a dozen of them before we finally arrived at the Waterford city pontoons, and the very pleasant knowledge that we had achieved our first passage. Seascan had done us proud!

The night passage had gone smoothly motorsailing at just over five knots. Through the night, the crashing of the bow wave was distinct, but Seascan took it in her stride and provided a steady platform for sleeping, navigation and enjoying the crossing. The Autohelm was another new experience keeping a steady course and allowing the watch keeper to keep alert without premature tiring. The Waterford city pontoons are convenient for the town but lacks any facilities. It is a good place to leave a boat for a while, with good travel connections. The City has good bars, restaurants and shops. Doolins is famous for Irish folk singing and if you have money burning a hole in your pocket, a visit to see Waterford glass being produced is worthwhile.

The following days provided strong wind forecasts, so all plans to sail to Kinsale were thwarted by lack of time on this, the first of three sailing periods planned. We did manage a trip to Killmore Quay, a delightful small fishing harbour now with a small marina. On leaning down on the pontoon to make fast, I was amazed to meet one of the two very tame harbour seals. No doubt he wanted fresh fish and went off in disgust when I offered bread. Unfortunately, we had to quickly scurry back to Waterford to avoid a force nine gale. Killmore Quay is a must for a return visit.

There are a number of options for travelling back to South Wales, economical flights, Euroline bus or ferries to from Cork or Rosslare. To return to Cardiff at the end of the first trip there is the choice of flying or use the very economical overnight Euroline bus with only one draw back it dumps you off at Cardiff Gate at three thirty in the morning.

To sum up our first sailing trip in our Westerly Discus, we didn't do much pure sailing, but we were very satisfied with the comfort in a range of conditions. You can also use the item below if you want, I quite often see items in yacht magazines which could be commented on in Bear Essentials but not sure if they would be right for a house magazine. For example the introduction of breath tests for boaters etc. Whilst Tony Davies is right; that old yachting magazines don't contain current information. But, thumbing through the February 1999 copy of Yachting Monthly, I came across an article by Eric Hiscock and their passage from New Zealand to British Columbia. This voyage is about 7000 miles and took them across the Pacific from north to south. The part that really made me sit up and take notice was "we planned to make only two stops, Tahiti and Hawaii". Hiscock goes on to comment that the wind will probably be forward of the beam all the way.

It is the matter of fact that the way the article is written, you really have to take your hat off to them, I doubt if anyone let alone a married couple, has matched their days at sea. For the record it took them twenty-seven days to Tahiti, twenty days to Hawaii but he does not say how long it took to reach Victoria, British Columbia. Their account is truly remarkable, there is little mention of the problems of everyday life on such long passages, No moans of boredom, poor food or longing for a bar serving cold beer. They were pooped at one stage and lost a lot of books and charts. A remarkable couple who have left behind a wonderful legacy in their writing and a record of sailing in a not so too distant past. John Taylor