

NABO PILOTAGE NOTES

RIVER SEVERN – SHARPNESS TO BRISTOL

Introduction

The passage from Sharpness to Bristol is markedly unlike normal inland waterways cruising. The Severn Estuary has a large tidal range, over 10.5m at Sharpness and up to 14.8m at Avonmouth during spring tides; and stream velocities can reach up to 8 knots. The river is wide and exposed but the main navigation channel is narrow and tortuous in places. The estuary contains many dangerous rocks and sand banks which are exposed at low water and the waters can quickly become very turbulent and confused, particularly in conditions of wind against tide. The Shoots Channel near the Second Severn Crossing road bridge has a notorious reputation for bad sea conditions which build up very quickly and all vessels must be prepared for adverse conditions anywhere along the route. The boat may be safe but the crew may succumb to sickness or fear and put themselves and the boat in danger.

Having noted the potential dangers, it is perfectly feasible for suitably prepared small boats and narrowboats to make the passage in safety, providing they have a master or persons aboard with relevant experience and recent local knowledge.

Owing to the strength of the tidal streams which may set across the channel when the sand banks are covered, it is essential to pay great attention to steering the vessel, particularly when following the leading lights or when turning from one leading line on to another. Turns on to the charted alignments will need to compensate for tidal set. Take care not to pass navigations marks or buoys too closely as the tidal stream can set your vessel on to them with the distinct danger of collision.

The distance from Sharpness to Avonmouth is approximately 18 nautical miles; with the journey up to Bristol another 6 miles. Passage at neap tides is preferable to high spring tides when currents are at their maximum.

It must be remembered that once you have departed from Sharpness it is not generally possible to turn back because the tide will have turned and be running out. By the time you reach The Shoots channel the tide will have been ebbing for 2 hours or more and the tidal stream will be strong.

Owners intending to make the passage are advised to speak to the personnel at Sharpness, Bristol City Docks, Avonmouth and Portishead to discuss their intentions and seek advice. Better still, take time to visit the sea locks and see them operating at tide times. The experience will be rewarding and it is helpful to view the locks from the land rather than the confines of a small boat in a cavernous lock chamber. If you can, take a look at the lock entrances at low water – you will see what dangers lurk beneath the waves.

Preparing your boat for the passage

- Make a note of the tide times at both ends of the passage – remember to check if the times are GMT or BST
- Inform both ports of your intentions well in advance and check the lock times
- Obtain a weather forecast for the period covering at least 12 hours after departure and consider expected weather conditions and the sea-keeping qualities of your vessel – if in doubt do not venture out
- Inform others about your planned voyage

Clean out fuel tanks before filling them up. Contaminated fuel (especially diesel) is the chief cause of breakdowns at sea. Fuel tanks should be purged to remove sludge and water. Clean out all fuel filters. Any dirt, sludge or water in the fuel tanks will be stirred up when the boat starts to pitch and roll on the open seaway. This can lead to blocked filters and fuel lines – not easy to rectify once you are at sea. If your engine fails the boat will be swept along by the strong currents.

Large high speed diesel engines suffer worst from dirty fuel because they use enormous quantities of fuel when operating at full throttle on the open sea, compared with moderate speeds on inland waters.

Check engine and gearbox – mountings, connections, coolant, cooling water strainers, etc. Top up lubricants.

Seal all low level ventilation openings and engine air intakes. Provide alternative means of ventilation to engine, air supply, etc.

Be prepared to run your engine at 80% full throttle in order to cruise along at 5 or 6 knots minimum. This may mean the engine will run hotter than usual, so keep an eye on the coolant temperature and be prepared to top up with fresh water and/or open ventilation or run domestic hot water to cool the hot water calorifier (where appropriate).

Narrowboats should check their propellers and ensure the weed hatch is secured.

Seal all forward cockpit scuppers.

Close all non-essential seacocks.

Spray sheets or covers will need to be fitted to narrowboat forward cockpits.

Close all opening windows and portholes.
Close all hatches and adjustable ventilators.

Stow all loose gear, ballast, gas bottles, fuel cans, etc.
Take in all loose fenders once clear of locks.

Pack crockery, glasses, etc and wedge cupboard doors shut.
Place TV sets on a firm base and pack with cushions if necessary.

Fill your water tank and fuel tank – the weight will help to stabilise your boat.

Your boat will float up to 100mm higher in salt water compared with its usual fresh water trim. This may affect its handling characteristics and stability.

Insurance

Check that your boat insurance covers you for tidal waters. If in doubt, inform your insurers about your intended passage.

Pilots

For complete peace-of-mind you can engage a qualified pilot. The Amalgamated Gloucester Pilots operate a small boat scheme for craft of 20m overall or less. The charge for one passage from Sharpness to Portishead permits two, or where practicable, three craft (but non more) to be piloted for a single charge. The charge includes the pilot's travelling expenses and also the hire of a portable VHF marine radio set, together with comprehensive and detailed advice and information covering the area of interest.

It should be borne in mind that narrow canal boats will only be piloted in suitable, calm weather conditions and all craft are expected to be properly equipped with lifesaving and navigational gear.

The Duty Pilot can be contacted on mobile phone number 07774 226143 during the hours of 0930 – 1730 Mon – Fri and 0900 – 1200 Sat. A minimum of 24 hours notice is required if you wish to book a pilot.

Essential equipment - checklist

Marine VHF radiotelephone (and / or a portable telephone – but nowhere near as practical). With Marine VHF everyone can hear your messages and you can hear them. You can also call “All Ships” on Channel 16 or make a Mayday SOS call. If your mobile phone breaks down or no one knows your number you will be uncontactable. You can either install a fixed set or use a hand-held radio. You will need to have a Licence for the equipment and an Operator’s Certificate (this requires you to pass an exam – refer to the NABO guidance notes on VHF radio for further details)

Navigation charts (up-to-date)
Tide tables (for the current year)

Compass (fixed ship’s type)
Clock
Binoculars

Camera or camcorder – you will want to remember your first voyage!
A radio with Long Wave and FM to receive Radio 4 shipping weather forecasts

Flares – 2 red hand flares and 2 orange smoke signals as a minimum
Lifejackets for everyone on board (to be worn!)
Lifebuoy with smoke signal or light attached and 30m buoyant line fixed to boat.

Proper navigation lights (for night passages and poor visibility)

Sound signalling device

Torch (with spare batteries)

Tools and engine spares
Spare fuel filter elements

Bilge pump and hand bailer or bucket

Main anchor, with chain and rope. The anchor must be sufficiently heavy to hold the vessel when in up to 17m of water, against a 5 knot tidal stream and in winds up to Force 4 (11-16 knots). Smaller kedge anchor to be used at the stern to enable you to anchor without swinging with the tide. During the passage some time will need to be spent at anchor or aground at low water whilst awaiting the next tide to continue up to the final destination.

Long ropes with large loops in end for use in deep locks and for towing. Ropes at least 15m long are recommended.

Spare fuel and engine oil

Seasickness tablets

Spare toilet paper – you may need it!

Desirable equipment - checklist

Auxiliary engine

Speedometer / log

Depth sounder

GPS (global positioning system)

Hand-bearing compass

Barometer

Radar reflector (largest possible)

Signalling lamp

Signal flags

Dinghy – ready for immediate use

Safety harnesses for working on deck

Spare tiller / tiller pin for narrowboats

Optional equipment - checklist

Radar

Loud hailer

Liferaft

Rule of the Road

The tidal waters are subject to the requirements of the International Regulations for Preventing Collisions at Sea, 1972. Obtain a copy, read and understand it.

In general, small craft must keep out of the way of large commercial vessels which are restricted in their ability to manoeuvre – even if they can see you! Unlike rivers, craft do not necessarily pass port to port unless meeting head on. Each vessel will be on its own course and the Col Regs dictate how each shall react and alter course as necessary to avoid collision.

Keep a good lookout ahead and astern at all times.

Navigation charts

You will need up-to-date corrected navigation charts.

Admiralty chart 1166 *River Severn – Avonmouth to Sharpness* is the best one and largest scale (1:25,000). A Small Craft edition (SC1166) is produced specifically for leisure sailors.

Imray chart C59 covers the Severn in less detail as a much smaller scale.

Admiralty chart 5011 *Symbols and Abbreviations used on Admiralty Charts* is a booklet which gives comprehensive explanations of all features of navigation charts for those who are unfamiliar with their format.

Admiralty chart 1859 *Port of Bristol including King Road, River Avon and City Docks* covers the River Avon between Avonmouth and Bristol City Docks.

Boat owners are encouraged to acquire some elementary coastal navigation skills, familiarise themselves with buoyage systems, etc. Distances on a chart can be measured directly by using dividers on the latitude scale on the side margin (1 minute of latitude = 1 nautical mile; 1 degree of latitude = 60 nautical miles).

Navigation marks

The passage relies upon navigation aids provided by the Gloucester Harbour Trustees and the Port of Bristol authorities. These include leading marks and lights and navigation buoys.

The navigation channel is marked at various points by leading marks which must be kept in line to keep on the correct course. The front mark is always lower than the rear mark – steer to follow the front mark in order to keep on the leading line i.e. if the front mark appears to move to the right steer to the right to regain the alignment.

N.B. All courses quoted are TRUE courses. You need to adjust them for magnetic variation and any compass deviation on your boat.

The leading lights are exhibited from a variety of structures including lattice framework towers with white lanterns, stone beacons and towers and posts mounted on white buildings.

The charts indicate these navigation aids but full details of the lights, their characteristics, etc can be found in the official publication Admiralty List of Lights, *Volume A British Isles*, NP74.

Tides

Tidal ranges are highest at or near spring tides (which occur every fortnight) Tidal streams are also at their peak around spring tides. It is therefore advisable to plan a passage during neap tides when currents will be weaker.

You will need to know the tide times at both ends of your intended passage, so obtain a copy of Arrowsmith's Tide Tables for the Bristol Channel. This incorporates additional notes and information to help with the passage. Alternatively, a current nautical almanac for British waters will give the times and heights of high and low water.

Weather

Radio 4 broadcasts daily shipping forecasts at 0048 and 0535 on FM and 198 Long Wave; and at 1201 and 1754 normally only on 198 Long Wave.

Swansea Coastguard transmits weather forecasts at 0005, 0805 and 2005 GMT. The initial announcement is on Ch 16 and then broadcast on Ch 06, 10, 23, 73, 84 or 86.

Listen particularly for sea area Lundy which covers the whole of the Bristol Channel area.

Wind Force 3 is the maximum that should be considered suitable for the passage in a small boat. Good visibility is essential to identify the leading marks and navigation aids.

Communications

Every boat should have a marine VHF radiotelephone or a portable telephone. Preferably both. A marine VHF set has the positive advantage that you can be in immediate direct contact with a port radio station or other vessels. Keep a constant watch on Ch 16 when not using another working frequency.

Portable telephones tend to fall overboard when you need them.

Make sure every shore station knows your vessel's name and your mobile telephone number, if applicable.

Search and Rescue Services

**IN AN EMERGENCY DIAL 999 OR
112 AND ASK FOR THE
COASTGUARD**

**FROM SEA, CALL ANY STATION ON
VHF CHANNEL 16**

**IF THERE IS IMMINENT DANGER TO
YOUR VESSEL OR CREW SEND A
“MAYDAY” MESSAGE ON
CHANNEL 16 USING THE CORRECT
DISTRESS PROCEDURE**

There is no RNLI lifeboat coverage on the Upper Severn estuary.

SARA (Severn Area Rescue Association) operates a voluntary life-saving service in the estuary.

Harbour by-laws

Gloucester Harbour Trustees by-laws impose a speed limit of 12 knots except for vessels navigating in the

main navigation channel during the period of 3 hours either side of high water at Beachley.

Adequate navigation lights complying with Merchant Shipping laws must be displayed between sunset and sunrise and in poor visibility.

Website www.gloucesterharbourtrustees.org.uk

Notices to Mariners

NABO holds copies of all current NMs issued by the Port of Bristol relating to the City Docks.

THE PASSAGE

Sharpness Sea Lock

Passage at night is possible but not recommended to beginners.

Locking out time depends on the time of High Water at Sharpness but is usually about 1 hour before high water. Outbound traffic passes through the sea lock before inbound vessels. Come alongside on the port side of the lock, the attendant will take your bow and stern ropes and pass the ends back to you. Do not secure them to your boat.

Access to the dock area from the Gloucester & Sharpness canal is usually permitted about 2 hours before HW and passage through the two swing bridges must be booked in advance. If HW occurs outside normal working hours you will pass through the bridges at approx 1600 on the afternoon before sailing.

Vessels on the canal intending to pass through the sea lock should contact the Dock Office (Tel 01453 811862) or contact Sharpness Pierhead during operating hours (5 hrs before to 1 hr after HW) Tel 01453 511968 or VHF Ch 13, 16, 09, 74 Working Channel 13 callsign "*Sharpness Radio*".

Docking signals are displayed from the flagstaff at the entrance as follows:

- 2 black balls or 2 red lights = Dock Closed
- 1 black ball or 1 red light = Entrance Not Clear
- One green flag or one green light = Entrance is Clear for large vessels to dock
- One green flag over a black ball or one green light over one red light = You may enter, with small craft docking before large vessels

If no signals exhibited – when entering from seaward proceed with caution, enter outer basin, secure to pontoon and await instructions.

Before leaving, ascertain from the lock attendants what traffic is expected to be coming up the river. You will then know whether you are likely to meet large commercial vessels during your passage.

Small vessels may lie alongside the pontoon in the outer basin to await more favourable tidal conditions near HW, but take care with incoming traffic when departing.

Directions – Sharpness to Bristol

As soon as you leave the shelter of the outer basin you must be prepared for the strong tidal set which could sweep your boat into the open timber pier structure. Be prepared to apply lots of engine power to make headway against the strong current.

On leaving Sharpness lock the first leading line to follow is Berkeley Pill light beacons in line ahead bearing 187°. Maintain this course for approximately 0.7 nm until Fishinghouse leading light beacons bear 217° in line ahead. This leads over Bull Rock, leaving Bull Rock beacon 100m to port. Maintain this course for approximately 1.2 nm. The next leading marks are Conigre light beacons close to the de-commissioned Berkeley nuclear power station, bearing 077° in line astern. A large white square on the wall of one of the

buildings helps to identify the rear mark. Hayward Rock north cardinal beacon should be passed about 100m on its northward side.

Follow this course for approximately 0.75 nm and then turn to the south west to pass Hills Flats buoy at a distance of about 200m on your port side. This will bring you on to the next set of leading marks, the Narlwood light beacons bearing 224° in line ahead.

When the Ledges light float is abeam, turn to starboard and bring White House and Sheperdine leading marks in line astern bearing 070° . Maintain this course for approximately 0.6 nm taking care to counteract the effect of the tidal stream which will tend to set you towards the submerged wall of the tidal reservoir to the south.

Next pick up the Inward Rocks leading lights bearing 252° in line ahead. The rear mark may be partially obscured by trees. Pass Counts north cardinal light float on its northward side and maintain your course until 0.25 nm from the shoreline.

Turn to port to bring Slime Road leading lights in line ahead bearing 210° for a distance of approximately 2.2 nm. The rear mark may be partially obscured by trees. Keep at least 300-400m from the Sedbury cliffs and the shore.

As Slime Road beacons are approached alter course to the south east to pass 200m to the east of Lyde Rock beacon. Then set a course to pass under the centre of the Severn Bridge (suspension bridge carrying the M48), passing to the south of Chapel Rock, and making a course towards Charston Rock beacon.

The white sector of Chapel Rock light beacon astern will lead you towards Charston Rock which should be left approximately 30m to starboard.

There is also a leading line consisting of a light on the new M4 road crossing in line with Lady Bench beacon bearing 234° which guides you to the northern end of The Shoots.

Charston Rock beacon and Redcliffe beacons in line astern bearing 013° leads down The Shoots channel which is marked at its northern end by Lady Bench beacon and Old Man's Head beacon. Steer a course midway between the beacons to pass through the centre navigable span of the Second Severn Crossing road bridge between the two main support columns. The correct course passes obliquely under the bridge which is not at right angles to the navigation channel.

Redcliffe beacons and Charston Rock light in line astern with the centre of the navigable span also leads you down The Shoots.

The southern end of The Shoots is marked by The Mixoms and Lower Shoots beacons.

Avonmouth pier heads in line bearing 184° can be picked up after passing between these lower beacons. At this point you should contact Avonmouth Radio to inform them of your intended movements and ETA. They will advise you on commercial traffic in King Road – the approaches to Avonmouth and Royal Portbury Docks.

The Portbury leading lights in line bearing 193° lead from The Shoots past Avonmouth but may be difficult to identify by day.

Vessels bound for Bristol usually anchor off Portishead to await the next tide or enter the new marina at Portishead. Avonmouth Radio or Portishead marina will advise you. From a position off Avonmouth pass the Cockburn port hand buoy and make for the green Outer starboard hand buoy. Then approach Portishead pier and dock entrance. The anchorage is in line with the entrance between the steps in the timber section and the end of the pier. It dies out about 4m.

Navigation notes

<u>Approximate Distance from Sharpness (Nautical miles)</u>	<u>Feature/ Navigation aid</u>	<u>Chart description</u>	<u>Light characteristic</u>	<u>Information/ pilotage notes</u>
0	Sharpness sea lock			See notes above
	West pierhead	2 F R vertical	Fixed red	2 vertical lights mark end of pier
	East pierhead	2 F G vertical	Fixed green	2 vertical lights mark end of pier
				Beware of tide setting through open pier structure. Current is weaker inshore. Concentrate on steering. Apply engine power to counteract adverse tidal stream. If no other traffic, steer to port and follow shoreline –

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River Severn – Sharpness to Bristol

				current is weaker inshore.
0.7	Panthurst Pill	F Bu	Fixed blue light	“Swinging light” – incoming commercial vessels turn round here up into tide & drop astern to gain steerage way before entering lock. Yellow coloured beacon structure.
	Berkeley Pill	Ldg Lts F G	Fixed green lights	Lights in line ahead bearing 187°
1.3	Bull Rock beacon	Iso 2s	White isophase light every 2 seconds	Leave beacon 100m to PORT when proceeding down river. Outgoing commercial vessels sometimes pass inside Bull Rock to avoid the last of the flood.
1.4	Baffle wall	2 F G	3 beacon structures each with 2 fixed green lights	Leave 200m to PORT when proceeding down river. The outfall baffle wall to the disused power station is 400m long and submerged at HW. Soon to be demolished and removed.
	Fishinghouse leading marks	Ldg Lts F and F R	Fixed white lights	Lights in line ahead bearing 217°. A fixed red sector light is visible from Hayward Rock which it marks.
	Conigre leading marks	Ldg Lts F Bu	Fixed blue lights	Lights in line astern bearing 077°
2.3	Hayward Rock North Cardinal light beacon	Q	Quick flashing white light	North top mark Black top Yellow base Leave to PORT when proceeding down river
4.5	Hills Flats starboard hand	FI G 4s	Flashing green light every 4	Leave green conical buoy to PORT when

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	buoy		seconds	proceeding down river
	Narlwood leading marks	Ldg Lts FI 2s	Flashing white lights every 2 seconds	Lights in line ahead bearing 225° The front mark is located on the wall of the tidal reservoir serving Oldbury power station. The rear mark is inside the reservoir. Keep well clear.
	Sheperdine leading marks	Ldg Lts F	Fixed white lights	Sheperdine and White House lights in line astern bearing 070° Located close to a prominent white building.
5.8	Ledges light float starboard hand mark	FI (3) G 10s	Green light flashes 3 times every 10 seconds	Leave green light float to PORT when proceeding down river
6.8	Counts North cardinal light float	Q	Quick flashing white light	North top mark Black top Yellow base Leave to PORT when proceeding down river
	Inward Rocks leading marks	Ldg Lts F	Fixed white lights	Lights in line ahead bearing 252°
	Sedbury cliffs	2 F R vertical	Fixed red	2 Fixed red lights on a beacon. Keep 300-400m from the red cliffs.
	Slime Road leading marks	Ldg Lts 2 F Bu	Fixed blue lights	Lights in line ahead bearing 210°
10.3	Lyde Rock	Q WR	Quick flashing white and red sectored light	Leave lattice beacon 100m to STARBOARD when proceeding down river and turn to south west towards centre of M4 suspension bridge

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10.7	Severn Road Bridge	Q Bu	Quick flashing blue lights mark centre of span	M48 motorway suspension bridge 36m minimum headroom Pass beneath centre of bridge
11.2	Chapel Rock	FI WRG 2.6s	Red, green & white sectors flashing every 2.6 seconds	Lattice beacon on islet with ruins of chapel. Leave <u> </u> to <u> </u> mile to STARBOARD when proceeding down river. White sector astern leads to next mark (Charston Rock)
	River Wye	2 F Bu (horiz)	2 Fixed blue lights mark centre of bridge over River Wye	Not on direct route 15m minimum headroom under M48 motorway
13.2	Charston Rock lighthouse	FI 3 s	Flashing white light every 3 seconds	White lighthouse with vertical black band on the leading line for the Shoots channel Leave 300m to STARBOARD when proceeding down river
	Redcliffe beacons	F Bu	Fixed blue lights	Leading lights in line with Charston Rock bearing 013° astern leads to The Shoots channel
14	Lady Bench beacon	QR	Quick flashing red light	Red pillar marks north western end of The Shots Leave <u> </u> to STARBOARD when proceeding down river
14	Old Man's Head beacon	V Q (9) 10s	Very quick flashing white light shows 9 flashes every 10 seconds	Yellow & black pillar marks north eastern end of The Shoots Leave to PORT when proceeding down river
14.5	Second Severn Crossing bridge	Q Bu	Quick flashing blue light marks centre of	M4 motorway bridge 37m minimum headroom

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			navigable span	Centre section spans The Shoots channel
15	The Mixoms beacon	Fl (3) R 10s	Red flashing light 3 flashes every 10 seconds	Red pillar marks south western end of The Shoots. Leave to STARBOARD when proceeding down river.
15	Lower Shoots beacon	Q (9) 15s	Quick flashing white light shows 9 flashes every 15 seconds	Yellow & black pillar marks south eastern end of The Shoots. Leave to PORT when proceeding down river.
18	Avonmouth north pierhead	Fl 4s	White light flashes every 4 seconds	Pierheads in line ahead bearing 184° lead through The Shoots
	Avonmouth south pierhead	Oc G 3s	Occulting green light every 3 seconds	
	Portbury leading marks	Q Bu F Bu	Quick flashing blue front light Fixed blue rear light	Leading lights in line ahead bearing 193° lead from The Shoots past Avonmouth

River Wye

The lower reaches of the Wye are navigable with local knowledge at high water.

Avonmouth

VHF Ch 12 Call sign “Avonmouth Radio”

Signal station Tel 0117 982 2257 or 982 0000 Ext 4761 or Ext 4494 (24 hour watch)

Portishead

During 2001 a new marina commenced operating in Portishead Dock. The entrance lock can be contacted on VHF Ch 80 Call sign “Portishead Quays Marina” Tel 01275 841941.

The Port Traffic Signals will display lights to instruct vessels:

- 3 red lights = Vessels shall not proceed and must keep clear of lock gates
- Green over white over green lights = Vessels may proceed on instruction from marina control

Outbound lockings will run on the hour and half hour. Inbound lockings will run quarter past and quarter to the hour.

Under normal conditions a vessel with a draft of 1.5m will be able to pass through the lock from –4.5 hrs to +4.5 hrs HW at neap tides and –3.75 hrs to +3.75 hrs HW at spring tides.

Entering the marina (for a modest charge) to await the next tide can be a convenient and safer alternative to anchoring and taking the ground at Portishead.

The return trip – Bristol to Sharpness

Vessels heading up the river from Bristol or Portishead to Sharpness will need to be off Avonmouth about 2 hrs before HW at Avonmouth. This will enable a boat capable of 5 or 6 knots to proceed with the tide to arrive off Sharpness about 30 mins before HW at Sharpness. Faster or slower vessels must adjust their timings to suit. You must not proceed too early or else your boat will be swept along by the incoming tide before sufficient depth of water exists and you may sustain damage to your hull or stern gear, or worse.

If leaving Bristol, it is possible to lock out of Cumberland Basin on the first outward locking (2hrs 50 mins before HW) but this will mean facing the incoming tide in the river Avon for the 6 mile trip down to Avonmouth. In most cases, slower boats will need to stop over at Portishead before proceeding to Sharpness on a subsequent tide.

It is essential to time the voyage up to Sharpness so as not to arrive after HW. If you do arrive late you will have nowhere to go and will have to return downstream to Portishead! Make sure you have enough fuel on board.

The passage notes printed above will need to be read in reverse order for the return trip.

Beware of the strong tidal stream which will tend to push you off course towards the east of the desired track as you head towards the Second Severn Crossing from Avonmouth. If no other vessels are about, keep towards the western side of the channel to avoid being swept towards the rocks on the

eastern side of the Shoots channel. You will also need to be alert to the tide pushing you off track elsewhere along the route, as the water tends to flow across the sand banks rather than following the deep water channel.

Be prepared to meet larger vessels heading out of Sharpness and give them a wide berth. They will be following the deepest water and / or using local knowledge to pass inside some of the navigation marks to keep out of the strong tidal flows.

Before you reach Sharpness you should keep in radio or telephone contact with the Pier Head (VHF Channel 13 / telephone 01453 511968) and follow their instructions. Swing round to face the incoming tide well before you get to the entrance to Sharpness sea lock and let the tide carry you in towards the entrance before turning in. Keep a look out for large vessels leaving the lock before you enter. Keep clear of the piers as the water runs through the open structures and you will need to pay particular attention to steering a straight course.

River Avon

Inform Avonmouth Radio (VHF Channel 12 / telephone 0117 982 2257, 982 0000 Ext 4761 or 4494 – manned 24hrs) that you are bound for the City Docks and they will advise you when it is clear for you to enter the mouth of the River Avon. This will normally be about 2 hrs before HW to give you time to make the 6-mile trip up the river to arrive at Cumberland Basin not later than 15 mins before HW.

From Cockburn port hand buoy steer in line with the South Pier altering course to starboard to follow the Swash Channel when 200m from the pier head.

Leave the South Pier close to port and follow the leading line of two red & white striped marks on posts on a bearing of 127° (two fixed red lights) until the sharp bend in the channel. The rear mark looks like a sailing ship's mast.

Then turn sharply to starboard on to the next leading marks (St. George) on opposite side of river bearing 173° (Oc G 5s lights). A green buoy Fl (5) G 10s should be kept to starboard when heading up the river. Then keep to centre of river and to the outside of bends (except when meeting other vessels). There are beacons with lights along the river banks to aid navigation at night.

A speed limit of 9 knots applies on the river.

Contact the Dockmaster at Cumberland Basin on VHF Ch 14 Call sign "City Docks Radio" using **Low Power** only when passing Black Rock and again on

the approach to Hotwells Pontoon after passing under the Clifton Suspension bridge.

Bristol City Docks

Dock Master Cumberland Basin VHF Ch 14 Call sign “City Docks Radio”. Use **Low Power** only.

Tel 0117 927 3633 (-3 hr to+ 1 hr HW) Answerphone service outside these hours.

Within the docks Harbour Master VHF Ch 73 Call sign “Bristol Floating Harbour”.

Tel 0117 903 1484 (0830 – sunset)

Unless otherwise instructed wait for the GREEN signal light at Hotwells Pontoon before approaching the dock entrance which is on the port side of the river. Approach on the starboard side of the river and wait in the river or tie up to the ladder at Tongue Head (knuckle just upstream from the lock entrance) if unable to enter. Come alongside on the starboard side of the lock, the attendant will take your bow and stern ropes and pass the ends back to you to hold. When in lock keep to outer end to avoid turbulence.

After passing through lock sound morse letter R (-.-) for Junction Bridge to swing.

A speed limit of 6 knots applies within the harbour.

Harbour dues can be paid at Cumberland Basin when locking in, or at the Harbour Master’s office or Bristol Marina; or at Netham Lock when approaching from Bath.

Full information can be found in the excellent guide booklet which is obtainable free from the Harbour Master.

There are swing bridges, a bascule bridge and a number of fixed bridges within the harbour and over the river Avon as follows:

<u>Approximate Distance from entrance lock (Nautical miles)</u>	<u>Bridge</u>	<u>Clearance at normal float level (m)</u>	<u>Comments</u>
0	Plimsoll Bridge	5.8	Swing bridge Operates 3 hrs before to 1 hr after HW Clearance varies from 5.8m at south side

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			to 6.7m at north side of Cumberland Basin entrance lock
	Junction bridge	Lock 2.5	Swing bridge Operates 3 hrs before to 1 hr after HW
			N.B. The bridges at Cumberland Basin do NOT open Mon – Fri 0800 – 0900 and 1700 – 1800 (except public holidays)
1.1	Prince Street bridge	2.2	Swing bridge Tel 0117 929 9338 VHF Ch 73 Call sign “Prince Street Bridge”
	Guinea Street lock bridge	2.7	Swing bridge Leads into Bathurst Basin only
	Redcliffe Bridge	3.6	Bascule bridge
1.6	Bristol Bridge	4.1	The historic crossing point of the River Avon
	St Philip’s Bridge	4.2	
	Temple Way Bridge	4.4	
	Temple Foot Bridge	3.3	
	Railway arches (north side)	5.4	
	Avon Street Bridge	3.3	
	Silverthorne Lane footbridge	3.8	
	Services bridge (i)	7.4	
	Services bridge (ii)	6.6	
	Feeder Road skew bridge (railway)	6.7	
	Marsh Lane bridge	3.8	
	Netham Bridge	3.9	
3.2	Netham bailey bridge	4.0	
	St Annes Foot bridge	6.7	Approx. clearance
	Bickley Wood road bridge (A.4174)	20.9	Approx. clearance

The above clearances apply when the water level in the Floating Harbour is at normal float level. Water levels may vary by up to 0.5m either way. Under normal conditions a reduction in all stated clearances of 0.15m (6”) may be taken as adequate.

Bristol to Bath

Feeder Canal links the harbour through to the River Avon via Netham Lock. The limiting dimensions for vessels using the feeder and lock are 24.4m overall length, 5.4m beam, 1.9m draft and 3.1m headroom. The lock gates will be left open whilst river and harbour levels are equal. Otherwise, the lock will operate as a normal lock. The lock is manned and operates 0650 – 2210 BST in summer and 0900 – 1645 in winter. Vessels are advised to arrive at least 1 hr before it closes. Contact can be made on VHF Ch 73 Call sign “Netham Lock” / telephone 1007 977 6590.

Once through Netham Lock the river Avon is navigable to Bath via Hanham Lock (which is manned), Keynsham Lock, Swineford Lock, Saltford Lock, Kelston Lock and Weston Lock. The navigation authority for the river to the tail of Hanham Lock is Bristol City Council. A British Waterways river registration certificate (or a full canal & river licence) is required for the remainder of the river. A full canal & river licence is only required if you intend to use the Kennet & Avon Canal.

Table of Distances

<u>Distance from Cumberland Basin entrance lock (Nautical miles)</u>	<u>Lock</u>	<u>Feature</u>	<u>Comments</u>
3.2	Netham		Manned Operates 0650 – 2210 BST in summer 0900 – 1645 winter VHF Ch 73 callsign “Netham Lock”
		Conham Ferry	
		Hanham Colliery Wharf (disused)	
6.5	Hanham		Manned BW lock
		Londonderry Wharf (disused)	
8.1	Keynsham		
		Avon & Gloucester Railway Wharf (disused)	
10.4	Swineford		
		Golden Valley Wharf (disused)	
11.9	Saltford		
		Railway bridge (disused)	

NABO Pilotage Notes
River Severn – Sharpness to Bristol

	Kelston		
		Railway bridges (disused)	
		New Bridge (A.4)	
16.9	Weston		

Other sources of information

Peter Cumberlandidge, *Bristol Channel and Severn Pilot*, Stanford Maritime, 1988 (Out of print)

David Taylor, *Lundy and Irish Sea Pilot*, Imray, Laurie, Norie & Wilson, 2nd ed. 2001

Admiralty Sailing Directions, *West Coast of England and Wales Pilot*, NP37, The United Kingdom Hydrographic Office

“Bristol Harbour – information for boat owners” obtainable from Harbour Master’s Office, Bristol City Docks

“Guidance Notes for Small Boat Passage of the Severn Estuary” obtainable from British Waterways Dock Office, Sharpness and Harbour Master’s Office, Bristol City Docks (also available on website www.gloucesterharbourtrustees.org.uk)

Arrowsmith’s Bristol Channel Tide Tables published by J W Arrowsmith Ltd., Winterstoke Road, Bristol, BS3 2NT and obtainable from the publishers or local chart agents and chandlers.

Video “Passage and Navigation Sharpness to Bristol” produced by the Avon & Somerset Constabulary to raise funds for the RNLi 1992 (No longer available but available on loan to NABO members from the River Users’ Co-ordinator)

See Appendix for a NABO member’s personal account of a voyage made in a narrowboat in 2000.

Further information and guidance is available from the River Users’ Co-ordinator exclusively to NABO members.

Legal Note

Although the greatest care and diligence has been taken in the compilation of these pilotage notes the National Association of Boat Owners accepts no responsibility for any errors, omissions, or alterations in this publication, or for any consequences ensuing upon the use of, or reliance upon, any information given. It must be emphasised that these pilotage notes give only general advice and that the master of the vessel is at all times responsible for the safety of his craft and all aboard.

NABO welcomes any corrections or new information from users of these notes.

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