



SAFETY MANAGEMENT PLAN (MARINE)

Marine Safety in the Severn Estuary & Lower Wye



A Guide to Safe Navigation for Small Craft and Notes for River Bank Users

Version History

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INTRODUCTION TO THE SEVERN ESTUARY

The Severn Estuary can be a dangerous place, with shifting sands, a rapid rise of tide and strong tidal currents. Those who use the estuary need to be aware of the dangers and ready to deal with them safely.

Since 1889 the Gloucester Harbour Trustees have regulated navigation and provided aids in the estuary to assist in the safe passage of all craft, whether commercial shipping or sailing dinghies.

We have produced this guide to help all users of the estuary to understand the hazards and to know what to look out for, what to avoid and how to respond in an emergency. We hope that the information will be a useful contribution to the continued safe use of the estuary.

The Gloucester Harbour is the formal name given to a defined area for which the Gloucester Harbour Trustees is the conservancy, harbour and local lighthouse authority. This area includes the River Severn and its estuary, extending from the Maisemore and Llanthony weirs near Gloucester, to lines seaward of the Second Severn Crossing. The River Wye as far as Bigsweir Bridge also falls within this area.



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I GENERAL SAFETY CONSIDERATIONS FOR USERS OF THE GLOUCESTER HARBOUR

Natural hazards have the potential to cause harm or injury to inexperienced and unwary users of the harbour area. The strong tidal streams and changeable weather conditions are of particular significance.

Walkers should not venture from the riverbank. Over the low water period, sand and mudbanks are exposed. In many parts of the estuary foreshore these areas of soft sand, mud and concealed gullies are dangerous and likely to trap the unwary. Persons who may be requested to render assistance in an emergency might be unable to reach those who have become trapped.

The term spring tides refers to the tides that are coincident with the new and full moon in each month, when the highest rise and lowest fall of tide may be expected. In the Severn estuary, the in-going (flood) tide enters the gullies and shallow channels first, rising rapidly on spring tides and isolating extensive areas of the higher sandbanks.

In such conditions the unwary have found themselves quickly cut off from the shore and safety with fatal results. The incoming tide often flows faster than one may walk; once surrounded by muddy water it becomes impossible to see underwater hazards that could trip or trap a limb.

2 GENERAL ADVICE TO VESSELS

The navigable channel of the estuary is well marked by a series of offshore buoys, beacons and onshore marks, which must be used in conjunction with a current chart (BA1166). Anyone lacking adequate local knowledge should understand the dangers of deviating from the channel without adequate time or underkeel clearance to avoid grounding on the adjacent sandbanks. It is a well-known fact that a small vessel grounding on an incoming (flood) tide is very likely to be rolled over and destroyed (see *photograph below*). The channel is tortuous and in some places shallow. Underpowered small craft may experience difficulty in remaining in the channel and it is therefore essential that passages are planned to take place when the sands are well-covered.



Although the waters of the Severn estuary may be relatively sheltered, strong winds blowing in the opposite direction to the tidal stream can rapidly generate sea conditions that pose a hazard to small craft. Areas of overfall and high standing waves may often be encountered as the sands cover on the incoming tide.

The person in charge of any vessel intending to use the Gloucester Harbour should be competent to do so and obtain up to date information

on present and forecast weather conditions. He/she should also ensure that the vessel is properly manned and equipped, where applicable in compliance with the appropriate Regulations or Code of Practice. Information and guidance in these matters is available from the Maritime and Coastguard Agency (see section 17 – Contact Information). Advice may also be obtained from the Gloucester Harbour Trustees.

3 TIDAL CONSIDERATIONS

The bed of the estuary and river rises and narrows throughout its length towards Gloucester. This means that there are significant differences between the times and relative depths of water between the upper and lower reaches of the harbour area. On a spring tide a rise in excess of 13.0 metres may be encountered near Beachley, which would correspond to a rise in excess of 9.3 metres upriver at Sharpness.

The strength of tidal streams can vary considerably, and mariners should be prepared to encounter significant sets up or downstream when crossing from one side of the harbour area to the other. It is particularly important to appreciate the strength of flow at, for example, the approaches to Sharpness Dock and in the vicinity of the Severn road crossings.

During the early stages of flood tide, significant and potentially dangerous silt-laden standing waves may develop above Sharpness between Sharpness and the Noose.

Floating and semi-submerged debris may be encountered in the estuary, where during spring tides it is carried up and down with the tide. This typically includes empty gas cylinders and other containers and trees that have become dislodged from the river banks. Users should be aware that with a constant supply of debris coming down river from Gloucester and down the Wye it is not practicable to keep the estuary and river clear of debris. Users of the Gloucester Harbour are therefore urged to exercise particular caution with regard to this hazard, particularly during periods of darkness or conditions of restricted visibility.

4 SAFETY OF SMALL CRAFT AND CANAL CRAFT

Responsibility for safety of navigation in the Gloucester Harbour is a matter which the Gloucester Harbour Trustees as the statutory pilotage, harbour and local lighthouse authority takes very seriously, as must those who are in charge of the navigation of any vessel.



This interest is particularly pertinent in the case of people wishing to use craft which are designed for use only on the shallow, sheltered and calm waters of the inland canal system. Canal narrow boats, in particular, are designed for use in smooth water conditions. Thus some of these boats may be underpowered for use in tidal waters and can also vary significantly in their sea-keeping abilities.

(Photographs by courtesy of Chris Coburn and Lee Sanitation)

A considerable amount of media coverage focuses on the challenge and adventure of narrow boat channel crossings and long distance journeys on tidal waters throughout the continent. No doubt such coverage has encouraged the public to believe that narrow boats can safely navigate tidal waters. However, what is often insufficiently emphasised is that:

- the narrow boats are very substantially adapted and have the necessary performance
- they are fitted with radio and other communications equipment, lifesaving equipment and flares. The hatches, vents and windows are specially sealed to avoid flooding
- the journeys often take up to a year to plan with careful consideration of weather and tides
- channel crossings are often supported by escort vessels with specialist rescue staff and facilities



Although standard narrow boats regularly make transits of the Gloucester Harbour without incident, it is clearly most inadvisable for narrow boats to navigate within the potentially dangerous very fast flowing tidal waters of the estuary in anything other than ideal conditions. All vessels should be thoroughly checked and prepared and be manned with crew who have sufficient local knowledge to deal with any unforeseen problems. An example of how it is possible to

greatly reduce the potential for damage to forward doors and flooding in adverse conditions by the addition of stout, temporary covers to the front doors and to the forward well is shown above.

As a minimum, skippers/owners of narrow boats should be sure that:

- The conditions of their insurance permit excursions into tidal waters
- The current and forecast weather is appropriate
- The engine and ancillary items are in sound condition
- Fuel is in good condition and in sufficient quantity. Fuel tanks must be clean
- Loose equipment (hanging baskets, bottles, bicycles etc) is adequately secured
- An anchor with sufficient chain and warp is carried. **However, experience has shown that in the strong flows of the Estuary many anchors are simply inadequate and will not hold the vessel. Recovery of an anchor may be difficult without a powered windlass.**
- The effects of the steel hull on any compass carried are well understood
- Hatches and windows are secured and sealed to prevent ingress of water
- Even the shortest passage is planned and adequate knowledge of the area obtained using up to date charts at an appropriate scale, and
- **The relevant mandatory safety provisions relating to Pleasure Vessels as set out in MGN489(M) are followed with regard to the equipment carried and standards to be met**

Skippers/owners of narrow boats must be responsible for the production of their own passage plans and navigational arrangements. Even when in groups, as is often the case, reliance should not be placed on others to lead the way.

Remember, the Severn Estuary has the second largest tidal range in the world. Seek advice if at all unsure of conditions.

5 CONDUCT OF VESSELS

Changes to the aids to navigation referred to in this publication may be made from time to time. Anyone intending to navigate within the Gloucester Harbour should ensure that they are in possession of up-to-date information, which may be obtained from the Trustees' website and from current, corrected charts of the area.

While this publication gives a guide to navigation within the Gloucester Harbour, it can only supplement and not be a substitute for good seamanship. Anyone in charge of the navigation of a vessel must remember that he/she has the prime responsibility for that vessel's navigational safety at all times.

All vessels navigating within the Gloucester Harbour shall comply with the International Regulations for Preventing Collisions at Sea, 1996, as amended. Anyone in charge of a vessel must ensure that he/she is familiar with the requirements of these Regulations (particular attention is drawn to the provisions of Rule 9, which applies throughout the harbour area between Avonmouth and Sharpness) and their correct application. This is particularly important with regard to the conduct of a vessel, whether underway or not, display of internationally understood navigation lights and shapes, use of sound signals and collision avoidance actions in close quarter situations.

Anyone in charge of the navigation of a vessel must also take into account the presence of other craft and users of the Gloucester Harbour as well as the provisions of the Gloucester Harbour Byelaws when determining a safe speed. Water-skiing activities are only permitted in designated areas of the harbour.

Information concerning safety of navigation is published in Local Notices to Mariners issued by the Gloucester Harbour Trustees. These Notices are distributed to known users of the harbour or their representative bodies and copies are also available on request or may be viewed on the Trustees' website. Anyone intending to navigate the area should ensure that he/she is aware of the contents of all Local Notices to Mariners in force at the time.

Due to the nature of the navigable channel, the height of the sandbanks, tidal constraints and strong tidal streams, local knowledge is considered essential for navigation of the Gloucester Harbour. The current Pilotage Directions that are issued by the Gloucester Harbour Trustees should be consulted to determine whether pilotage is compulsory for a particular vessel. Presently, those of more than 30m length overall and all vessels carrying more than 12 passengers, explosives or dangerous substances and certain towing operations are subject to compulsory pilotage.

The Gloucester Harbour Byelaws 1997 and 2006 set out requirements for the conduct of vessels, reporting of incidents and the use of certain craft and activities.

6 NAVIGATION OF THE RIVER SEVERN BETWEEN THE SECOND SEVERN CROSSING AND SHARPNESS DOCK

The navigable channel through the harbour area which extends from seaward of the Second Severn Crossing to Sharpness, is used by commercial vessels, and is marked by lighted buoys, beacons and other aids to navigation. Details of these can be found on the latest edition of British Admiralty Chart 1166 and in Admiralty List of Light Signals Vol A (NP74). Information relating to navigation of the area is also provided in the latest edition of Admiralty Sailing Directions 'West Coasts of England and Wales Pilot' (NP37). Additional information may be found in Arrowsmiths Bristol Channel tide tables – it goes without saying that tidal information should be carried at all times.

Route Information

It is essential that an up-to-date copy of Admiralty chart 1166 is consulted in order to determine the most suitable route through the Gloucester Harbour.

The route from Avonmouth to the Severn Bridge is approximately 7 miles between extensive drying banks. Passage through the Shoots must be made between the pairs of beacons situated on each side of the Second Severn Crossing and between the main pillars of the Second Severn Crossing. A stone lighthouse on Charston Rock and the distinctive blue leading lights ashore at Redcliffe provide an indication of the best track between Avonmouth and the Second Severn Crossing.

The principal passage beneath the Severn Bridge lies west of the mid-channel rocks. In the locality of the Severn Bridge, the rocky riverbed causes severe turbulence during the running of the tide. Lattice-work lighthouses on Chapel Rock and Lyde Rock are situated either side of the Severn Bridge. Their significance should be established by consultation with the chart. Vessels would normally plan to negotiate the channel beneath the Severn Bridge between 1 $\frac{3}{4}$ hours before high water Sharpness (when proceeding inwards) to 1 $\frac{1}{2}$ hours after high water Sharpness when proceeding outwards.

Between the Severn Bridge and Sharpness, a distance of 9 $\frac{1}{2}$ miles, the river is encumbered by numerous banks and rocky shoals. The main channel, which has drying patches, is well indicated by leading lights and marked by light buoys and beacons as shown on the chart. Leading lights (using either fixed blue, white or green lighting) are situated ashore at Slimeroad, Inward Rocks, Sheperdine, Berkeley Power Station, Fishinghouse, and Berkeley Pill. A further pair of leading lights is situated within the Oldbury Power Station reservoir. Further aids to navigation include four beacons and one buoy situated in the river. All these aids and their significance may be studied on the chart. A description of the lights and beacons is provided in section 14.

(Lyde Beacon)



To ensure the safety of navigation of all vessels and craft in the river Severn, the fairway between Avonmouth approaches and Sharpness Old Dock entrance must be recognised as a narrow channel in the context of International Regulations for Preventing Collisions at Sea (1996). The attention of all users of the Gloucester Harbour is therefore drawn to the provisions of Rule 9 of these regulations. All small craft mariners should need no reminder that the narrow confines of the navigable channel, and the severe tidal regime, impose considerable restrictions on the navigation of commercial shipping and consequently their ability to take avoiding action might on occasions be severely restricted.



The areas around port entrances may often be particularly congested (see below), and navigators of small craft should take care that the often strong tidal streams (often in excess of 6 kts) do not carry their craft too close to large ships.



Four vessels manoeuvring at Sharpness Dock

7 NAVIGATION OF THE RIVER SEVERN BETWEEN SHARPNESS DOCK AND GLOUCESTER

The River Severn is navigable as far as Sharpness by any vessel that can enter the docks at that place. Above this, between Sharpness Point and Gloucester, the channel is ill defined and unmarked, flowing through drying sandbanks. The river is uncharted and unsuitable for navigation other than by small craft at or near mean high water springs (MHWS). No aids to navigation are provided in this area, and it is important that anyone wishing to navigate in this area has an appreciation of the natural hazards which may at times be encountered. Such hazards include the strong tidal conditions (described below) and the presence of partially-submerged tree trunks and other debris which are often washed into the river from further upstream during periods of high river flow.

From Sharpness to Epney

The channel between Sharpness and Epney is ill-defined, flowing through drying sandbanks, and it dries in places. Depths vary considerably, with numerous shallow areas. Navigation is thus uncertain and may be dangerous. During spring tide periods, the flow of the incoming tide is strong, covering the sandbanks rapidly which can lead to a risk of small craft being pushed onto the banks and overturned. During spring tides the river level at Epney may rise by up to 4 metres within an hour.

From Epney to Gloucester

Above Epney, the river is constrained by its banks and flows are nearly always downstream except near spring tides. Depths vary considerably, with numerous shallow areas (<1m) including those at the Dinney (Minsterworth), Church Rock (in the vicinity of the overhead cable crossing by Minsterworth church), Stonebench (beneath the overhead cable crossing) and in the Partings. During spring tides, an in-going stream of up to 1½ hours may be experienced between Framilode and Gloucester from ½ hour to 2 hours after the time of high water at Avonmouth. During spring tides the river level at Minsterworth may rise by up to 2½ metres within an hour and at Llanthony up to 2 metres in a similarly short time.

As of September 2015, the Eastern Channel of the river between Lower Parting and Gloucester Lock is obstructed with dense overgrowth which significantly restricts the safe use of this section of river.

8. The River Wye

The River Wye is uncharted above Chepstow and although it is tidal for some distance beyond, navigation in the higher reaches should not be attempted without expert local knowledge. There are very few suitable landing places for small craft. Particular attention should be paid to the remains of stone weirs which cross the river at intervals and the significant reduction in water depths in these areas.

Bridges cross the river at Chepstow, Tintern, Brockweir and Bigsweir.

An appreciation of the tides is essential, as in many places the river banks are steep-sided with very deep, soft mud which cannot be crossed safely on foot. High water at Tintern and Brockweir occurs at approximately the same time as high water, Sharpness. High water at Chepstow is earlier, occurring 20 minutes after high water Avonmouth.

The rise and fall of tide and the strength of the current in the river are significant and should not be underestimated.

9 THE SEVERN BORE

A significant bore usually occurs when the range of the tide exceeds 13.0m at Avonmouth (9.0m at Sharpness). In the river below the Longney area, sandbanks and shoal areas are swiftly inundated by the rush of the incoming tide. This rush of water may drive boats on to sandbanks, and may well lead to swamping or capsizing. Above Newnham, where the river narrows, a wave is formed. This may be as high as 1.5m and travel at up to 13 knots. Whilst the wave may not necessarily be dangerous to boats afloat in the centre of the river, head on to the wave, they are liable to be swamped or stove in if they are close to the bank, as the wave breaks with considerable violence. Following the initial wave, there is a substantial rise in water level for a further hour or so and high tide is also about one hour after the wave has passed. Occasionally, the rising waters have cut off spectators and their vehicles, needing rescue by the police. The danger is particularly great for viewers of the Severn Bore near Stonebench.

Good conduct and safety afloat

In the interests of safety, all river users must:

- wear appropriate lifejackets
- navigate in a responsible manner in accordance with the International Rules for the Prevention of Collisions at Sea
- observe the speed limits
- avoid navigating too close to the river bank to avoid becoming trapped or hurt



Surfers at Minsterworth (Roger Hopson)

In view of the clear additional risks attendant on surfing or boating on the bore, the Trustees strongly discourage surfing or boating in its vicinity.

10 OVERHEAD OBSTRUCTIONS

The Gloucester Harbour area is crossed by a number of bridge and overhead cables. The overhead clearances above Highest Astronomical Tide (HAT) beneath the Severn Bridge and the Second Severn Crossing are 34 metres. The Aust to Beachley overhead cable crossing has a clearance of 39 metres above HAT – it is thus most unlikely that these crossings would be of significance to any vessel using the harbour. Elsewhere on the river Severn, overhead power cables span the river approximately 6, 10 and 13 miles above Sharpness with a minimum vertical clearance of 19 metres. An overhead telephone cable spans the river between Minsterworth and Elmore Back. This has a minimum vertical clearance of only 6 metres and its significance as a potential hazard to small sailing craft should be appreciated. It should be noted that overhead clearances are further limited by bridge crossings of the river in the eastern and western partings.



Between the mouth of the River Wye and Chepstow the river is crossed by an overhead power cable having a safe vertical clearance of 16m, a road bridge with a vertical clearance of 13m, further power cables with a safe vertical clearance of 16m, a railway bridge with a least vertical clearance of 2.5 metres and a road bridge (pictured) having a least vertical clearance of 2.1 metres. At St Pierre Pill, where there are a number of small craft moorings, an overhead power cable crosses with a least vertical clearance of 7.3 metres.

11 UNDERWATER OBSTRUCTIONS

There are no obstructions within the main, marked channel from the seaward boundary of the harbour to Sharpness and to Chepstow, provided that the rise of the river bed and differences in times and depths of water available are taken into account. Outside the channel, and as shown on the chart, a significant steel fishing structure extends 100m from a point marked by an orange beacon on the riverbank approximately 2 miles south west of Lydney Dock. In addition the cooling water reservoir (a prohibited area) which serves Oldbury power station dries some time before the surrounding rocks and sandbanks. Elsewhere, on the Severn between Sharpness and Longney Crib there are a number of unmarked fishing structures extending from the shore. Shallow areas exist throughout the area, some of which will have only minimal coverage on certain tides. Weirs exist at Llanthony and Maisemore which only cover to a depth sufficient for navigation on very few tides each year. Note, however, that Gloucester Harbour Trustees do not recommend passage over any weir.

In the river Wye depths depend on both the amount of freshwater in the river and the height of tide, and boaters should be aware of the significant reductions in depth in areas where the unmarked remains of stone weirs exist. It is the responsibility of the navigator to ensure there is sufficient depth over any obstruction to allow safe passage.

12 COMMUNICATIONS AND VISUAL SURVEILLANCE

Whilst there may not necessarily be a requirement for small craft to carry marine vhf equipment, there is no doubt that the carriage of such equipment and a mobile telephone will be of significant value in the event of the craft encountering difficulties, for advising other craft of own position and for establishing the positions and intentions of other vessels which may be encountered en-route.

It is prudent to report to either Bristol VTS at Avonmouth or Sharpness Radio giving vessel name, position and estimated time of arrival. Movements of all craft navigating within the Bristol Channel and Severn Estuary can be monitored by shore-based radar equipment.

The following is provided as a guide only

a) From Avonmouth to the Second Severn Crossing

This section of the Harbour is mostly within normal visual range of Bristol VTS manned by Bristol Port Company staff who maintain a 24-hour listening watch on marine band vhf channels 12 and 16.

b) Second Severn Crossing to Severn Road Bridge

No visual surveillance normally available. Communications possible with Bristol VTS (24hrs) on marine band vhf channels 12 and 16, and with Sharpness Pierhead (normally manned from 4 hours before until 1 hour after High Water Sharpness) on marine band vhf channel 13.

c) River Wye

No visual surveillance at any time. Communications by marine band vhf poor or non-existent due to geographical features.

d) Severn Road Bridge to Sharpness Point

A lookout is generally kept from Sharpness Pierhead. Whether or not a vessel may be seen from Sharpness Pierhead is greatly dependent upon weather conditions and size of vessel. Small craft are unlikely to be seen until close to Sharpness. A listening watch may be provided for several hours before High Water Sharpness on marine band vhf channel 13 for vessels that have given the required minimum 24h advance notice of their intention to visit Sharpness.

e) Sharpness Point to Gloucester

No visual surveillance at any time. Communications with Sharpness Pierhead by marine band vhf poor or non-existent due to geographical features.

The Maritime and Coastguard Agency maintain a listening watch on VHF channel 16 and use VHF channel 67 as their primary working channel, using aerials sited on the Severn Road Bridge.

13 GUIDANCE NOTES FOR VESSELS USING LYDNEY DOCK

Depths, Clearances and Tidal Levels

- The outer entrance is 10m wide with depths over the sill of 3.5m at high water neaps and 8m at high water springs.
- The outer basin is 82m long and 22m wide.
- The lock is 27m long and 6.5m wide with 4m over the inner sill.
- The inner basin is 231m long and 32m wide with depths of up to 3m.

To find the depth of high water on the entrance sill deduct 1.2m from the depth of high water at Sharpness Dock. Due to weather conditions, both the time and height of high water can sometimes vary from published information. This should be taken in to consideration when planning a passage to or from Lydney.

Be aware that the sandbanks in the river over which vessels must pass in approaching or leaving Lydney Dock vary in height and may be as much as 1m higher than the level of the entrance sill.

The tide gauge (in metres) fitted to the Bull Beacon shows heights relative to Sharpness Dock sill. It may be used to good effect in determining whether depths over the sandbanks are sufficient to permit crossing to Lydney Dock.

Notice of Arrival Time

Vessels are required to give 6 hours notice before arrival or leaving on tides predicted to be 8.4m or over at Sharpness. On tides predicted to be less than 8.4m, 24 hours notice is required.

- During office hours the Lydney Harbour Master may be contacted by telephone on 01684 864388 or 07768 861282.
- Out of office hours 0800 807060.
- VHF channel 37 (marina channel M) during tide time (usually HW-1½h to HW).

Vessels leaving Lydney should be ready to enter the lock 1 hour before high water. The dock is operational from one and a half hours before high water until high water.



Lydney Dock (Rob Millar)

Approach and Entry

On both flood and ebb there is a strong flow across the entrance - up to about 6 knots - but between the entrance piers there is slack water. There is a considerable area of slack water on the in-coming tide north of Lydney pier extending as far as Fairtide Rock.

Plan to arrive off Lydney no earlier than 20 minutes before high water. It is recommended that vessels approaching from the south west should use the main navigational channel until mid way between Bull Rock Beacon and Berkeley Pill. A course should then be steered for Lydney Dock entrance making allowance for tidal influence and having ensured sufficient water is available for a safe passage.

Vessels from Sharpness should head for Lydney north pier making allowance for tidal influence and making use of the slack water mentioned above. During the summer months there may be small yachts on drying moorings in this area.

Persons in charge of vessels bound for Lydney should take particular care not to arrive off the entrance too early on tide, and should ensure that there is sufficient under-keel clearance over Lydney and Saniger Sands (see previous reference to Bull Beacon tide gauge).

The fish trap marked on the chart 2 miles south west of Lydney should be given a wide berth - at some states of tide it will be just below water level. A mark on the bank indicates the location of landward end of the structure. Without local knowledge it is not advisable to deviate from the main channel.

Large commercial ships using the nearby docks at Sharpness and the River Severn are confined to the main navigation channel. This is recognised as a narrow channel and skippers of small craft should act prudently and with due regard to the International Rules for the Prevention of Collisions at Sea to avoid hampering the movement of larger vessels.

Information is available from Gloucester Harbour Trustees regarding small craft passages between Sharpness and Bristol, and should be consulted as this advice is equally valid for passages to and from Lydney (www.gloucesterharbourtrustees.org.uk). This Information may also be found in Arrowsmiths Bristol Channel tide table.

Insurance

All vessels entering Lydney Dock are required to have as a minimum, third party marine insurance. Those using Lydney Dock do so at their own risk and the Environment Agency accepts no responsibility for any loss or injury incurred.

Pilotage

Although pilotage is not compulsory within Lydney Dock, larger vessels may be subject to compulsory pilotage whilst in the River Severn. The Lydney Harbour Master will advise whether this rule is applicable. Owners/skippers of vessels should be familiar with the Gloucester Harbour Trustees' Pilotage Directions.

14 GUIDANCE NOTES FOR LEISURE VESSELS USING SHARPNESS DOCK

Large commercial vessels using the dock at Sharpness and the River Severn are confined to the main navigation channel. This is recognized as a narrow channel and skippers of small craft must act prudently and with due regard to the International Rules for the Prevention of Collisions at Sea to avoid hampering the movement of larger vessels.

Basic passage planning criteria are set out below. The tidal rate should not be underestimated by small craft having limited power. On both flood and ebb tides there can be a strong flow across the entrance to Sharpness of up to about 6 knots. Between the piers a strong flow may remain, and adequate preparation and timely manoeuvring will be required to avoid being set up on to the piers.

There are no berths available for leisure vessels within the working dock, (except for vessels which have made arrangements with Sharpness Shipyard and Drydock Ltd for a boat lift or works). Passage is available through the dock into the Gloucester and Sharpness Canal.

If you wish to enter the Inland Waterway system through Sharpness Dock you should:

1. Book your passage in advance (a minimum of 24 hours notice is required) by contacting Sharpness Pierhead on 01453 511968 or VHF Channel 13 (call "Sharpness Radio"). Sharpness Pierhead is manned according to operational need and callers should be prepared to leave a message.
2. Establish communication as early as possible with Sharpness when en route (In practical terms that would normally be between the M4 and M48 motorway bridges).
3. Understand the significance of the port entry light signals displayed at the pierhead.
4. Be aware that operational constraints may require that on occasions you may have to stem the tide in the estuary for a period prior to entering the dock.

Booking and early communication is essential in order for the team at Sharpness to plan the tide to allow for all known movements and to liaise with all parties to ensure that movements are achieved safely and efficiently.

Plan your passage to arrive off Sharpness **No earlier** than 1 hour before High Water and **No later** than High Water Sharpness.

No earlier for two reasons:

- Outbound traffic passes through the locks at Sharpness before inbound.
- If you make the passage up the River Severn too early there will be very little water above the Severn Road Bridge, and there is the danger that you will touch the bottom at times. In severe cases craft can be literally rolled over and over on the sand banks between the road bridges and Sharpness. More often you will be "bumped" further and further onto the bank and you could well lose your propeller and/or rudder, endangering your craft and all aboard.

No later than High Water because:

- It is normal practice to close Sharpness entrance gates at high water.

- There are times when for the safety of shipping in the system Sharpness gates **must** be closed at High Water.

The movement of commercial shipping into and out of Sharpness dictates what can and cannot be achieved on any specific tide. At times, small craft may be required to pass through the lock chamber with commercial shipping.

Sharpness is a gateway into the inland waterway system allowing easy access to both Gloucester and Worcester on “broad” waterways and into the Midlands on “narrow” waterways. Access to Worcester is possible for reasonably large vessels up to the following dimensions LOA 41m, Beam 6.4m, Draft 2.4m, Air Draft 7.4m (Note dimensions given are a general guide rounded down, based on Summer water levels. More detailed information on actual limitations is available from Canal and River Trust or on the internet at canalrivertrust.org.uk)

Visiting leisure craft that do not hold a Long Term Canal and River Trust Licence need to buy a Short Term Licence and pay a lockage fee. Licence Fees are based on boat length. The Canal and River Trust website should be checked for details of charges (NB prices are reviewed annually.) Reductions on lockage fees are available for groups of boats if they make a block booking in advance; contact Canal and River Trust for details and prices.

Canal and River Trust Licenses must now be obtained “on-line” at licensing.canalrivertrust.org.uk You can no longer purchase a licence on arrival at Sharpness.

If you have not booked a passage and do not intend to enter Sharpness, you must keep well clear of the Port approaches for your own safety and that of other users. If you are using the river adjacent to Sharpness, it is useful to establish contact with the Pierhead to advise them of your movements.



The Docks, Sharpness

15. DESCRIPTION OF MAIN LIGHTS, BEACONS AND OTHER AIDS TO NAVIGATION (Positions are approximate)

PANTHURST

Characteristic: F. Bu
Position: Lat: 51° 42'.58N
Long: 2° 29'.02W

Description: Single vertical blue fluorescent on yellow fibreglass mast.

BERKELEY PILL LEADING LIGHTS

Characteristic:	F.G	
Position:	Front	Back
Lat:	51° 41'.98N	51° 41'.89N
Long:	2° 29'.40W	2° 29'.42W

Description: 8m steel lattice tower with White lantern house containing eight green fluorescents. White board daymarks.

12m steel lattice tower with white lantern house with eight green fluorescents. White board daymarks.

BULL BEACON

Characteristic: Fl W 3s
Position: Lat: 51° 41'.80N
Long: 2° 29'.88W

Description: 15m steel mast, white panel at top. Tide gauge shows depth related to Sharpness sill.

CONIGRE LEADING LIGHTS

Characteristic:	F.Bu	F.Bu
Position:	Front	Back
Lat:	51° 41'.46N	51° 41'.49N
Long:	2° 30'.02W	2° 29'.81W

Description: *Front*
21m steel lattice mast carrying four vertically disposed vertically oriented blue fluorescents, with yellow cross (upper) and white board (lower) daymarks

Back
29m steel lattice mast carrying four vertically disposed vertically oriented blue fluorescents, with two horizontal bar daymarks near top

FISHINGHOUSE LEADING LIGHTS

Characteristic:	F W	
Position:	<i>Back light</i>	<i>Front lights</i>
Lat:	51° 40'.97N	Lat: 51° 40'.90N
Long:	2° 30'.99W	Long: 2° 31'.08W
Description:	<i>Back light</i>	<i>Front lights</i>
	12m Abacus mast, 4 vertical white fluorescents, orange/white daymarks	4m white fibreglass tower, 4 vertical white fluorescents, red sector light, orange/white daymarks. Additional daymarks on seawall in front of light

HAYWARDS ROCK BEACON

Characteristic:	Q W	
Position:	Lat: 51° 41'.26N	
	Long: 2° 31'.10W	
Description:	North Cardinal beacon with quick flashing white light characteristic to mark Haywards Rock.	

HILLS FLATS BEACON

Characteristic:	Fl.G.4s	
Position:	Lat: 51° 40'.7N	
	Long: 2° 32'.6W	
Description:	A green latticework tower starboard hand mark exhibiting one green flash every four seconds and carrying a starboard hand topmark to show position of Hills Flats Rocks.	

SHEPERDINE LEADING LIGHTS

Characteristic:	F W	
Position:	<i>Sheperdine Rear</i>	<i>Sheperdine Front</i>
	Lat: 51° 40'.10N	Lat: 51° 40'.06N
	Long: 2° 33'.15W	Long: 2° 33'.30W
Description:	<i>Sheperdine Rear</i>	<i>Sheperdine Front</i>
	15m grey steel column carrying vertical fluorescent stripe daymarks and eight vertical white fluorescents	8m grey enclosure carrying eight vertical white fluorescents and radar antenna

LEDGES BUOY

Characteristic: Fl(3)G.10s
Position: Lat: 51° 39'.75N
Long: 2° 34'.05W

Description: Green buoy, starboard mark flashing Green (3) every 10s to mark Narlwood Rocks and power station reservoir wall.

NARLWOOD BEACONS

Characteristic:	Fl. W 2s	
Position:	<i>Front</i>	<i>Rear</i>
	Lat: 51° 39'.57N	Lat: 51° 39'.49N
	Long: 2° 34'.76W	Long: 2° 34'.87W

Description: Self-righting steel masts, 12m (front) and 17m (rear) synchronised solar powered white flash every 2 seconds. Provides leading line for Hills Flats channel.

COUNTS BEACON

Characteristic: Q W
Position: Lat: 51° 39'.40N
Long: 2° 35'.75W

Description: Black/yellow, North Cardinal latticework tower with quick flashing light characteristic to mark south side of Barnacle Channel and Counts Rock.

INWARD ROCKS LEADING LIGHTS

Characteristic:	F W	
Position:	<i>Back light</i>	<i>Front light</i>
	Lat: 51° 39'.22N	Lat: 51° 39'.25N
	Long: 2° 37'.60W	Long: 2° 37'.46W

Description:	<i>Rear</i>	<i>Front</i>
	20m Abacus mast carrying white white fluorescent tubes and daymark	White round grp lighthouse carrying white fluorescent tubes

SEDBURY

Characteristic: 2 F.R(vert)
Position: Lat: 51° 37'.80N
Long: 2° 39'.03W

Description: Two vertically disposed fixed mains powered red lights on 10m Abacus mast

SLIMEROAD LEADING LIGHTS

Characteristic:	F.Bu	
Position:	<i>Front</i>	<i>Back</i>
	Lat: 51° 37'.24N	Lat: 51° 37'.19N
	Long: 2° 39'.07W	Long: 2° 39'.11W
Description:	White hut carrying 8 vertical blue fluorescent tubes above broad white stripe painted on cliff face	Black lattice steel tower with white lanternhouse carrying 8 vertical blue fluorescent tubes above white daymark

LYDE ROCK

Characteristic:	Q.R	
Position:	Lat: 51° 36'.89N	
	Long: 2° 38'.67W	
Description:	Lantern on 10m lattice tower with black/white horizontal bands.	

CHAPEL ROCK

Characteristic:	Fl. 2.6s	
Position:	Lat: 51° 36'.43N	
	Long: 2° 39'.21W	
Description:	Lantern on 8m slim lattice tower.	

CHARSTON ROCK

Characteristic:	Fl W 3s	
Position:	Lat: 51° 35'.35N	
	Long: 2° 41'.68W	
Description:	White painted 7m stone tower with vertical black line	

REDCLIFFE LIGHTS

Characteristic:	F.Bu	
Position:	<i>Front</i>	<i>Back</i>
Lat:	51° 36'.20N	51° 36'.39N
Long:	2° 41'.37W	2° 41'.29W

Description:	<i>Front</i>	<i>Back</i>
	10m steel lattice mast with white daymarks and 12 blue fluorescent tubes	30m Abacus column carrying 12 blue fluorescent tubes

WYE BRIDGE

The downstream face of the west pier carries a gauge board indicating height from water level to the underside of the bridge (*in feet*).

SHOOTS BEACONS

Characteristic:	Lady Bench	Q.R
	Old Man's Head	VQ(9) W 10s
	Mixoms	Fl(3) R 10s
	Lower Shoots	Q(9) W 15s

Position:	Lady Bench	51° 34'.85N	2° 42'.19W
	Old Man's Head	51° 34'.74N	2° 41'.69W
	Mixoms	51° 34'.04N	2° 42'.60W
	Lower Shoots	51° 33'.85N	2° 42'.05W

Description: Each beacon is of reinforced concrete formed within precast concrete rings, and of approximate overall height 16m. Beacons carry lights and shapes appropriate to their location, and are supplied by a combination of mains, solar and wind power.

Lydney Dock:

North Pier	2 Fixed Red (vert.)	2
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Sharpness Dock:

South Pier		2 Fixed Green (vert.)	2
North Pier		2 Fixed Red (vert.)	2
South Pier	Fog Signal	Siren (1) 20s	1
North Pier	Fog Signal	Bell	1
Old Arm	Fog Signal	Siren (1) 5s	1

16. SAFETY GUIDANCE CHECKLIST

Planning - Do you hold the following (Y or N)

River Avon Chart (Admiralty No.1859)	"Collision Regulations"
Severn Estuary Chart (Admiralty No.1166)	£1 Million Third Party Insurance
Tide Tables	Suitable Passage Insurance (Inc. Salvage)

Preparation - General (Y or N)

Is your Engine reliable	
Have your fuel tanks been purged	
Have you cleaned or replaced filters	
Do you carry appropriate tools	
Do you carry essential spares	
Do you have sufficient fuel	
Have you an operational Bilge Pump	

Additional for Narrowboats (Y or N)

Have you covered the for'rd cockpit	
Are the for'rd cockpit scuppers blocked	
Are Eng Room vents near waterline watertight	
Have you made alternative venting arrangements	
Have you secured loose objects	
Do you have appropriate Navigation Lights	

Do you carry --- (Y or N)

Lifejackets for all onboard	An Anchor with chain and warp
A Lifebuoy Aft - Fitted with smoke/light signal	Long mooring lines (25m)
30m Buoyant Line or Approved Rescue Quoit	A hand bailer
Two Red handflares	First Aid Kit
Two Orange Smoke signals	Appropriate Fire Fighting Equipment
Water resistant Torch	Suitable sound signalling equipment

Communications --- (Y or N)

Do you carry a Marine Band VHF	Do you have Channels 10,12,13,14, 67 & 73
Do you carry a Mobile Phone	Do Avonmouth & S'ness have your Tel. No.

Passage - General

Have you notified MRCC Swansea of your planned passage & number of persons onboard	
Have you obtained a suitable weather forecast to cover the whole passage period	
Are you a member of the MCA's Yacht and Boat Safety Scheme	

17 CONTACT INFORMATION

Gloucester Harbour Trustees	Office:	01453 811913
	24hr:	07774 725270
MCA Maritime Rescue & Co-ordination Centre (Milford Haven Coastguard)		01646 690909
Canal and River Trust (South Wales and Severn)		0303 040 4040
Sharpness Pier Head (Sharpness Radio VHF Ch. 13)		01453 511968
Bristol VTS (VHF Ch. 12)		0117 9802638
Gloucester Pilots	Mobile:	07774 226143
Lydney Docks (VHF Ch. 37)	Office:	01684 864388
	Mobile:	07768 861282
Environment Agency	24 hr:	08708 506506

18 WHAT TO DO IN AN EMERGENCY

All emergency situations in the Gloucester Harbour involving a vessel, or a person in the water or cut off by the tide, should be reported immediately to HM Coastguard who co-ordinate maritime search and rescue in the United Kingdom.

An indication of the location of the incident, nature of the incident and number of persons involved should be passed to the Coastguard, who will then co-ordinate the action to be taken.

All other emergency situations should be reported to the appropriate emergency service, i.e. Police, Fire or Ambulance.

Call the Coastguard by dialling '999' or '112' on a landline or mobile telephone and request "the Coastguard". Calls may also be made to the Coastguard on vhf channel 16.

Call the Police, Fire or Ambulance services by dialling '999' or '112' on a landline or mobile telephone and requesting the appropriate service(s).

Gloucester Harbour Trustees, August 2017