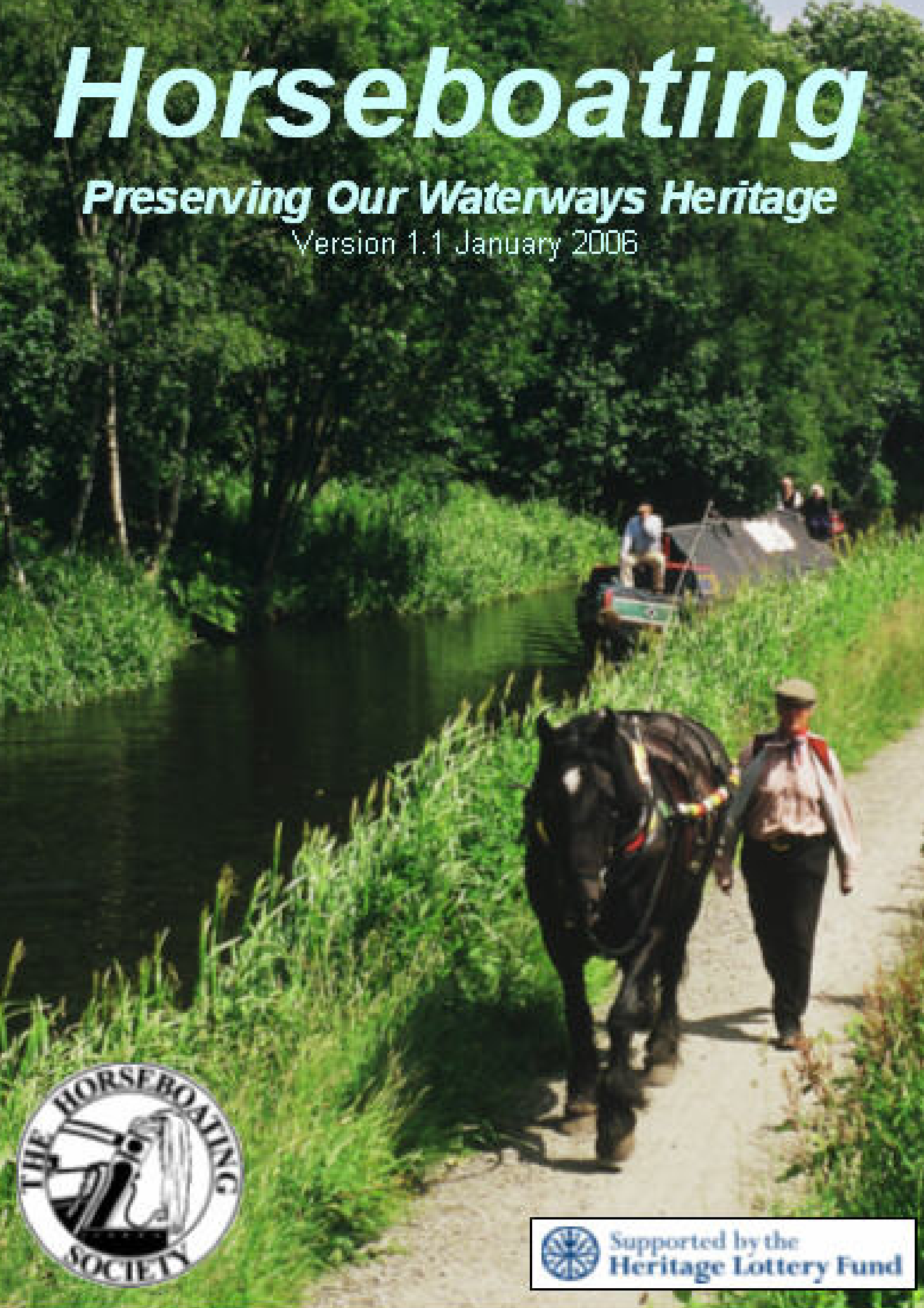
Horseboating

Preserving Our Waterways Heritage

Version 1.1 January 2006



THE HORSEBOATING SOCIETY

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Contributors

This guidance has been developed by The Horseboating Society and British Waterways in consultation with The Boat Museum Society, The British Horse Society, The Inland Waterways Association, The Institute of Historic Building Conservation, The Shropshire Union Flyboat Restoration Society, and The Towpath Action Group.

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- know that you hold the document, so that we can keep you up-to-date with new editions and other activities of The Horseboating Society.
- have comments or other feedback and they will be considered for inclusion in the next edition.

You can contact us by e-mail at secretary@horseboating.org.uk

Our current postal address may be found on our web site.

Visit our web site at www.horseboating.org.uk Details of current operators of horse-drawn craft are listed, together with information about the Society's activities.

Information on horseboating techniques and the relevant waterway infrastructure is illustrated in the videos *Towpath Encounter* and *A Tanner a Night* produced by Sight Seen Partnerships, available from the National Waterways Museum, Gloucester

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Contents

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1 Why Is Horseboating Important?

The canals, with their painted narrow boats and barges have a fascinating history spanning nearly two hundred and fifty years, while craft on the rivers river barges were already at work for centuries before that. There is a great interest in this historic network of inland waterways, with many restoration and research projects under way and an increasing need to care for our waterway heritage.

However, much more still needs to be done to record and recapture the working lives of the waterway community; the thousands of families and all the tradesmen that kept the traffic moving. In particular, we need to remember that the world of canals was a world of horses.

In the early days of the canal age all boats and barges were towed by horse or mule, or occasionally by a pair of donkeys, and a lot of the surviving buildings and features of canals were designed with horse-power in mind. A horse towing a boat with a rope from the bank was actually a very efficient means of transport because at a steady walk a horse could pull fifty times as much cargo in a boat as it could in a cart or wagon on rough roads.

This huge improvement in transport efficiency led to the great canal building era in the eighteenth century, which in turn paved the way for the industrial revolution and modern industry. Horses were the prime movers of this great change and they remained at work right through to the middle of the twentieth century.

Working a boat with a horse required considerable skill and knowledge, and lots of practice. Because horses were so crucial and central to the waterways, we cannot really understand the old working boat community without a better awareness of the part played by these horses. We need to record how it was done, but we also need to continue to do it in the proper way for the benefit of future generations.

Towing paths, turnover bridges and canal stables, as well as the smaller and less obvious fittings of the waterways are often still in place though few of them are now used for their original purpose. Indeed much of this horseboating heritage is not even recognised or conserved.

The Horseboating Society uses restored historic horseboats to study and demonstrate the skills and techniques of horseboating once again to help pass on this legacy to the future through education and interpretation.

Horseboating today is not easy however. Some parts of the waterway network have been altered so much that it is difficult for horses to work on them, and there are many issues of access and safety. Most of today's holiday boats moor to the towing path, and television aerials and mooring ropes make it much more complicated than it used to be.

Few people now have the detailed memory of how horseboating was actually done in its commercial heyday, and even fewer now have the necessary skills.

But we think it is very important that we try.

1.1 Preserving Horseboating

Recent practices such as installation of barriers to prevent abuse by irresponsible motor cycle users, incorrectly located signage and uncontrolled tree growth can prevent the free passage of boathorses with their horsedrawn boats, (and incidentally of waterways maintenance machinery such as mowers). This threatens the usability of the waterways by horsedrawn craft

These bushes prevent towing from the bank at a critical junction

Removing obstructions to horseboating will allow the presence of horsedrawn boats in all areas of the waterways, (akin to steam trains on the modern railway, in limited numbers, running on preserved lines but also with main-line operation).

We believe that by preserving the operation of horsedrawn craft and the as-built look and feel of the horse-powered waterways the experience of all users will be enhanced, whether boaters, walkers, cyclists, anglers or wheelchair users.

This design of motorcycle barrier completely prevents passage by boathorses

2 Introduction

The aim of this guide is to provide information about the use of waterway infrastructure for horsedrawn boats and barges, which has been almost lost because of the scarcity of such craft since the 1950s.

This document gives guidance to navigation authorities, local authorities, their development partners, canal side developers, landscape architects, waterway and amenity societies.

Its purpose is to:

- Enable continued access to and use of the waterways by horsedrawn craft;
- Avoid further loss of horseboating heritage, its associated waterway furniture, and the original 18th / 19th century atmosphere of the waterways; and
- Ensure that contemporary use of waterways with new developments is horseboating friendly.

It does this by explaining how horsedrawn craft and their crews need to use the waterway infrastructure in a different way to the generality of today's motor boat users and how apparently obsolete items of waterway equipment were and are still used.

We have set out parameters within which acceptable structures, barriers, etc can be designed and have tried to avoid proposing specific designs wherever possible.

We are not seeking an instant major investment in the reinstatement of lost horseboating features. Rather, when structures or towing paths receive repair or maintenance we ask that reinstatement is included in the works. Neither are we seeking replacement of original features, structures and designs that do not met the standards set out in this guidance

There is, however, an urgent need to remove obstacles to horseboating, such as motorcycle barriers that are impassable to boathorses and to move poorly located items such as signposts, notice-boards and lamp standards that obstruct towlines.

The objectives of this guidance are:

- To help to create a waterways environment which will encourage the preservation and promotion of horseboating, which is what the canal system was originally designed for;
- To help ensure that towing paths, lock-sides and other waterway locations are authentic in character with the necessary features to permit the passage of boathorses and horsedrawn craft (which may be loaded);
- To suggest how waterside restoration schemes can incorporate accurately the traditional details and artefacts which were intended to facilitate the passage of working horsedrawn boats;
- To illustrate how natural vegetation and wildlife habitats can be encouraged on the waterways without creating towing path obstacles which hinder the passage of horsedrawn boats;
- To ensure that physical barriers which are intended to prevent access by motorcycles and motor vehicles do not also obstruct access to and along the towing paths by boathorses and (where appropriate) bicycles and wheelchair users.

2.1 Questions for Designers / Developers / Restorers / Engineers

When designing any change to the waterway infrastructure, whether it be a new bridge or tunnel, an information board, or even a mooring bollard, these questions need to be asked.

The Horse

Will it impede or prevent the passage of boathorses along the towing path?

The Towline

Will it impede or prevent the towing of boats by rope from the towing path?

The Craft

Will it make the use of this waterway feature more difficult for users of full-size and / or full draught boats?

If the answer to any one of the questions is anything other than a definite “No” then the design needs to be reconsidered and these guidelines consulted.

Note

Where the towing path is also a public bridleway the provisions of the Highways Act apply, and nothing in this guidance recommends other than legal minima.

2.2 Definition of Towing Path

In this guidance “towing path” includes not only the canal or riverside towpath but also associated routes (still often referred to as the towpath) which are used by horses to pass bridges and tunnels built without an internal towing path.

2.3 Definition of Horse

The horse family includes the horse, pony, mule, hinny, and donkey.

3 Access to the Towing Path, Passage Along It, & Exit From It

3.1 Line of Canal

Horsedrawn craft and butties are not as manoeuvrable as powered craft. The line of the canal and towing path needs to be preserved as originally designed for commercial horse traffic. Wherever possible the line curved gently. The introduction of acute angles for example by realignment or reconstruction of bridges is to be avoided.

3.2 Towing Path Width for Horses

Over the years the towing path as originally built has been eroded by the wash of passing craft on the water side, and by the spread of vegetation and gradual encroachment through neighbouring property owners moving their fences on the land side. The use of the towing path for gardens or unauthorised storage of personal property also restricts the available width. The towing path was often designed to allow two harnessed horses travelling in opposite directions to pass (and on some waterways for pairs of animals to work abreast).

Wherever practical, maintenance / repair of the towing path should restore or maintain it at the width specified during the heyday of commercial horsedrawn traffic. It is necessary to provide adequate room for all towing path users to pass, whether they be boathorses, walkers, cyclists, anglers, or wheelchair users.

3.3 Surface

Where the original gravel, ash, stone, etc surface of the towing path has been lost, modern replacements need to be non-slip. As the economic survival of the waterways depended to a large extent on the welfare of horses, a surface material should be used which is designed to work best in local circumstances as a long-distance walking surface for people and horses. Appropriate materials will vary according to the location (e.g. urban, semi-rural or rural). Asphalt and similar surfaces are slippery and very hard on walkers' and horses' legs. Plastic netting surfaces (as installed at Blisworth) are particularly slippery and difficult for horses. These surfaces are to be avoided.

The British Horse Society publishes *A Guide to the Surfacing of Bridleways and Horsetracks,*

3.4 Bridge Surfacing[1]

The deck of the bridge must be stable and made of a substantial, non-echoing material with (preferably) no gaps in the decking through which the water below can be seen. The surface must be non-slip. Decking boards should not run parallel to the direction of travel. Cross-struts as on cattle transporter ramps can be inserted on slopes. Metal is noisy and alarming to horses. Wood is slippery. Non-slip matting dulls noise, and is therefore useful. A hard wearing non-slip surface can be created by coating a wooden deck with epoxy resin and bauxite grit.

Figure 1 - Surface and slope at a turnover bridge

[1] British Horse Society, Standards And Dimensions Feb. 1991 Reviewed November 1999

3.5 Angle of Slope for Horses

This depends on the surface – smooth bricks / stone / tarmac require a shallower angle than rough or ribbed surfaces.

As a guide, wheelchair access requires a maximum slope of 1 in 12, with 1 in 20 recommended.

Angles and surfaces of sloped access need to be those used for the majority of a waterway's horsedrawn working life.

3.6 Stepped Approaches

On very steep routes it is sometimes necessary to cut steps into the path to facilitate passage. The British Horse Society's specification[2] for ridden use is:

Length of step: 9ft to allow a horse to stand on all fours on each step.
Height of riser: 6inches

In order to make use of limited land space, it is acceptable to allow a slight slope downwards towards the riser. A longer, winding route is preferred to stepped ramps.

3.7 Corner Radius for Horses

Horses are not very flexible, their bodies curve but they do not bend in the middle. They can suffer severe injury if they are driven around sharp bends (as found in some motorcycle barriers of the chicane type and under some new bridges).

The British Horse Society's recommendations for space required to turn a horse (e.g. in order to close a gate) are that the minimum space required is a diameter of 9ft.

4 Bridges and Buildings

4.1 Headroom Under Bridges

Headroom under bridges needs to be retained to the original specification of the waterway. Bridges to be constructed in the future should take into account the need for passage of boathorses (7 feet 6 inches head clearance) rather than just walkers.

Figure 2 - The roller is lost but the guard iron remains in situ on this bridge parapet

4.2 Bridge Guards

Bridge guards were installed to protect the masonry on bridges from friction damage by towlines and to protect towlines from sharp corners. They ought to be retained on existing bridges, and installed to the original pattern where they have been removed or where new bridges have been built.

4.3 Rollers

Rollers were installed in various circumstances; to guide towlines where the waterway bends acutely or to protect masonry from friction damage by towlines.

Where these have seized up with age they could be freed and restored to working order as part of planned maintenance.

[2] British Horse Society, ibid

4.4 Corners of Walls, Buildings

Corners of new walls of buildings, bridges, etc could be rounded to a height of 8 feet from the ground wherever horses are liable to come into contact with them. This was common practice in all buildings where horses were likely to enter – Hartshill maintenance yard on the Coventry Canal has some excellent examples. The horse, its harness and the towline can all be damaged by sharp edges. Alternatively, additional clearance could be provided to allow horses to pass with minimal risk of contact with these corners.

5 Motorcycle Barriers

As a matter of policy, any barriers across the towing path are to be avoided wherever possible. Control to prevent access by motorcyclists should be at access points rather than along the towing path, and backed up by enforcement of the byelaws rather than by inconveniencing the law-abiding majority of waterway users. Wireless CCTV is flexible, unobtrusive and relatively inexpensive and may be useful in enforcement. Where barriers are impassable by boathorses, this destroys the working unit of horse, boat and crew and may require dangerous detours on roads with motor traffic.

5.1 Barrier Design

Where physical barriers to motorcycles are unavoidable,

- The first choice would be low stumps (e.g. up to 1 ft high) with relatively narrow gaps through which the horse's legs (but not its body) can pass.
- The second choice is a horse-stile. These are designed to be impassable by motorcycles but can be negotiated by horses. However, these can prove difficult for wheelchair users to pass. The horse steps over one or two ground-level bars about 6 in high.
- A gate is the last choice because opening and closing it requires stopping, and keys may be required, and locks seize up and require regular maintenance.

5.1.1 Gates

Gates across towing paths are best located at sites where horses have to pause (for example at locks).

5.1.2 Width of Gates, etc (For Harnessed Horses)

Using narrow gateways can frighten some horses, causing them to rush through, thus increasing the chance of injury to the horse and handler or damage to the harness.

Gateways need to be as wide as the local circumstances allow. The British Horse Society[3] advises 5 feet ***minimum*** clearance to accommodate horses and riders. Ideally, a similar minimum width should be provided for the thick-set body of a boathorse and its harness. The swingletree or spreader bar on a boathorse harness is 3 feet across; therefore 4 feet is the ***minimum*** width for new accesses, but the full width of the towing path would be preferable. Greater width will be required if a sharp turn is to be negotiated e.g. to gain access to the towing path. Horses are not very flexible, their bodies curve but do not bend in the middle!

[3] British Horse Society, ibid

5.1.3 Surfaces of Structure

All surfaces of the barrier should be smooth, with no sharp angles or protuberances capable of injuring horses or damaging harness or towlines. Hinges and fastenings should not protrude.

Any post by the water's edge needs to be designed with a smooth, sloping rail on both the uphill and downhill sides to avoid snagging towlines as was done in the past (see **railings**).

5.1.4 Direction of Opening

Gates across the towing path that open AWAY from the water will avoid catching towlines.

5.2 Operation by Authorised Users

A standard key (e.g. BW Watermate, "handcuff" or RADAR) would allow users to unlock the opening sections of ALL barriers across the towing path. Alternatively, a new single national standard design could be introduced to allow only authorised users to open barriers. If padlocks were used these could be changed at intervals to maintain security.

5.3 Railings

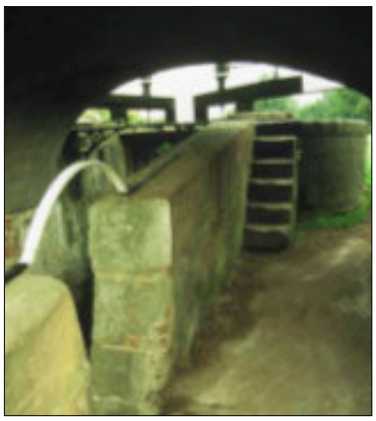

Figure 3
Rail designed to carry towlines over the gap

Detail design ought to follow traditional practice on the waterway in question.

Railings should have a totally smooth profile. and be maintained to avoid splits and splinters that can snag towlines and injure horses and walkers. Decorative knobs and Kee-clamp fastenings obstruct towlines and are to be avoided.

Railings ought to be constructed as lightly as is consistent with strength and safety so there is the minimum possible reduction of the towing path width. When railings are sited in tunnels or bridge-holes care is needed to ensure that they do not cause walkers and horses to be pushed into the masonry.

Railings ought to begin and end with a smooth ascent from / descent to ground level to avoid snagging towlines. Ideally the slope would be around 30° to the ground.

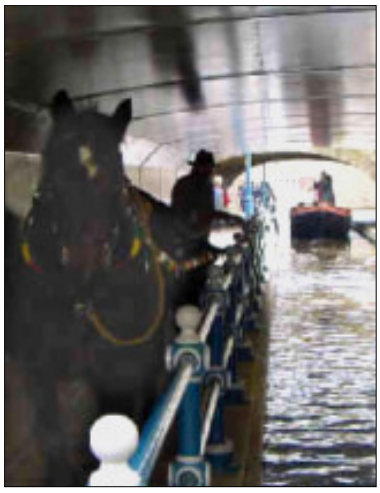

Figure 4
Poor railing design – knobs catch the towline

6 Towing Path Edges

6.1 Waterway Furniture, Signs, Lamp-posts

Badly-sited items can cause a loss of tension in the towline (and hence steerage way) at crucial moments.

Mooring rings, bollards, and (where moorings cannot be

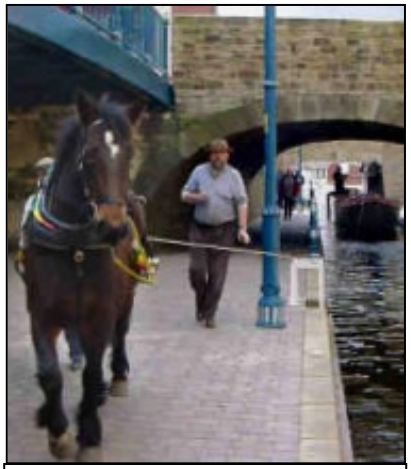

Figure 5
A badly sited lamp standard obstructs the towline

sited on the off-side) low electricity supply posts are best sited at the water's edge to avoid trip hazards from ropes, cables, etc trailing across the towing path.

Signposts, notice posts and boards, telegraph poles, lamp standards and similar high items need to be sited on the land side of the towing path (as opposed to on the waterside) so as not to obstruct towlines. These can sometimes be more appropriately located on the off-side of the waterway.

A horse's passage and the driver's sight lines can be blocked if careful consideration is not given to siting of these items. Sharply pointed signs and signs with sharp corners or edges should not be level with the head of horse or driver or sited on bends in the waterway or towing path.

6.2 Vegetation Maintenance

The towing path "from the hedge to the water's edge" ought to be kept clear of tall vegetation by using regular vegetation management / cutting regimes. Prevention of the growth of trees and bushes between the towing path and the water is particularly important.

Branches that overhang the towing path from hedgerow bushes and trees are a hazard to horses, harness and pedestrians and need to be cut back to ensure that the full width of the towing path is clear at head height.

Figure 6 - Poor vegetation management obstructs the towline

Natural habitats can be encouraged without impeding horseboats, by locating them on the off-side of the waterway (e.g. reed beds or developing wetland areas by localised flooding).

6.3 Piling (Including Tie Backs)

Softer bank protection instead of sheet piling is preferable; sheet piling can cause injury to people and animals if they happen to fall in and are trying to get out of the water. In the (admittedly rare) case of a boathorse falling in the water it is almost impossible to get the horse back out across sheet piling.

Where piling on the bank is anchored to piles in the towing path, both the anchor piles and the tie rods need to be kept buried to avoid causing a trip hazard for people and horses.

6.4 Horse Ramps (Horse Slips, Horse Dips)

Where the banks are walled rather than having sloping sides, ramps were sometimes installed in the towing path edge at intervals. They were often provided near railway bridges and other sources of fear in horses in order to allow the recovery of horses that had fallen into the water.

These ramps ought to be retained, repaired and maintained not only as features of historic interest but also so that they can be used for their original purpose if necessary.

Where slipways for trailed boats are being constructed these could be made suitable for use by horses by providing a non-slip surface and allowing horses to exit at the top.

7 Horseboating Furniture

Each waterway has its own native or traditional design of strapping stumps, bridge guards, rollers, etc. These need to be retained where currently in place. Where these have been removed they can be replaced to the original pattern as the maintenance programme allows.

7.1 Strapping Stumps at Locks

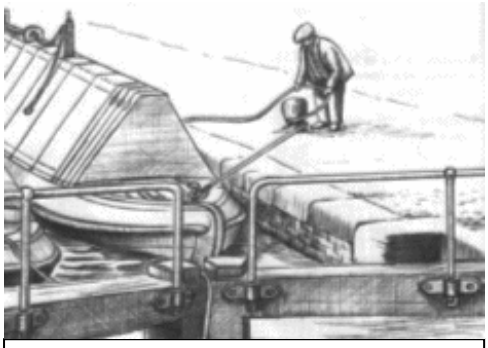

Figure 7
A strapping stump in use at a lock

Strapping stumps are the brakes for horsedrawn craft. They were typically sited near the heads and tails of locks and should be retained in original positions where they remain.

Where these have been removed or replaced in positions to facilitate safe boating by short modern craft, strapping stumps to the original design and location for the waterway ought to be installed.

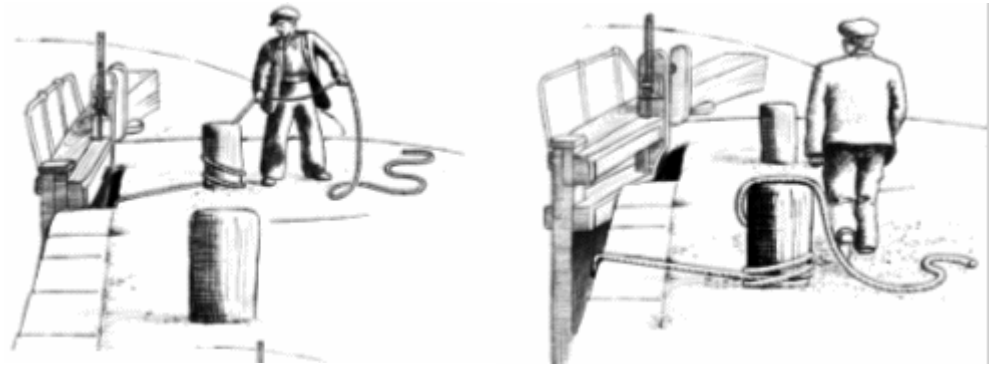

Figure 8
Siting and use of strapping stumps at the tail of a broad lock

7.2 Strapping Stumps Elsewhere

Strapping stumps were also commonly sited at junctions to bring horseboats around sharp turns with the aid of a line. Where these have been removed, strapping stumps to the original design and location for the waterway need to be installed.

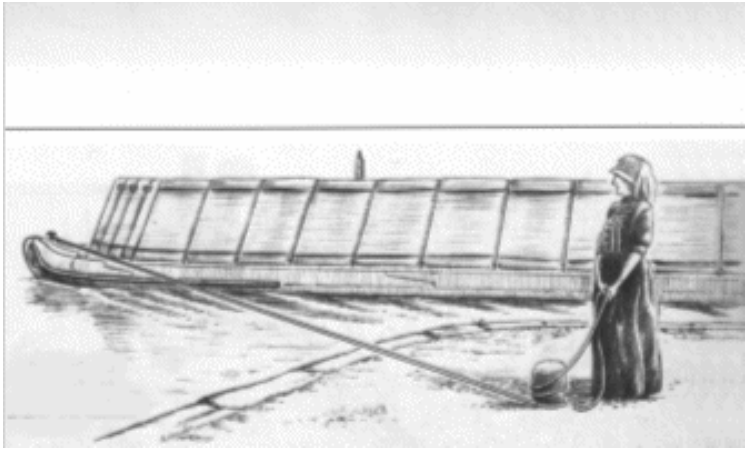

Figure 9 - Strapping a boat round a junction

7.3 Strapping *Posts on Lock Gates*

Where strapping posts on gates were provided during the horsedrawn working period of the waterway they should be provided on replacement gates to the local pattern.

Handrails on lock gates need to be designed to leave adequate space for ropes between the strapping post and the handrail.

Where metal caps have been retained or replaced it is essential that they are securely fastened to the gate, and not just left sitting loose, risking being pulled off in use.

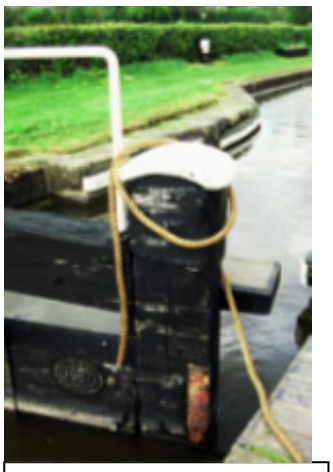

Figure 10 Handrail impeding safe use of strapping post on a lock gate

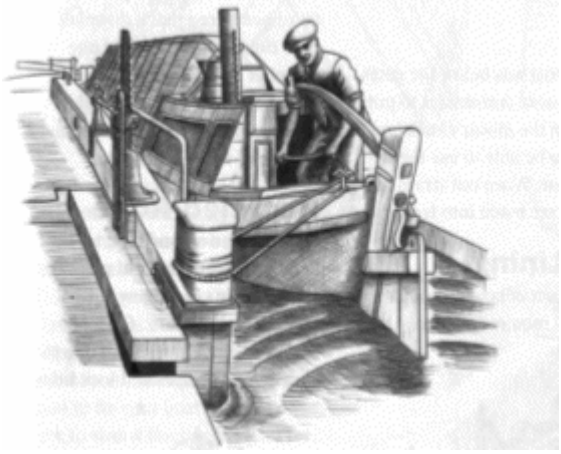

Figure 11 - Strapping a gate closed

7.4 Blocking Pins

Blocking pins are used to reduce the effort needed by a horse to start a boat moving out of a lock.

A 10-12 foot extension to the towline is made (the "block rope"), with a wooden toggle spliced in at one end and an eye splice at the other.

The towline is passed through a pulley on the boat's mast and the toggle in the extension passed through the eye at the boat end of the towline.

The eye in the extension is dropped over the blocking pin.

When the horse starts to pull, the pulley gives a 2 to 1 advantage. After the boat has moved several feet and has gained momentum, the toggle jams against the pulley. This stops the 2 to 1 advantage and causes the extension to go slack and drop off the pin as the boat passes. These pins survive in some flights of locks (e.g. Tardebigge, on the Worcester and Birmingham Canal). They have heritage value and are a great benefit to loaded horseboats and unpowered boats being bow-hauled.

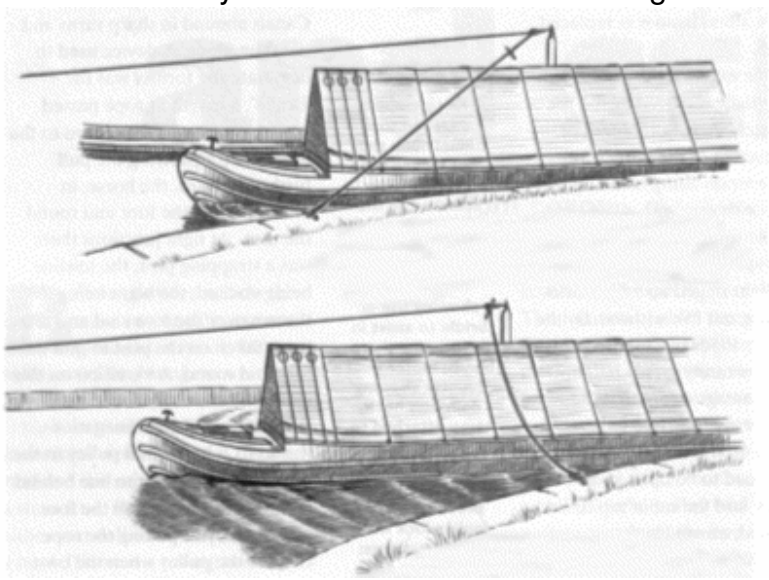

Figure 12 - Use of blocking pins

7.5 Holding-back Pins

Holding-back pins are used to stop a horseboat or butty being drawn forward by another boat as it leaves a wide lock travelling downhill.

This prevents two boats in the lock jamming against each other .

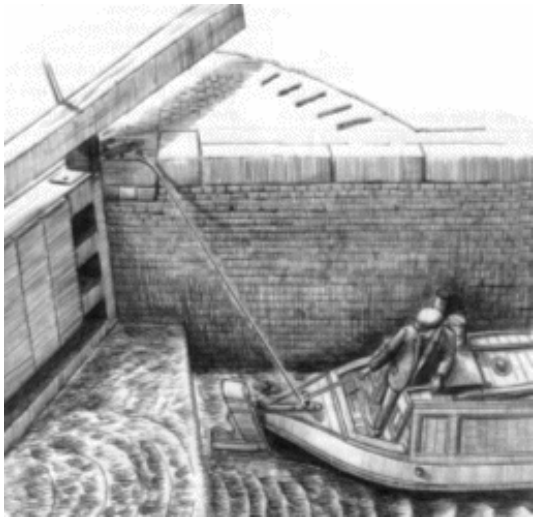

Figure 13 - Using a holding-back pin

7.6 Footbridges Across Locks

On some waterways, footbridges across lock tails and elsewhere were originally split or cantilevered to allow towlines to pass them.

Existing split or cantilevered bridges should be maintained in or reinstated to their original condition to allow towlines to pass through or under the bridge.

Figure 14 - Split bridge, Stourbridge Locks

7.7 Pulleys and Hooks

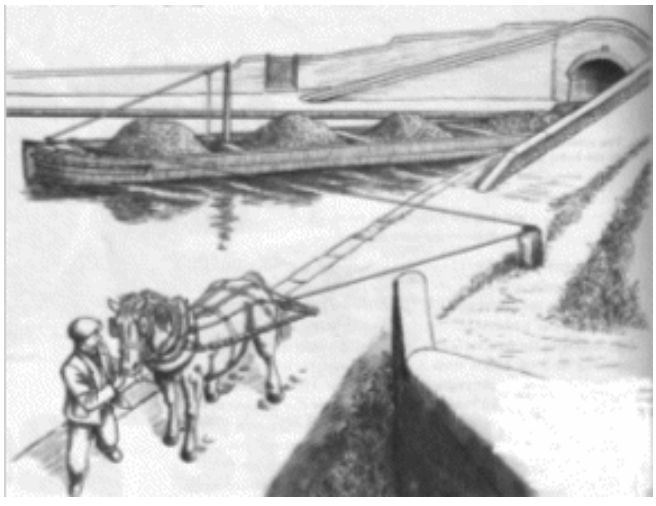

Figure 15
Using a pulley to negotiate a tight junction

Pulleys and hooks were installed in many locations to guide towlines around sharp corners, or to keep momentum up to bring the boat around a tight junction.

Pulleys were also provided, commonly at ground level, where a tunnel, dock or basin had no towing path and the horse could give the boat a boost by walking in the opposite direction to the boat with the towline round the pulley.

Where these have seized up with age, or are missing, repair or reinstatement would be advantageous.

8 Major Structures from the Horsedrawn Era

8.1 Stables

These ought to be conserved intact with their fittings where they survive. If the fittings are lost, the fabric of stables needs to be conserved in such a way that their original purpose remains discernible. Stalls have been successfully retained within tea-rooms and office accommodation converted from stables.

8.2 Roving Bridges, Side Bridges, Changeline / Turnover, Bridges

Care should be taken to ensure that these remain suitable for their original purpose, including:

- avoiding rough parapets that can snag towlines;
- retaining / reinstating guard irons on parapets designed to prevent lines catching on masonry;
- avoiding obstruction of the towline by trees, poorly sited notices, lamp standards, etc;

Figure 16
The smooth lines of this roving bridge give a clear passage for horses and towlines

- retaining the “as used” surface, designed to allow a horse to keep its footing on the slopes. Ridges designed to prevent horses and pedestrians slipping on bridge slopes should be maintained at or reinstated to the full width of the towing path rather than left as a token ridge in the centre only.

8.2.1 Roving Bridges and Side Bridges

Where a towpath continuity bridge has to be installed where an arm, basin, marina entrance, etc joins the main line on the towpath side the best practice is to carry the towing path over them on a fixed bridge of navigable height. Guidance on slope, surface, parapets, etc is provided elsewhere in this document.

The use of a lift bridge in these circumstances is to be avoided, as the structure inevitably obstructs towlines. Where swing bridges have to be used they need to be designed to avoid catching towlines on handrails, balance beams, etc.

8.2.2 Lift and Swing Bridges Across The Line Of The Canal

All movable bridges ought to be operable from the off-side of the waterway without obstructing the towing path.

9 Miscellaneous

9.1 Moorings (Long-term)

Permanent moorings are best sited on the off-side to avoid obstructing towlines.

9.2 Moorings (Casual)

Figure 17 - Passing casual moorings with the towline

Casual moorings and facilities such as sanitary stations need to be sited away from the starting points of horse-drawn passenger trip boats. A length of clear towing path is necessary to get sufficient speed up before the tension on the line can be released to allow it to be lifted over moored boats or (where necessary) cast off to allow the trip boat to drift past. The exact length of clear towing path needed will depend on the boat and local circumstances. A heavy barge will require a greater distance than a narrow boat, so consultation with the operators is essential.

Within the plying limits of horse-drawn passenger trip boats, casual moorings should be restricted or clearly signed to advise boaters of the horseboating operation and to ask them to avoid using tall aerials, wind generators, etc that could catch or obstruct towlines.

9.3 Angling Facilities

Where angling is to be promoted or specific facilities provided (such as staging or small jetties), these are best located on the off-side to avoid obstructing towlines and to avoid any disruption of either party's use of the waterway.

9.4 Hedges and Fences

As a general guide a well-maintained hedge, wall, metal park fencing or post and rail wooden fencing are suitable for horses, and can be used safely alongside towing paths.

Wire fencing, plain or barbed, is less desirable and potentially injurious. If barbed wire is proved to be a nuisance alongside a highway it is illegal (S.164 Highways Act 1980).

9.5 Education / Codes of Conduct

Waterway codes, skippers' guides and similar publications for users (whether boaters, cyclists, anglers) need to continue to include guidance on giving clear passage for horsedrawn craft, especially passenger trip boats.

Glossary

Item	Description
Blocking pin	A small curved metal hook with the prong facing away from the head or tail of a lock, normally on the off-side. Used to attach the eye of the "block rope".
Butty	A boat travelling in close company with another. Now commonly used to describe the unpowered part of a pair of narrowboats, but equally applicable to two horse or motor boats working together.
Changeline bridge	See Turnover bridge.
Holding back pin	A small metal pin around 2 in high near the quoin of the top gate of a wide lock, to take the eye of a light line used to hold an unpowered downhill boat back against the cill. Common on the Grand Union Canal
Kee clamp	A proprietary design of barrier where round posts and rails are joined by bulging "T" or "¬" shaped castings and secured by Allen keys. The bulging joining pieces obstruct towlines.
Line	A light rope with a purpose (e.g. mooring line, towline).
Roving bridge	A bridge situated at a canal junction provided to carry the towing path over the joining waterway.
Side bridge	A bridge carrying the towing path over the entrance to a basin or arm.
Spreader bar	A light-weight wooden bar used to keep the traces apart. The towline is connected to a rope triangle formed from the ends of the traces.
Strapping post	A rounded extension of the vertical member of a lock top gate at the opening end, to allow the gate to be closed and the boat stopped in one movement by the friction of a rope. Sometimes protected by a cast metal cap.
Strapping stump	Stout post sited • around locks so as to allow unpowered craft to be stopped safely by the friction of a line from the boat around the stump. • at junctions to allow an unpowered boat to negotiate a sharp turn with the aid of a line.
Swingletree	A wooden bar with central hook attached to the harness at the rear of the horse, to which the towline is connected.
Traces	The components of a horse's harness which transmit the pull from its collar to its load. Boathorse harness traces are commonly made of rope threaded through wooden bobbins to protect the horse from chafing by the rope.
Turnover bridge	A bridge situated at the point where the towing path changes from one side of a waterway to the other, and over which all horses engaged in towing have to pass. Often designed to allow the horse to cross without casting off the towline.

The Horseboating Society

Preserving and Promoting Horseboating

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