The Boater's Handbook

Basic Boathandling and Safety for Powered Boats

If you have received this book from a hire boat operator,
please return it after your holiday so it can be used again.

Canal & River Trust

in partnership with Environment Agency

Passenger Safety Checklist

Avoid slips and trips!

- Watch out for mooring ropes, bollards, holes and other hazards
- Use grab rails
- Wear non-slip shoes
- Don't try to jump from the boat onto the bank
- Wear a lifejacket if you can't swim, the deck's slippery or the boat's rocking

Don't get crushed!

- A moving boat has the force to crush you – keep your body out of the way
- Don't fend off with your arms, legs or a boat pole – let the fender take the impact
- Don't have your legs dangling over the side, your hands over the edge or your head out of the hatch
- Keep off the roof when underway (low bridges could knock you for six or worse)

Watch out for fire and fumes!

The bottled gas used for cookers, fridges and heaters is heavier than air and, if there's a leak, it'll lie in the bottom of the boat where it only takes a spark to ignite.

Watch out for fumes from cookers, cabin heaters and water heaters or from engine exhaust building up in the boat. Carbon monoxide poisoning is extremely dangerous – early signs include headaches, tiredness, sickness and dizziness, and other flu-like symptoms. Anyone affected should get medical help right away.

- Switch off appliances when you're not using them
- Keep ventilators open and free of obstructions
- If you smell exhaust, gas, or petrol fumes, raise the alert right away

Don't rock the boat!

- Think carefully before climbing onto the cabin roof as the boat could become top heavy and roll over
- Don't all stand together on the same side if it risks tipping the boat over

Preface

This booklet is the result of a detailed study of safe boating.

The research was carried out by the Canal & River Trust and the Environment Agency, with help from the British Marine Federation. As well as introducing the basics of boathandling, it aims to help people spot risks and avoid accidents.

Feel free to copy it. All we ask is that you don't alter our messages, pictograms or illustrations.

We've tried to make the information in the handbook applicable to inland waterways generally, but local conditions vary, especially on tidal waterways. So always seek local information if you're planning to visit an area that's new to you.

We want the information in the handbook to reach everyone who goes boating on the inland waterways in a powered boat. A pdf version is downloadable from **www.canalrivertrust.org.uk/safeboating**

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Cover photograph courtesy of the Environment Agency

Contents

Welcome to The Boater's Handbook

This handbook gives you all the boating basics – the essential knowledge and techniques you need to make sure you enjoy yourselves and stay safe. Reading it before setting off will help you to spot the risks and take simple action to avoid problems. If you do run into difficulties, this understanding should help you get out of trouble quickly and safely.

1 Boathandling

Part one takes you through the basic skills for handling your boat.

2 Boating Safety

Part two gives important safety rules to help you keep out of trouble. It's vital stuff. So please – for your own safety – read through carefully.

3 Rules of the Road

Part three gives you the basic rules of the road.

4 Good Boating Behaviour

Part four is all about respecting the environment, the wildlife and other waterways users.

5 Further Information

Part five provides contact details for the navigation authorities and lists other sources of useful information.

The Boater's Handbook is designed for newcomers to boating, but we hope it will also be a handy reminder for more experienced boaters.

Read this handbook before you set off, and keep it nearby for reference. Of course, you won't become an expert overnight just by reading a book – and it's impossible to cover every aspect of boating, every type of boat and every eventuality. You'll find pointers to sources of local waterway information in part five.

Short courses in boat handling are an excellent investment. There are details on page 51.

If you're hiring your boat, the operator will give you instructions. Pay close attention – and don't cast off until you feel confident!

Learn from the advice of local navigation staff and volunteers you may meet along the way.

Alert symbols

These symbols alert you to the most important safety messages.

You'll find them at the start of each part of the Boathandling section. Read the Boating Safety section thoroughly for full information on the risks and how to avoid them.


Falls


Fire, explosion and fumes


Crushing


Operating injuries


Collisions


Capsize

Who's in charge?

One of the great things about boating is that everyone can muck in together. But at least one person needs to know the boathandling basics, to understand the safety guidelines and to know what to do in an emergency.

So, once you've chosen a 'skipper', it'll be his or her job to make sure your crew and passengers have all the information they need to stay safe. It's a good idea to be clear on each crew member's duties.

Good boating takes teamwork. So you need competent crew who know how to handle the boat and how to stop the engine, and who can help with mooring, moving through locks, navigation and so on. As well as knowing the procedures, your crew should be aware of the safety risks in each situation and how to avoid them. Someone should be competent to take over if the skipper becomes ill.

Think very carefully before going boating alone as the risks are very much greater for you and other waterway users.

Passengers who aren't going to be helping with any of the work still need to read and understand the basic safety rules – so please show them the safety checklist at the front of this handbook.

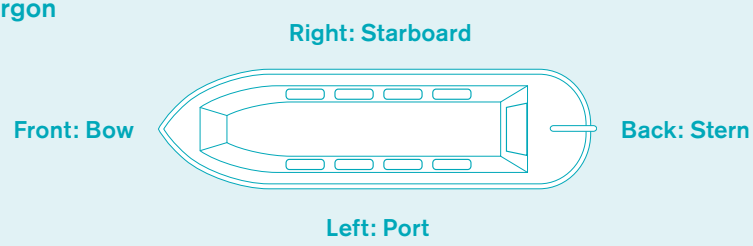
Before setting off

Follow these simple tips for trouble-free boating.

- Check that your boat, engine and fuel system are in good condition and meet Boat Safety Scheme requirements – contact details on page 51
- Make sure you and your crew know how to handle the boat – and have the skills for the waterway you're using
- Get information on possible stoppages, stream conditions and tides and if you're planning to go on unfamiliar waterways check that your boat will fit through bridges and locks and that the waterway will be deep enough – see contacts list on page 56
- Plan your cruise and allow enough time to complete it without rushing. Add the number of locks to the number of miles and divide by 3 to get a rough idea of the minimum number of hours that a journey will take – it could take longer if there isn't much depth or you need to wait to use locks
- It's not a good idea to cruise in the dark or when visibility's bad – if you have to, take extra care
- Make sure you've got enough water and fuel on board for your trip

Information

Boat jargon



Warning

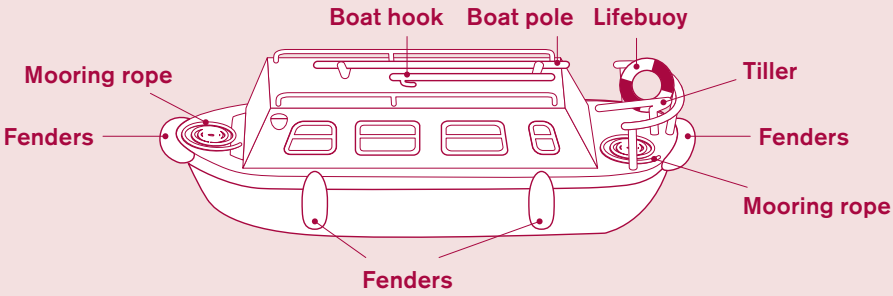
Don't drink and drive – as relevant for boats as cars – alcohol impairs your judgement and makes accidents more likely.

Boats come in different sizes, shapes and materials – and they all behave differently. Before you set off, spend some time getting to know your boat.

Equipment checklist

Make sure you know where to find these things:

- Lifebuoy, lifeline (if supplied), lifejackets or buoyancy aids
- Anchor – for rivers and tidal waters, lochs and lakes – the rope and chain together should be at least six times as long as the deepest part
- Fire extinguisher(s) and fire blanket
- Emergency shut-offs for battery, gas and fuel
- Bilge pump
- Emergency torch
- Mooring ropes – long enough to stretch from your boat to the bollard and back, even when you're in a deep lock
- Mooring stakes and hammer
- Horn
- First aid kit
- Boat pole or hook
- Gangplank
- Windlass (see page 23)



Setting off

Start the engine, keep it in neutral and allow some time for it to warm up before you move off. Untie the front and back mooring ropes from the bank, but leave them tied to the boat, coiled and ready for use. On rivers, untie the downstream rope first. Make sure your ropes can't trail in the water and get caught in the propeller. Don't forget to stow the mooring stakes and hammer.

Because the boat steers from the back, you can't drive away from the bank as in a car. Check the area is clear of boat traffic then push the boat away from the bank so you can make a clean getaway, with your propeller in deep water. In shallow water, push the back of the boat out, then reverse away until there's room to straighten up.

When the boat's straight, go into forward gear and accelerate gently to cruising speed.

Warning

Checking for weed or debris around the prop?
Turn the engine off and take the key out of the ignition. Remove the weed hatch and check the propeller. Take care when you remove any debris that is caught or wrapped around. It's a good idea to wear thick gloves. Fasten the lid back securely and, when you start off, look to check that it isn't leaking.

Under way

On all waterways, the rule of the road is to drive on the right. On wide waterways this may be easy. But on most canals, unless there's another boat coming towards you, you'll steer down the middle as it's likely to be shallow near the edges.

When you do meet an approaching boat, keep to the right and pass 'port-to-port' (the left side of your boat passes the left side of the approaching boat).

Don't cut the corner when going round bends. You run the risk of a collision or going aground.

Read up on all the other rules of the road in Part three on page 52.

We want everyone to be able to enjoy our waterways safely. This means you need to be aware of other users and consider their needs.

Go slowly past boats, anglers and other waterway users.

Don't let your boat create a breaking wave or a lowering of the water along the bank just ahead of the boat. These are signs that you should throttle back to prevent damage to the bank and disturbance to moored boats. Excessive speed can also dislodge mooring pins.

Look out for swimmers, canoes, punts, rowing boats and sailing dinghies. Remember they cannot always see or hear you approaching. Slow down so that your boat isn't creating a wave. Give them plenty of room as you pass by. Warn other boaters coming in the opposite direction if you can.

Warning

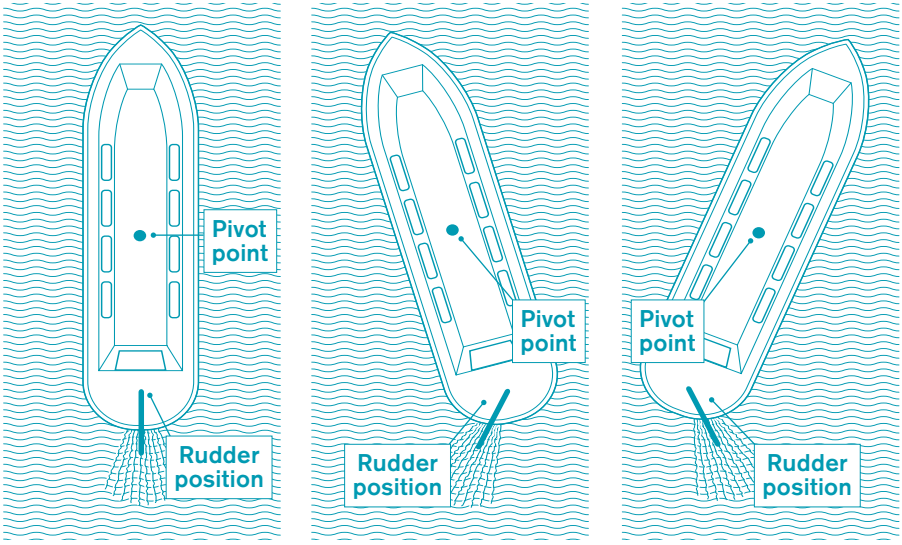
Watch out for other waterway users – canoes, other unpowered boats or even swimmers.

Steering

Steering a boat with a **wheel** is like steering a car, but it's more difficult to judge where your wheel should be for going straight ahead. Get to know the feel of the wheel and the rudder position before you set off.

Using a **tiller** to steer is simple – as long as you remember that pushing to the right will make the boat head left and vice versa. Be patient and plan ahead – the boat will take a few seconds to respond.

Most boats pivot from a point about halfway along their length. That means you need to watch out for the front and the back. If you line up the front only and then try to turn into a narrow gap – a bridge or lock, for example – you risk hitting the side with the back of your boat. Watch out for currents or cross-winds pushing you off-course too.



Warning

You can't steer unless your boat is in gear. **Remember – no gear, no steer.**

Going aground

Everyone goes aground at some point – **it's not a disaster.**

Don't try to force your way over the obstacle or you'll find yourself even more stuck. Instead, use reverse gear to back away into deeper water.

If you're firmly stuck, ask some or all of the crew to move to the side or back of the boat that's still floating – but not to the extent that you'd risk capsizing! Now use the pole to push off against a solid object or the bed of the waterway – if you put the pole straight down and try to use it as a lever, it'll either break or you'll fall in. And keep the top of the pole away from your face and body, in case it slips suddenly.

Slowing down and stopping

Because boats don't have brakes, you need to give yourself plenty of time to stop – especially when travelling downstream on flowing waters.

Ease off the throttle, move into neutral and then use reverse gear to slow down and come to a final halt. Opening the throttle to give more engine revs will increase the braking effect when in reverse. Remember that it's extremely difficult to steer when you're in reverse gear. You may need an occasional forward boost to get better control.

Special safety tips

- Always be aware of what's happening around you – on the boat, in the water and on the banks
- Think ahead and make sure you're lined up for bridge and lock entrances well in advance
- On a traditional or semi-trad narrowboat, stand in front of the small rear deck and not beside the tiller so you won't fall off when making sharp turns or going into reverse. Don't let passengers stand or sit in the way of the tiller

Mooring

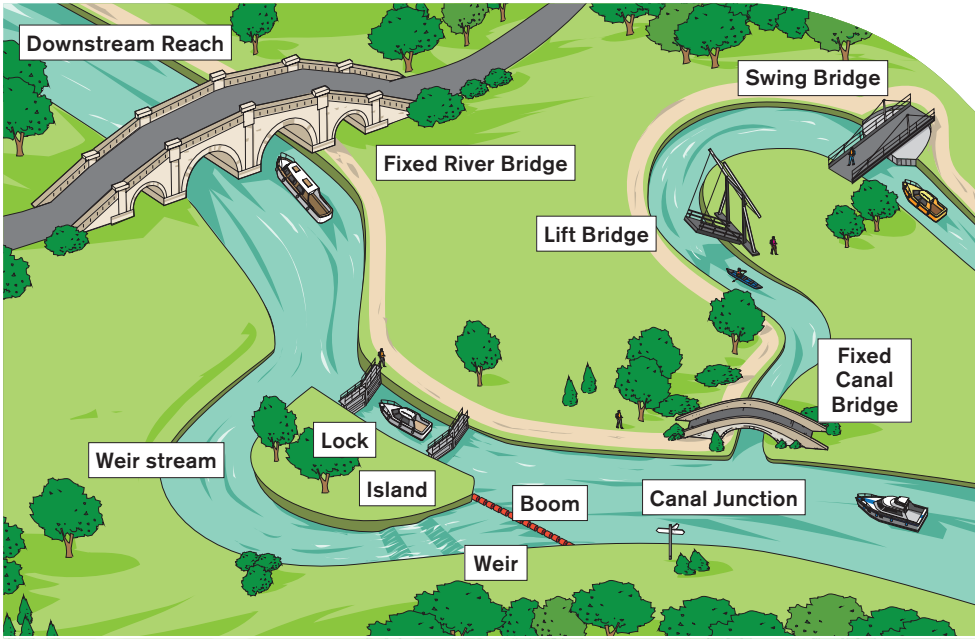
Prepare your crew in advance. Make sure they know what their jobs will be.

Slow down almost to a stop and carry out all your manoeuvres as slowly as possible.

Stop short of where you want to moor with your boat straight and in deep water. Move forward very slowly, pointing the front of the boat towards the bank, then use reverse to stop the boat just before the front hits the bank. Put the engine into neutral.

Your crew should step ashore – not jump. They can either carry the ropes with them – making sure there's plenty of slack and that one end is fixed to the boat – or you can pass them the ropes once they're on land.

On rivers you should moor with the front of your boat facing into the stream. This gives you more control as you slow to a halt. So, if you're heading downstream, you'll need to pass the mooring and turn your boat around. The same applies if you have a very strong wind behind you. It is easier to go past the mooring and turn your boat around so that you moor into the wind. Allow for the fact that the water level may rise or fall by several feet. If it's a tidal river, you should always moor facing the tide – and avoid mooring to the bank overnight.



Can I moor here?

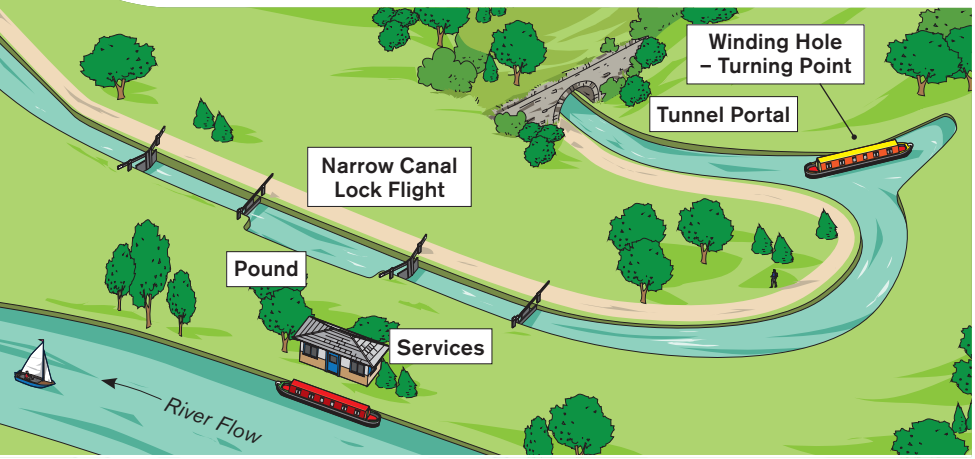
It's usually best to moor against the tow path or on signed visitor moorings. Many riverbanks and the non-towpath side of canals are private property.

Check that you're not a hazard to other boats or to people using the bank. At busy sites position your boat to leave room for other boats to tie up too. You could even encourage another boat to tie up alongside you providing it wouldn't interfere with boats passing by. Respect any time limits.

If there is no sign you are generally allowed to moor for up to 14 days. You may be charged for staying longer. Some moorings, particularly on rivers, charge from the day of your arrival.

Don't moor

- In locks, lock approaches or in lock flights
- Blocking taps and other services unless you are using them
- Near any bridges
- Under fixed bridges
- Near weirs
- Near sharp bends
- On the outside of bends
- By blind spots
- In or opposite turning points
- At junctions
- To the bank on a tidal river – you might find yourself hanging from the ropes when the tide goes out!
- On landing places for canoes – usually near locks
- In stretches marked out for an angling match
- Where there are signs that prohibit mooring

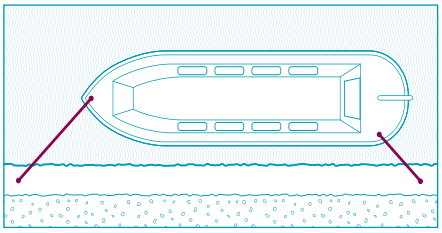


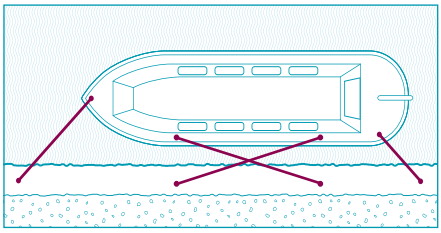
Tying up

To keep your boat secure, you need to tie it to the bank with a rope from both the front and the back. On rivers, you should fix your upstream rope first.

Many mooring sites have bollards or rings to tie up to – choose ones a short distance beyond the front and the back of your boat. Run your ropes at about 45° from your boat, loop them back onto the boat and tie securely, but not too taut.

To stop your boat moving backwards and forwards in flowing water, you can use extra ropes as 'springs' – see example below right.





If there aren't any bollards or rings, use your mooring stakes if the ground is suitable. Do not attempt to hammer into concrete or other hard surfaces. If the ground is soft, check the stability of the bank and watch out for signs of underground pipes or cables before you start hammering. Position the stakes as far from the bank as you can, but don't tie your ropes across the towpath. Knock them in to about three-quarters their length and make sure they're firm. Mark them with a piece of light-coloured cloth or a white plastic bag or bottle so that other towpath users can see them clearly.

Leave some slack in your ropes – this is especially important on tidal waterways or rivers. If the ropes are too tight and the water level drops, your boat could be left hanging from the bank.

Remember that your anchor can be used if you need added security or extra help in a strong stream or tide – and you should still use mooring ropes.

Special safety tips

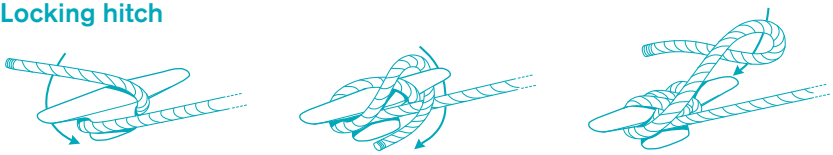
Make sure you know how to use your ropes properly.

Keep them coiled, free of knots – and don't drop them in the water, especially near a propeller. A rope can easily get wrapped around the propeller which will stall the engine and leave you with no way to control the boat.

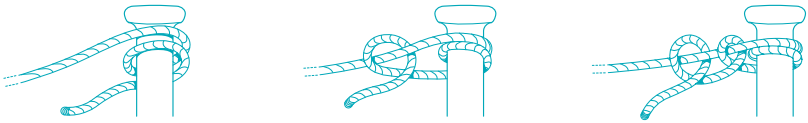
Information

Useful knots

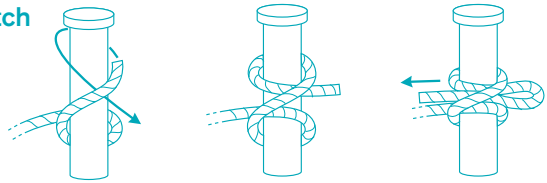
Locking hitch



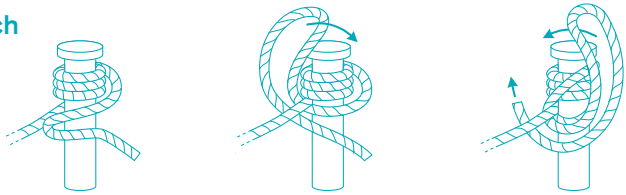
Round turn and two half hitches



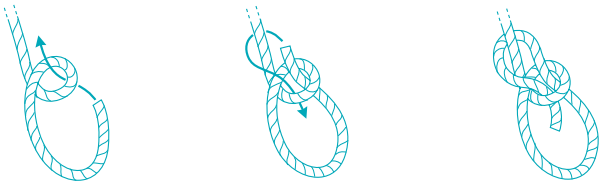
Quick release clove hitch



Canalman's hitch



Bowline



It's well worth learning more about these and other knots.
See links on page 58.

Locks

There's no mystery to using locks – just a series of step-by-step tasks. Understand the procedure, take your time and you'll be on your way with no problem.

A lock is simply a chamber with gates at either end. By emptying or filling that chamber with water, your boat can move up or down onto a new section of the waterway.

Although there are many different kinds of locks, they all work on the same basic principle. With the lock gates closed, you open sluices or paddles to let the water in or out. When the water level under your boat is the same as the level you're moving to, you'll be able to open the gates to move in or out of the lock.

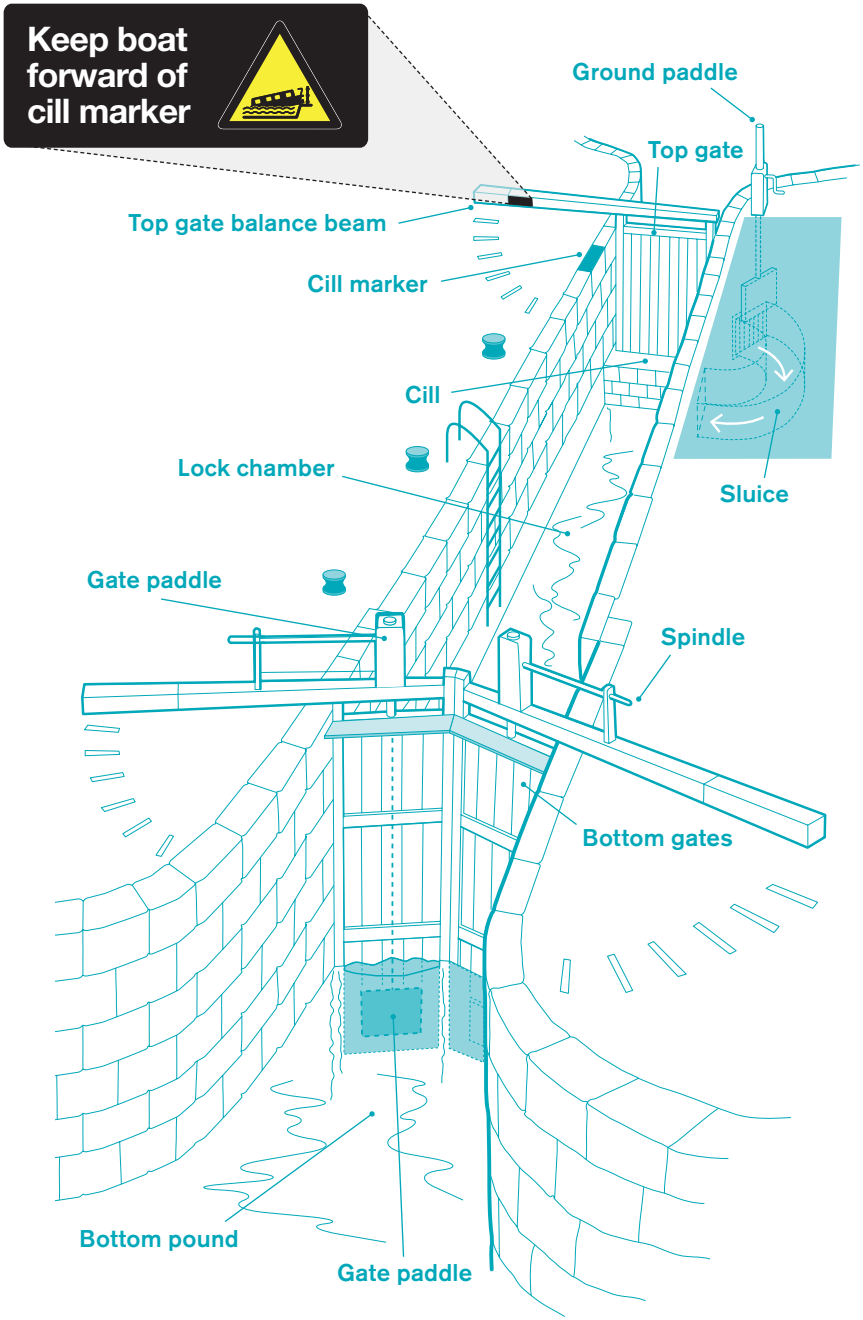
Some locks you operate yourself and others are operated by lock-keepers. Check your particular waterway for details. Always obey specific lock instructions and local information.

Special safety tips

- Take your time – and keep an eye out for problems
- Enter and leave slowly so bumps are less likely to cause damage
- Always have a competent person on board while the boat's in the lock
- Keep your boat well away from the gates and cills
- Boats tend to bang about when water flows in and out of a lock – stay alert
- When using fenders, make sure they don't get caught up on the lockside or gates
- Watch out for slippery surfaces when you're pushing the gates open
- Work out some clear signals so that the crew and skipper can communicate quickly – a signal that means 'close all the paddles,' for example
- Wait for the boat already in the lock to leave before you start opening or closing paddles
- Watch out for unprotected drops around the lockside, especially when opening gates
- If there is a bridge, use it when crossing the lock. If not, take care using the walking board attached to the gates – do not jump across part-opened gates
- Ask before helping other boaters with their lock operation
- Don't use a lock when it's discharging flood water

Features of a typical narrow canal lock

Typical cill warning sign on balance beam



Going up

As you approach the lock, drop a crew member off to check whether it's full of water or empty. If it's empty, they can open the gates and you can steer the boat straight in.

If it's full, moor up below the lock, far enough away to avoid the currents while the lock is emptying.

If it's full your crew must look to see if there is a boat already waiting to come down the lock or one is approaching. Let them use the lock first. This will save water. When they leave the lock will be ready for you to go in.

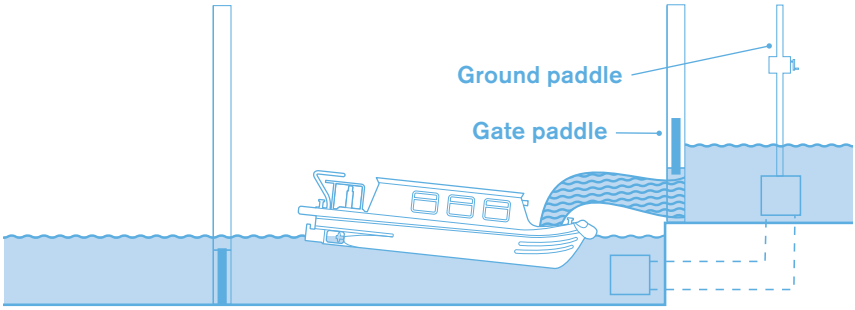
If there's no boat in sight check that the paddles at the top of the lock are fully closed down, then empty the lock by slowly raising open the bottom gate paddles. Open the gates and steer in.

Close the gates and the paddles (or check that these are already down if the lock was ready for you).

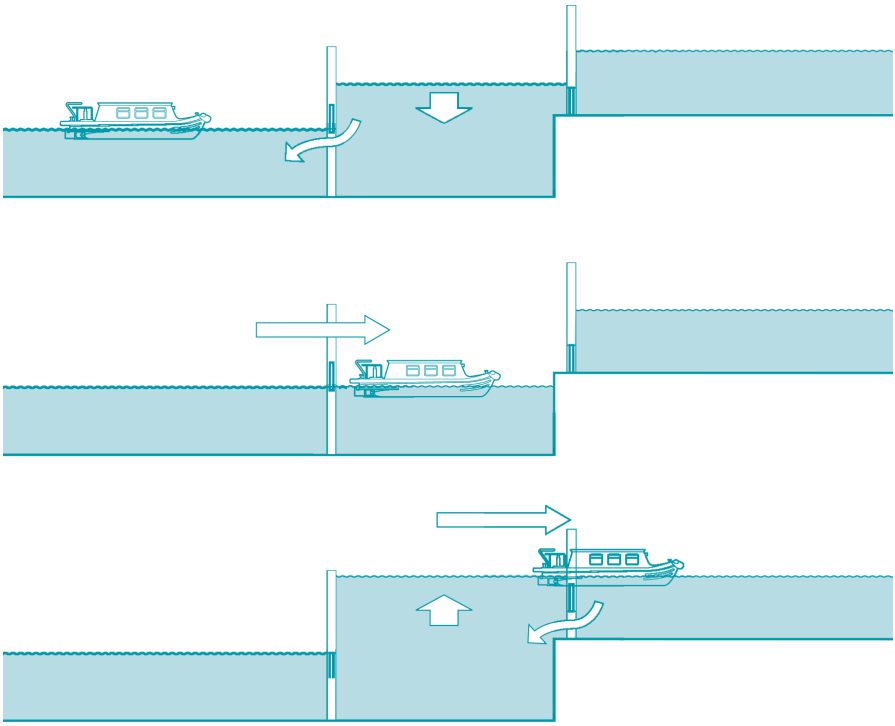
If there are ground paddles by the top gate, open these first. Wait until the lock is half full before opening the gate paddles. If there are only gate paddles, open them **very** slowly, and a little at a time, especially if the paddles are above the low water level.

Warning

This is what can happen **if you open the gate paddles too soon.**



Going up



In wide and river locks keep your boat steady using front and back ropes looped round the bollards – take an extra turn around the bollard to stop the boat pulling you, but don't tie up.

In narrow canal locks many boaters prefer to use the engine to control the boat. If the top gate has a smooth rubbing board you can keep a steel boat steady by using your engine to push very gently against it as the water level rises. Others prefer to control the boat with ropes looped round the bollards.

When the lock is full, open the gates and move your boat out. Lower the paddles – and close the gates behind you unless a boat coming towards you wants to use the lock.

If the gates don't open or close easily, wait till the water level's absolutely equal.

If the gates don't open fully, close them and look for trapped debris, removing it with your boat-hook.

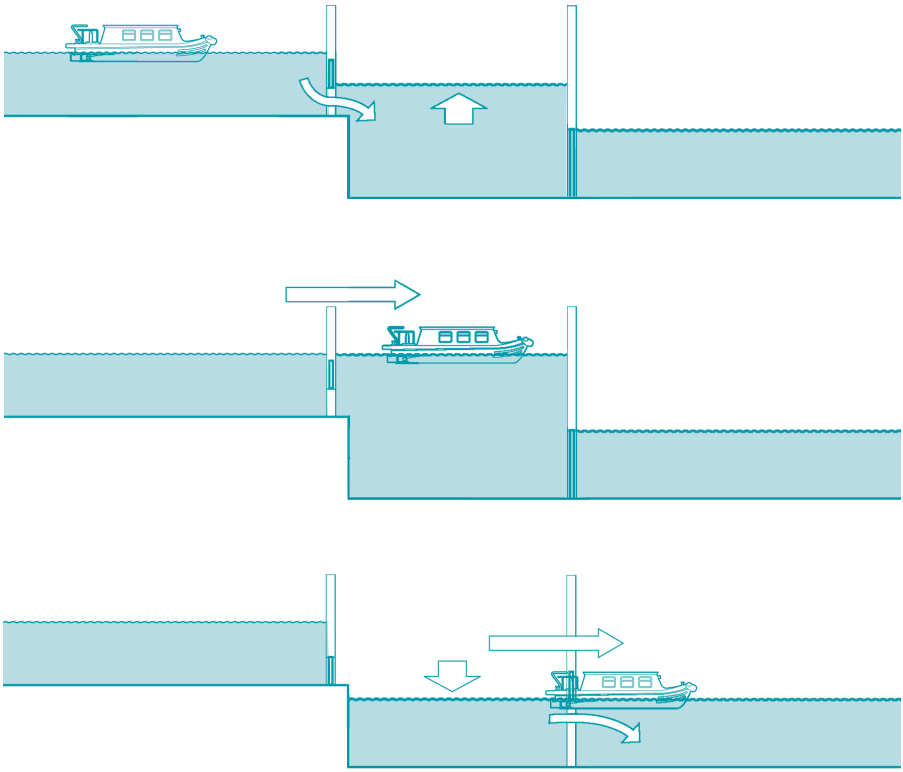
Going down

As you approach the lock, drop a crew member off to check whether it's full of water or empty. If it's already full they can open the gates and you can steer the boat straight in. If it's not, moor up while it's prepared.

If the lock is empty, your crew must look to see if there is a boat already waiting to go up the lock or one is approaching. Let them use the lock first. This will save water. When they leave, the lock will be ready for you to go in.

If the lock is empty and no boat is in sight, check that the bottom gates and paddles are closed and then fill the lock by opening the paddles at the end nearest to your boat. When the lock's full, open the gate and steer in. Close the gates and lower the paddles.

Open the paddles in front of the boat (at the bottom gate) to empty the lock, using your engine or ropes to keep the boat as still as possible. Use ropes to keep your boat parallel to the lock side in wide and river locks.



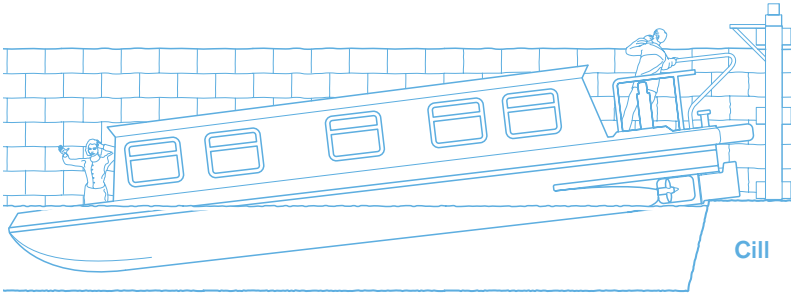
Going down

When the water levels are equal, open the bottom gates and take the boat out. Close the gates and lower the paddles before you move on, unless a boat coming from the opposite direction wants to use the lock.

Warning

Keep the back of your boat well forward of the cill below the top gates.

Cills stick out by up to 5ft (1.5m) and you can only see them as the lock empties. Most locks have markers to show you the approximate position of the cill. If you are not alert, it's easy to get the back of the boat 'hung up' on the cill.



Warning

If someone falls into the lock, act quickly. If there's no lock-keeper to take charge:

- Close all the paddles
- Throw a lifeline or lifebuoy
- Stop the engine and keep the boat still
- If there's no ladder – or the person can't climb – you may need to fill the lock slowly to bring them up to your level. Or, if the lock is almost empty, slowly lower the water level, open the gate and draw the person to safety using the lifeline or a rope
- **NEVER** jump into the water yourself to rescue someone who has fallen in

Boat in the lock

Warning

Floating freely?
As the water level rises or falls, keep a constant eye on your boat to check that it's floating freely.

If it does get caught or jammed, immediately close all the paddles and work out what needs to be done to get it level again.

- **Going down**
  If the side of your boat is caught against the lock wall or the back is caught on the cill close the bottom gate paddles to stop the water falling further. Slowly open the top gate paddles to refill the lock. Check for damage. If your ropes get snarled or too tight to let your boat move down freely slacken them off if you can. If not, refill the lock.

- **Going up**
  If the front of your boat is caught under part of the top gate or your rudder is trapped between the bottom gates, close the top paddles to stop the lock filling. Open the bottom gate paddles to allow the water level to fall.

If you're sharing the lock with another boat, make sure there's a safe distance between you. Use ropes looped round the bollards to keep you in position.

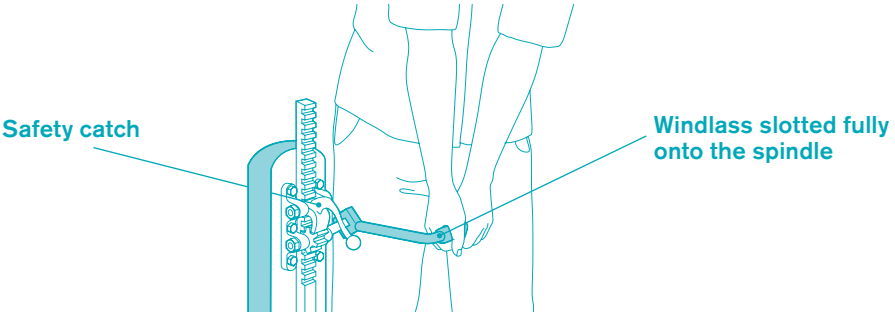
Special safety tips

- If you use ropes to keep the boat steady in the lock, don't try to take the full strain of the boat directly with the rope – wind it once around the bollard
- Take special care not to let your fingers get between the rope and the bollard

Working the paddle gear

Upstream (top) paddles fill the lock. Downstream (bottom) ones empty it. Paddle gear can be either hydraulic or rack and pinion. On the rack and pinion type, remember to engage the safety catch before winding up the paddles. This stops the gears from slipping down. When you've finished winding the paddles up, check the safety catch is in position and then take off your windlass.

Rack and pinion paddle gear



With one crew member at the helm and one at the paddles, you wind the paddle gear up and down using a windlass or lock key. You should always wind them bit-by-bit – and keep an eye on the effect of the moving water on your boat.

To close the paddle, take the weight on your windlass, then lift off the safety catch and wind the paddle down – if you let it drop, the spinning windlass could injure you.

Paddle gear that it is enclosed often has an indicator to show how far it is open (up) or closed (down).

Special safety tips

- A flying windlass can cause serious injury! To avoid an accidental launch:
  - Keep a firm grip and don't let go
  - Only use a windlass that fits the spindle snugly
  - Make sure the windlass is fully slotted onto the spindle
  - Always use the safety catch when winding paddles up
  - Never leave the windlass on the spindle unattended
- Keep fingers, hair and clothing away from the mechanism

Sharing locks

Information

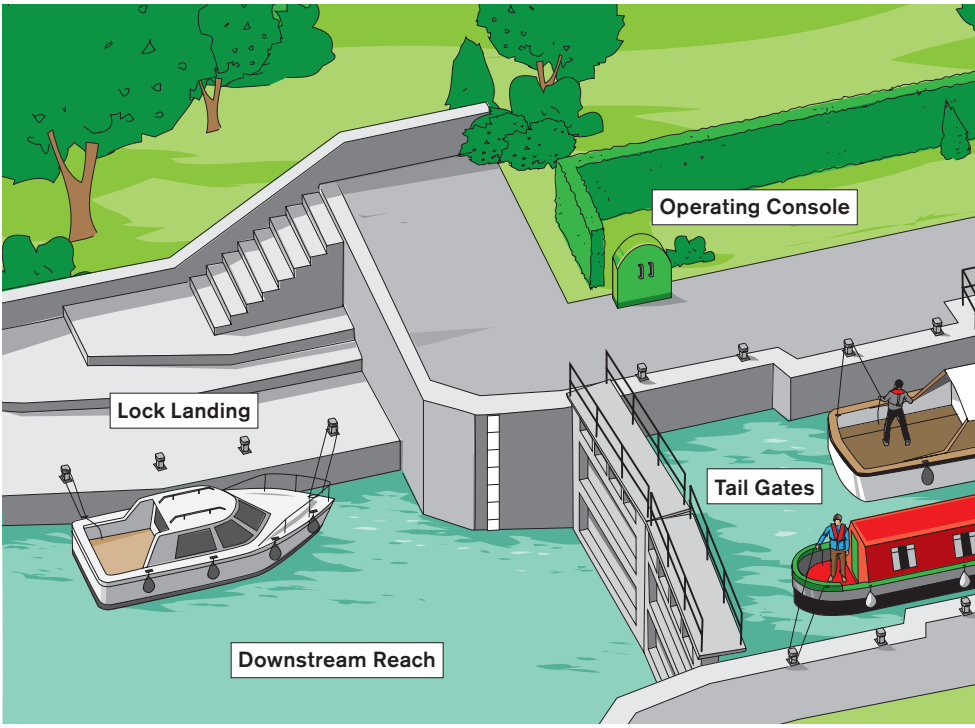
Sharing a lock – saving water

Always share a lock if you can.
The heavier boat should go in first. This reduces the risk of, say, a steel hull crushing a fibreglass one. Also the water flow doesn't pull it into the lighter boat.

In broad locks, boats should be kept to the side with ropes looped round the bollards. Slowly open the two paddles by equal amounts and at the same time if possible.

Some lock walls taper slightly from top to bottom so if you're travelling side by side with another boat, make sure there's plenty of room between you.

It's sometimes possible to get two short boats end-to-end in a narrow lock, but check that you both have enough room to avoid the cill and gates.



Powered locks

Some waterways – the Thames, Severn, and Trent, for example – have large powered locks, operated by lock-keepers.

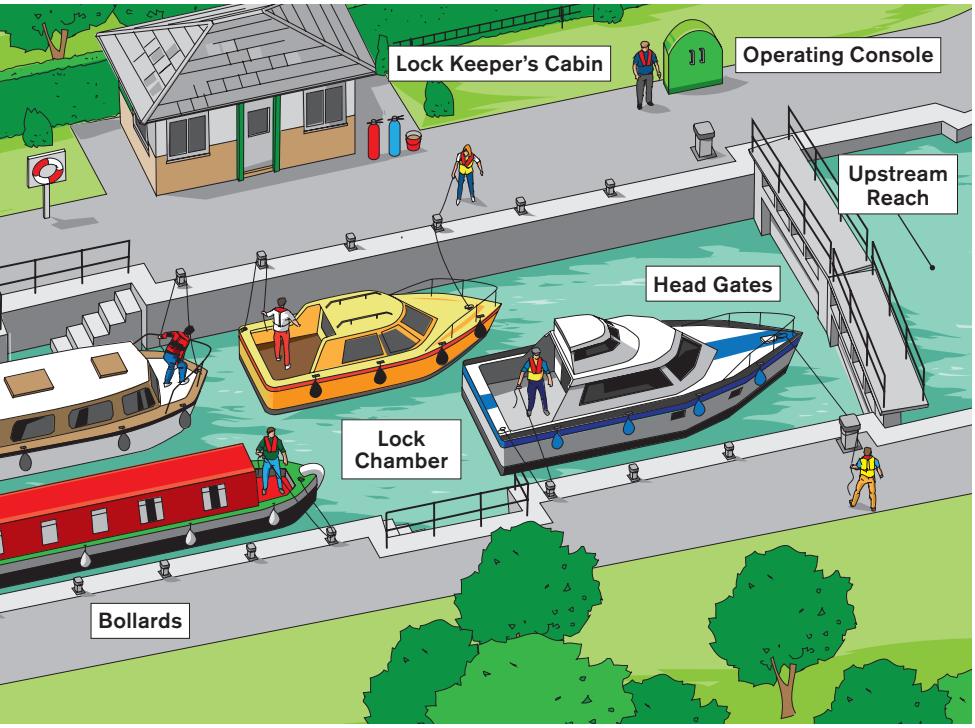
If the gates are closed moor on the landing stage leaving room for other boats to land behind you, if possible.

Always follow the lock-keeper's instructions and local rules. On the Thames and Anglian waterways, for example, you must switch your engine off in the lock, and use ropes to control your boat.

Some locks (for example on the Severn) can only be operated by the lock-keeper. You can operate others (for example on the Thames and Trent) when the lock-keeper is not on duty.

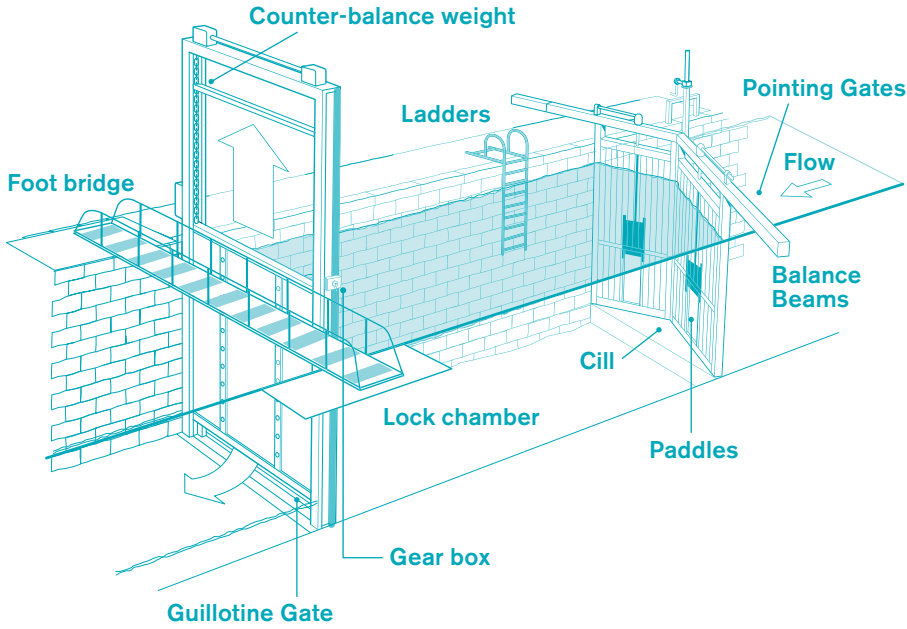
If the lock has traffic light signals, amber usually means it is on user-operation and you should proceed with care.

If you are operating the lock yourself, follow the instructions that you will find at the operating console. You may need to use a navigation authority facilities key.



Guillotine gates

You'll find many locks with guillotine gates on the Anglian waterways. They have steel or wooden pointing gates – also known as mitre doors – at one end, and vertical guillotine gates at the other end. Many are electrically-operated and some are wound up and down by hand.



Gates open?

Go into the lock slowly and moor up. Make sure the guillotine gate, pointing gates and paddles (if there are any) are closed.

Depending on which way you're going, open the paddles in the pointing doors or lift the guillotine gate a few centimetres **slowly**. If the water flows in or out of the lock too quickly, close the gate and start again.

Guillotine gates that are electrically powered automatically open a little at a time to let water out slowly. Some guillotine gates in Yorkshire have gate paddles.

The crew in charge of the mooring lines should keep the ropes taut as water levels change.

When the water levels are equal, open the pointing doors or guillotine gate fully – depending on which way you're headed.

Guillotine gates

Gates closed?

Moor up at the landing stage and check that all doors, gates and paddles are closed.

Fill or empty the lock **slowly**. When the levels are equal, open the doors or gate fully, steer into the lock and follow the procedure above.

When you've finished using the lock close the paddles in the doors. Always leave the pointing doors closed and the vertical gate raised, secured and locked, unless directed otherwise.

Reversed Locks

Locks on the Nene and Great Ouse may be used to discharge flood water after heavy rain. The pointing gates are chained open and the guillotine gate is used as a sluice. The locks cannot be used and you are strongly advised to tie up when the river is flowing so strongly. See the strong stream advice on page 48.

Special safety tips

- Make sure that the boat does not get caught on the lockside as the lock empties
- You may need to use fenders to stop your boat getting caught on the safety chains that run alongside the lock
- Some locks, notably on the Nene, may have water pouring over the top of the pointing gates. Keep your boat clear

Information

You need a key to operate locks on the River Nene, Great Ouse and the Ancholme, because the vertical gates have security locks. Call the Environment Agency boating information number on page 56 for how to get one.

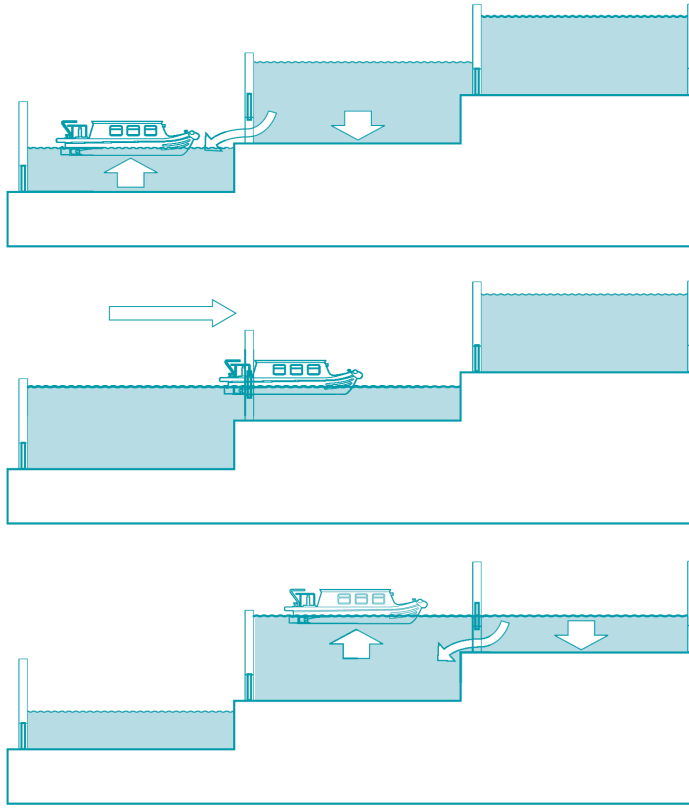
Staircase locks

Sometimes, you'll find two, three, four or even five locks joined in a staircase. That means the bottom gates of one lock are also the top gates of the next, and water from one lock fills the lock below. Usually you need to prepare all the locks before you start through the staircase. Check that another boat isn't already in the staircase coming in the opposite direction.

Never empty a lock unless the one below it is already empty.
But bear in mind that locks should never be completely empty – the lowest water level should still be deep enough to float your boat. Some staircase locks have markers to show you the level. Once you've prepared the locks, make sure all the paddles are fully closed.

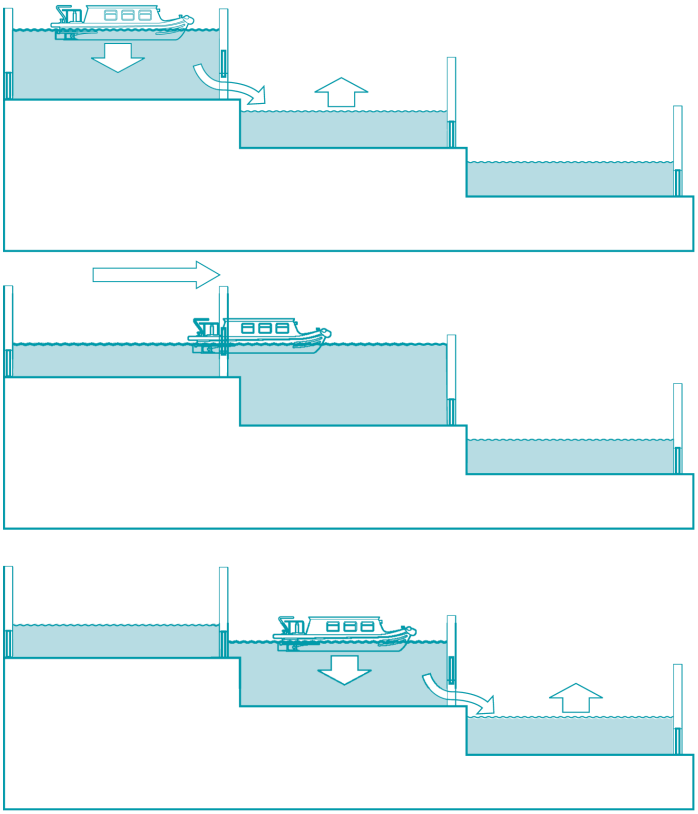
If the water level isn't right, you could get stuck on the cill between the locks. If you do, just make sure the paddles below the boat are closed and slowly let the water into the lock from the lock above using the ground paddles only.

Going up



Staircase locks

Going down



Warning

Stumped by the staircase?
Usually if you're going up, the bottom lock should be empty and the rest full. If you're going down, the top lock should be full and the others empty. But this doesn't always apply (for example, at the Foxton and Watford Flights on the Grand Union Canal) so do check local instructions, on a notice board or in your guidebook.

Bridges

You'll come across a whole range of bridges on your travels. Some are fixed and some need to be moved out of the way to let your boat pass.

Check your waterway guide for the sorts of bridge to expect on your journey.

Remember that many bridges have low headroom. Weather conditions upstream have an effect on river water levels – adequate clearance today might disappear tomorrow if water levels rise.

Bridges can be narrow too, which means river water tends to speed up as you get nearer. This can draw your boat towards the bridge, so stay alert.

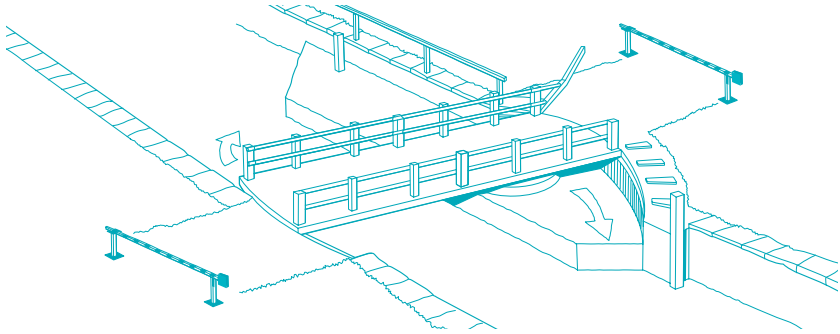
Boats travelling downstream on rivers have the right of way at bridges and narrow sections.

Moveable bridges

Land your crew well before you reach the bridge – it gives you space to get the boat lined up straight to go through. They might need the windlass and navigation authority key.

If it's a traffic bridge, check that the road's clear and close the warning barriers if there are any. Don't forget to open the barriers once the bridge is back in place.

Manual swing bridges

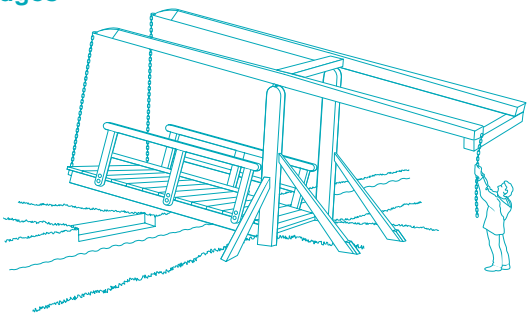


Unhook the retaining chain and give the bridge a good – but controlled – shove. You might need to slow the swing down to stop the bridge bouncing back across the canal when it hits the buffer stop.

When the boat's through, push the bridge firmly into place and put the retaining chain or lock back on.

Bridges

Manual lift bridges



Pull the chain hanging from the balance arm. When the bridge is open, unless it's obvious that there's a mechanism to stop the bridge from lowering by itself, sit an adult on the arm to keep it raised until the boat's clear of the bridge.

Gently lower the bridge by the chain, taking care not to let it drop.

Mechanised bridges

Mechanised bridges are either opened using the windlass, or are powered and need a navigation authority facilities key. Often you can't move the traffic barriers until you've unlocked the control box. And you can't move the barriers back again until the bridge is back in its original position.

Some modern bridges have wedges so they don't bounce when cars cross them. You should find instructions at the bridge on how to release them. Please make sure they're back in place before you let traffic back over. Otherwise vehicles will damage the bridge mechanism.

Some bridges (for example on the Caledonian Canal) are operated by bridge-keepers. Look out for traffic lights that tell you whether the bridge is ready for you to go through. Don't try to pass under them unless instructed by the bridge-keeper.

Warning

Bridge trouble?
If a bridge breaks down, don't try to force it. Call for help. There should be a phone number on the bridge instructions. If not, call the local navigation authority office **(see page 56 for contact details).**

Special bridge safety tips

- Don't try to take your boat through until the bridge is fully open and secure – they can stick at the wrong moment
- Take care with clearance under lift and fixed bridges and stay in the centre of the channel
- Keep everyone off the roof and within the profile of the boat
- Watch out for slippery surfaces when you're pushing swing bridges
- Use strong, fit crew to operate moving bridges

Winter cruising

- **Strong streams and rapidly rising water levels are much more likely**
  Check conditions with the navigation authority before setting off.
  (See page 56 for links.)
- **When tying up leave enough slack in your ropes for changing water levels**
- **Make sure any rainwater that collects in the bottom of the boat is pumped out**
- **Unless your journey is really necessary, don't cruise through ice**
  Even thin breaking ice can puncture timber and fibreglass hulls. Thicker ice can also damage steel hulls of boats that you pass, or your own.
- **Watch your footing at all times**
- **Don't take risks – wear a life jacket**
- **Wear gloves to stop your hands sticking to icy surfaces**
- **Wrap up warm – good insulation will help prevent hypothermia**
- **All heating systems need enough oxygen to burn safely**
  Without it lethal levels of poisonous carbon monoxide gas can build up. Prevent this by having appliances and flues properly installed and serviced and ensuring there is adequate ventilation.
- **Make sure nothing blocks your ventilators – like tarpaulins or snow**
- **Fit a carbon monoxide alarm suitable for use in boats**
  (Look for one marked with the standard: BS EN 50291-2.)
- **Don't put wet or unseasoned wood in solid fuel stoves**
  You will block the chimney with tar and soot, risking fire and carbon monoxide poisoning. The smoke will also irritate anyone nearby.

Tunnels

Tunnels can be narrow with only room for one-way traffic, or they can be wide enough for two boats to pass. Check for instructions, entry times or traffic lights at the tunnel entrance.

If it's a one-way tunnel, make sure there's no boat inside. If you have to wait your turn, stay well clear of the entrance.

Switch on your headlight and some interior lights. Some stern lighting will help a following boat to see you, but if it's a single bright spot or rear navigation light, it might be confused with a headlight by the helmsman of a following boat.

It can be cold and damp in there, so put on warm clothes and waterproofs and have a waterproof torch to hand.

As you go in, sound one long blast on your horn. Now steer by looking at one side of the tunnel only and keep to a moderate speed. Move the tiller or wheel as little as possible – it's a common illusion to feel the boat's being pulled to the side. You might find it helps to shine your torch on the tunnel wall. Watch out for the changing profile – tunnels are rarely straight and the headroom can change.

Keep at least two minutes (at normal cruising speed) or about 500ft (160m) away from any boat in front of you. If it's two-way traffic, keep a look-out for oncoming boats and pass slowly on the right.

Watch out for canoes or other small unpowered boats that might be in the tunnel.

Special safety tips

- Keep your crew and passengers inside the boat
- Make sure you have enough fuel to get you through
- If you break down in a tunnel, switch off the engine
- Don't smoke or use cookers and heaters. Turn off the gas except pilot lights
- Make sure the air controls are set to prevent a solid fuel stove over-firing
- Don't allow inside lights to shine into the steerer's eyes
- Most tunnels have a chain fixed to one wall near the water level to help if someone falls in
- Reflective signs on the walls of long tunnels point to the nearest end

Accidents

Now we've shown you the safe way to do all the main boating things, we'd like to say a bit more about accidents.

Tranquil waterways, beautiful scenery, fresh air. Boating on our canals and rivers is a real pleasure – and, most of the time, there are few safer ways to travel.

Accidents and injuries are rare, but every year a few people do get hurt – usually through inexperience or not paying attention. If you do have an accident or near-miss, you should report it to the navigation authority office or member of staff on the bank. Your report could help to save others. For contact details see page 56.

By looking at the accidents people have had on boats over the past few years, we've found that they fit into a relatively small number of categories. This part of the handbook looks at the causes so that you can avoid the same misfortune.

Warning

Don't let small children move around the boat unsupervised.
Always know where they are.

Falls

Wherever you are – home, work or on a waterway – the most common accidents are slips, trips and falls. But when you fall off a boat or from the waterside, those accidents can be more serious.

Apart from the risk of drowning, you could be dragged or fall into a moving propeller. You could hit your head, or be crushed between your boat and another object. There's also a slight risk of infection from the water itself.

Boats and watersides are littered with bollards, rings, ropes and holes. Surfaces can be uneven or slippery, particularly in wet or icy weather or early morning dew. So you need to keep your eyes open – and slow down.

Many falls happen during mooring – simply because people aren't sure of the procedure.

There are unprotected drops at locksides. Watch out especially when operating lock gates.

Falls (cont.)

Warning

- **Over half of all serious accidents to boaters are caused by falling off the boat, towpath, bank or jetty.** Many happen even when the boat is tied up.
- **Don't leave the helm when the engine's running.** If someone falls into the water, they could be injured by the moving propeller. And don't leave the keys in the ignition unattended. Never run the propeller when the boat's moored up.

What causes falls?

- Trips over ropes, mooring stakes and so on – especially when left untidy
- Walking on narrow decks on boats that tend to rock
- Jumping off or stepping off in a dangerous place
- Slipping on a wet deck
- Moving about the boat or waterside at night
- Too much to drink

Safety essentials

- Watch out for collisions – and if you are going to bump, warn your crew and passengers to brace themselves
- It is safer to walk through the inside of the boat to get to the front or back
- If you have to walk round the outside use the grab rail – 'one hand for the boat, one hand for you'
- Keep your decks clear of clutter to avoid trips
- Don't jump off the boat when mooring
- Wear non-slip deck-shoes
- Take extra care on towpaths at night. Use a torch and watch out for ropes and mooring pins

True stories

Eyes in the back of your head?
Eleven-year-old Sam was lucky to escape with a broken arm when he fell onto the deck of a boat as it passed through a lock. While the rest of his family – relatively experienced holiday boaters – were busy with the 60ft narrowboat, Sam ran along the lockside, tripped over a bollard and fell over the edge. Luckily, the lock-keeper was on hand to rescue him.

Fire, explosion and fumes

Although rare, boat fires and explosions can be fatal. There are some specific risks to be aware of.

The bottled gas used for cookers, fridges and heaters is heavier than air and, if there's a leak, it'll build up in the bottom of the boat. A small spark will ignite this gas.

Petrol vapour is also heavier than air and highly flammable. If there's a strong smell of gas or petrol, follow the drill shown opposite.

And lastly, you need to watch out for fumes from cookers, cabin heaters and water heaters or from engine exhaust building up in the boat. Carbon monoxide poisoning is extremely dangerous – early signs include headaches, tiredness, sickness and dizziness, and other flu-like symptoms. Anyone affected should get medical help. If the symptoms are severe or recurrent, contact emergency services and get to hospital straightaway.

Special safety tips

- Boat appliances and their fuel systems need regular checks and professional servicing. Any changes should meet Boat Safety Scheme requirements
- Learn how to refuel safely
- Never store petrol, diesel or gas containers in the cabin or engine space – even empty ones or only for a short time. The same applies for portable generators
- Ensure all electrical circuits are protected by appropriate fuses or circuit breakers
- Look and listen for signs that electrical cables are overheating
- Make sure appliances aren't faulty
- Keep ventilators open and free of obstructions
- Fit a smoke alarm and carbon monoxide alarm suitable for use on boats and press the test button routinely
- Make a fire action plan with your crew to help your escape if the worst happens. Make sure you know where your fire extinguishers and blankets are, and how to use them. Keep escape routes clear
- Never lock or bolt doors and hatches on the outside while you're onboard

Fire, explosion and fumes

Warning

Hey! I can smell gas (or petrol)!
Close the shut-off valve and open windows, hatches or doors to ventilate the area as much as possible. Turn the engine off, and put out naked flames, cookers, pilot lights and cigarettes. Evacuate the boat if possible.

Don't switch anything electrical on or off, including lights and the bilge pump, until you're sure the gas/petrol has dispersed. Find the problem and get it put right before you turn the gas or fuel on again.

Fire! Act quickly – fire spreads rapidly!
Put your fire action plan into practice! Alert everyone on board to move to a safe location and evacuate if possible. Use a fire blanket on pan fires, and fire extinguisher on other fires. They can help you escape or might put out a small fire. Keep them in good condition and ready for use.

If the fire's taking hold call the fire service if you can. If the fire's in the engine space, **don't** open the main access – the air will only feed the fire.

If someone's clothes are alight, quickly lie them face down so that the flames rise away from their face. Smother the flames with a blanket or wet jacket, laid away from their face. Call the emergency services.

Information

What causes injuries from fire, explosion or fumes?
- Dangerous misuse of equipment or the failure of some parts of the fuel, gas or electrical system
- Unsafe handling or stowage of petrol and gas containers. These must be kept in purpose-built compartments and never left in cabins or engine spaces
- Poor ventilation, leaking flues and a build-up of petrol engine exhaust fumes

Fire, explosion and fumes

True stories

Too hot to handle
It was a cold evening and John went ashore for a warming curry. He banked up his stove with fuel to keep the boat cosy for his return. But while he was away the fire raced out of control. The wall and curtains near the super-hot chimney were smouldering when John returned. If he had lingered half an hour longer over his curry, he would have returned to a burnt-out shell of a boat.

Special safety tips

- Don't bank up your stove with fuel and leave it unattended whilst going off for a day's work, a spot of shopping, or bite to eat
- Before leaving the boat for a period, going to bed, or travelling through a tunnel set the appliance air controls to prevent over-firing

Special safety tips

Safe re-fuelling of petrol engines and generators
- Stop the engine, switch off ignition systems
- Put out all naked flames including pilot lights
- Evacuate the boat if possible
- Vapour will travel, so protect the boat by closing doors, windows and hatches
- Never refuel in a lock or next to another boat
- Refuel outboard tanks and generator tanks ashore, well away from the boat
- Wipe up any spillage immediately and securely replace the cap on the can

Fire, explosion and fumes

True stories

Breathe easy!
A sunny autumn weekend? Perfect weather for a day's cruising. But when the night turned chilly, this boating couple blocked off the draughty ventilators and lit the gas central heating. When their friends came back from the pub, they found the couple unconscious from carbon monoxide poisoning. Had they stayed for a last drink, the result would have been far worse than severe headaches.

Warning

Take special care to avoid the risk of electric shock and fire if your boat has a 230 volt electricity supply – it will be more exposed to vibration and water than in your home.

- Use a competent person to design, install and maintain your boat's electrical systems and appliances and to make any changes to them
- Don't ignore danger signs like burning smells and scorch marks
- Know where to find your main switch
- Test that your circuit-breakers work

For more detailed advice follow the **Boat Safety Scheme link** on page 51.

Collisions

Collisions – with other boats, banks, bridges or other structures – are another common cause of injury. The impact can lead to falls, both onto the deck and into the water. And for people working in the galley, there's a risk of scalds or burns.

What causes collisions?

- Lack of boat-handling skill or experience
- Taking your eyes off the waterway
- Cruising too fast

Safety essentials

- Check headroom for bridges. Remember bridge shapes vary and water levels rise
- Watch out for cross-wind. You can anticipate it by looking for ripples on the water and swaying trees. You may need to steer at an angle into the wind to avoid being blown off course
- Be ready for strong flows at locks, weirs and places where water is taken in or out of the waterway
- Give a long blast with the horn as you approach blind bridges, bends and junctions
- Look out for canoes, sailing dinghies and other unpowered boats
- Watch out for floating tree trunks and other debris
- Learn the Rules of the Road. They are on page 52
- Make sure you know the size of your boat and the dimensions of the waterway you're cruising on

True stories

Blast it!
Neither skipper sounded the warning when a small cruiser and a family on a first-time boating holiday met at a blind bend. The collision sent a sunbather flying from the deck of the hire boat. The quick-thinking helmsman stopped the propellers just in time, and the girl was rescued unharmed. An elderly woman on the cruiser wasn't so lucky – she'd been making tea in the galley and was badly scalded.

Crushing

If your boat collides with something else, you don't want to be in the way. Don't put yourself between the boat and a bank, tunnel or bridge, or you could end up with crushed fingers or legs – or even more serious body injuries. Don't get your body in the way of a moving bridge or lock balance beam.

What causes injuries?

- Using your hands or feet to stop a collision or fend off
- Not appreciating the momentum or the size of your boat
- Lack of attention operating bridges and locks

Safety essentials

- Keep your body out of the way
- Keep within the boat – that means not having your legs dangling over the side, your hands over the edge or your head out of the side hatch
- Keep off the roof when underway
- Don't fend off with your arms, legs or a boat pole – let the fender take the impact
- Make sure anyone in the front cockpit is on the look-out for possible collisions
- Supervise children who are helping

True stories

Helping hand – broken ankle
A couple, invited along for a canal cruise by their neighbours, were eager to help. So, approaching a mooring, the husband leapt to the front of the boat with the mooring rope. Seeing the boat was about to hit the bank, he instinctively stuck out a foot to fend off. His pleasure trip ended with a broken ankle, crushed between the boat and the bank.

Capsize

All boats have a limit to the number of people that can safely be on board. Look for a plate showing the number or get it from the boat's handbook or safety information folder.

Think carefully before going on the cabin roof as the boat could become top heavy and roll over. Obey any sign or instruction that limits people on the roof.

Don't let everyone stand together on the same side if it risks tipping the boat over.

True stories

Tipping tragedy
Two families were enjoying a trip out on the Norfolk Broads aboard a fibreglass boat they had hired for the day.

Five of the party were sitting on top of the front cabin roof as they cruised along. Their weight was all on one side of the boat causing it to become unstable and capsize.

One of the mothers was trapped under the upturned boat and despite frantic efforts to rescue her, sadly, drowned.

Information

Should I wear a lifejacket?
Children, non-swimmers, those with disabilities and lone boaters should wear lifejackets whenever they're on deck. And that applies to everyone if you're negotiating tidal waters, strong streams or currents or if the decks are slippery and whenever the water is likely to be cold.

Of course, it's always safer to wear a lifejacket or buoyancy garment. You could be knocked unconscious. Rivers and deep canals can give disabling cold shock even in summer. It is difficult to swim when fully clothed.

Man overboard

Before you do anything else, take a breath and think. Don't panic, don't jump in – and don't let others jump in. The water is very cold even in summer. Keep sight of the person in the water at all times.

On narrow canals and slow, shallow rivers

Put your engine out of gear. **Don't** reverse the boat – the person in the water could be dragged into the propeller.

Throw a line or a lifebelt and tell them to try to stand up – if it's a canal they might be able to walk out.

Steer the boat slowly to the bank and get one of your passengers off to help the person get out of the water.

On wider or deeper waterways

Throw a lifebuoy to the person in the water. Keep a constant watch to ensure your propeller is well away from them. Stop the propeller immediately by selecting neutral gear if there's a risk of them getting close to it. If you are on a river you may need to turn so as to approach them slowly going against the stream.

Pull them to the side of the boat and help them aboard with a ladder, rope or pole.

Be prepared

Make sure everyone on the boat knows the drill – and knows where to find the lifeline or lifebelt. In case it's the skipper who falls overboard, the crew should also know how to stop the propeller and steer the boat.

Practice the drill. It's better to learn it **before** an accident happens.

Warning

It can be dangerous to swim in waterways. You could:

- Get cramp or breathing difficulties from the shock of cold water
- Be swept away by strong streams or currents
- Get tangled in weeds or junk
- Get cut by rocks, glass or wire
- Be hit by a passing boat
- Get drawn into a sluice or weir
- Catch a waterborne disease

Swimming is not permitted in canals owned by the Canal & River Trust.

Operating injuries

Boating can involve a lot of physical exercise. Some of the work is heavy and you'll also be using unfamiliar techniques and tools. Together, the two things can add up to strained backs and muscles, cuts or worse.

What causes operating injuries?

- Overstretching yourself
- Using tools or equipment incorrectly
- Not paying attention to the job in hand
- Rushing
- Not preparing properly

Safety essentials

- Take things easy. Don't strain. Share the work
- Let the fittest operate locks and bridges
- Make sure you know how to use equipment properly
- Follow any operating instructions that are provided
- Watch out for worn paddle gear
- Use the right size hole in your windlass and use the safety catch on the paddle gear
- Only use a boat-hook or pole when the boat's still
- Keep fingers clear of ropes – sudden tension in the rope can trap fingers
- Don't wrap ropes around any part of your body
- Don't use ropes to stop the boat – use the engine
- Don't push off from the side of another boat with your pole. It could slip on the smooth surface.

True stories

Tools that bite back
Take a lesson from this hire boat crew, coming across their first lock. Jane left the windlass on the spindle and then let go. The ratchet slipped and spun the handle round, breaking her nose and teeth.

Rope tricks

Crushed fingers and rope burns were the painful end to a holiday for Robert. While holding the mooring rope around a bollard, a sudden tug from the boat pulled the rope – and his fingers – into the bollard. His fingers were trapped until the skipper brought the boat further in and the rope slackened off.

Lock safety

Though boating accidents are few and far between, many of them happen in locks.

Moving through a lock is perhaps the trickiest part of boating. There's a lot to think about at once and a whole series of tasks to carry out.

Practically all the safety tips we've come across so far apply here. But you also need to be extra alert. If your boat gets caught up, it could come crashing down into the lock. Should there be a fire on your boat it is harder to escape, and it could spread quickly to other boats sharing the lock.

There's more guidance on how to use locks on pages 16 to 29.

What causes accidents in locks?

- Lack of knowledge or preparation
- Not paying attention
- Rushing the procedures

Safety essentials

- Make sure the boat's level and free. It should be away from the cill, not caught on a gate or projection and the ropes should be able to run freely
- Use the paddles (sluices) gradually
- Make sure that each member of the crew sticks to their allotted task – accidents happen when crew wander off, especially with a big crew
- Adult crew must be in charge of the lock
- Watch out for 'helpful' bystanders – their mistakes could land you in trouble
- Have a steerer at the helm all the time when the boat is in a lock

True stories

Stay alert – stay afloat

They were experienced hirers, well-used to using locks, but while the crew opened the paddles to let out the water, the helmsman went inside the boat to put the kettle on.

The back of the boat caught on the cill while the front of the boat continued to float down – the crew didn't notice until it was too late. As the water level dropped, the boat crashed down, flooded and sank. Though badly shocked, the helmsman wasn't injured. The canal, though, had to be closed and a crane hired to raise the boat.

Fast-flowing water

Most canals are calm and smooth-flowing, but rivers can catch you out with strong streams, currents or, in some cases, tides. Handling a boat in fast-flowing water takes special skill and good judgement. What's more, the usual risks are magnified – a current makes collisions more likely, for example, and makes it harder to recover a person overboard.

What causes accidents?

- Inexperience
- Taking on too much of a challenge

Safety essentials

- Boating with an experienced skipper is the best way to gain experience
- Get an update on river conditions before setting off
- Make sure your boat has enough power to cope with the strength of the stream or tide
- Have a good anchor and chain ready for use
- Steer clear of weirs
- Look out for big commercial boats and prepare to give way

Warning

If you're venturing onto a fast-flowing river or tidal waters, make sure you're prepared – get information on unfamiliar waterways, take advice and obey warning signs.

See the contacts on page 56 for how to get the latest river conditions.

Strong stream conditions

Warning

Don't cruise in strong stream conditions – tie up securely, watch for changes in water level and adjust your mooring ropes as necessary.

Strong stream warnings

The Environment Agency gives out stream warnings to tell you about conditions that may mean you shouldn't go out in your boat. See page 56 for how to get information. You may also see red flags or warning boards at boat clubs, marinas and locks.

Strong stream advice on the River Thames

Look out for warning boards on lock gates.

Users of all boats are advised not to navigate because the strong flows make it difficult and dangerous.

Users of all unpowered boats are advised not to navigate and users of powered boats to find a safe mooring. This is because river flows are likely to strengthen, and red boards could be displayed very soon and without further warning.

Users of all unpowered boats are advised not to navigate and users of powered boats to navigate with caution.

Strong stream conditions

Strong stream advice on the Anglian Waterways

The Environment Agency issues Strong Stream Advice on the River Ancholme, River Nene and River Great Ouse (Bedford Ouse) to inform river users when river levels are increasing and when locks are being prepared to discharge flood water.

Look out for notice boards, flags and lights that are displayed prominently on riverbanks to inform boaters of the status of the river and red flags are also raised at several boat clubs.

Boaters are strongly advised not to navigate when the locks are 'reversed' for flood control. For an explanation of reversed locks see page 27.

You can register to receive a free message advising when strong stream warnings are issued or cancelled. For details see page 56.

Strong stream advice on Canal & River Trust waterways

Look out for traffic lights or warning boards. Some warnings are triggered by changes in water level.

Navigation Warning System

Check water level on indicator board before proceeding

Do not proceed
Hazardous conditions exist

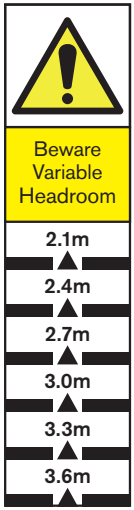
Proceed with caution
Navigation conditions liable to change

Navigation conditions normal

The indicator board is located on the lock wing wall on the river side of the bottom lock gate

Canal & River Trust

Variable headroom sign



Strong stream conditions

Special safety tips

- Please moor up safely if you see strong stream warning signs or are advised by navigation staff to stop. Even the most experienced boater can be caught out, so think about those who could be put in danger if they have to help you
- Moor your boat in a safe place, preferably in a marina or at a recognised mooring. Limited space may be available at some locks. Moor against high banks if you can
- Ensure your mooring lines are fastened to secure fixings such as bollards, rings or even trees; put out extra lines for additional security and allow enough slack for a further rise in river levels; don't rely on your own mooring pins or stakes – they might not hold
- If necessary, put extra fendering (eg scaffold poles or strong timber posts) between your boat and the bank side, to prevent your boat drifting onto the river bank and becoming caught up when levels drop
- Make sure you have a safe exit ashore from your boat as the level rises. If not, you should consider returning home or finding alternative accommodation until conditions improve
- If you are running low on essential supplies or have other serious safety concerns and are not able to leave your boat safely, treat this as an emergency and dial 999 to ask for evacuation
- For hire boaters: if you are advised to stop, you must do so then call your boatyard and follow their instructions

True stories

Ignoring warning leads to tragedy

There'd been several days of heavy rain and the river level was rising, but this boater – out in his own fibreglass cruiser with his girlfriend – ignored the strong stream warning signs. He left it too late to moor up and his boat was swept sideways down the river. As it wedged against a bridge, his girlfriend fell overboard and was swept away.

Vandalism and aggression

There's little that's more peaceful than cruising a stretch of quiet waterway. But in a very few urban areas, things aren't as laid-back as they should be. Keep an eye out for trouble-makers. The main problems to watch for are missiles being thrown or dropped, youths jumping in, particularly in locks, and theft.

- Watch out for vandals dropping objects when you go under bridges, through locks and at tunnel entrances and exits
- Keep a low profile and avoid confrontation
- Don't moor where there could be a risk
- Know your location in case you need to call for help
- Have a camera and a mobile phone to hand
- Keep valuables out of sight

If things get difficult

- Call the police. Dial 999 if you are in immediate danger. Or 101 to report suspicious behaviour. Know your location before calling. Ask the police to give you an incident number
- Keep a safe distance away if you can
- Stay calm. Don't antagonise the aggressors
- Speak clearly and firmly. Don't raise your voice or argue
- Maintain eye contact
- Be understanding and avoid arguments

Report any damage to locks and other navigation structures to the navigation authority. Follow contacts on page 56.

Waterborne diseases

Waterborne diseases, including Weil's Disease (leptospirosis), are extremely rare, but it's sensible to take a few precautions.

- If you've got any cuts or scratches, keep them covered
- If you fall in, take a shower and treat cuts with antiseptic and a sterile dressing
- Wash wet clothing before you wear it again
- If you develop flu-like symptoms within two weeks, see your doctor and mention that you fell in the water. Not all doctors will know to look for signs of Weil's Disease, so do suggest it as a possibility

Training and guidance

Boat-handling training courses: Consider taking a professionally run course in boat handling, particularly if you are planning to boat regularly. The knowledge you gain will make your boating safer and more enjoyable.

The Royal Yachting Association (RYA) Inland Waterways Helmsman's Certificate is highly regarded. It is not compulsory in this country but is required on some waterways abroad. You can go on a two day course to qualify. Get details on the RYA website: **www.rya.org.uk/go/inlandwaterways** or call the RYA training section on 023 8060 4181.

The **RYA Inland Waterways Handbook** (written to accompany the course) is an excellent well-illustrated book available to buy from the RYA online shop: **www.rya.org.uk/shop/**

NCBA community boats run a number of courses. See **www.national-cba.co.uk**, call 0845 0510649 or email **staff@national-cba.co.uk** for details.

Boater's Handbook DVD

The Canal & River Trust and Drifters, the UK's biggest consortium of hire boat companies, have teamed up to make a DVD covering boating basics. It is a companion to this handbook, with lots of tips for first-time hire boaters and new boat owners. We hope it will also be a reminder for more experienced boaters – with important information about how to boat safely.

You can view the twenty five minute film at **www.canalrivertrust.org.uk/safeboating**. Or if you would like it on a free DVD, call customer services on 0303 040 4040.

Boat Safety Scheme

Boat Safety Scheme

Boat Safety Scheme: mandatory on most inland waterways, minimum safety requirements addressing fire, carbon monoxide poisoning and pollution prevention, four yearly MOT-style examinations and the promotion of essential safety advice and tips that will help keep boaters safe.

T 0333 202 1000 or go to **www.boatsafetyscheme.org**

Channel markers

If there's a channel you should stick to it – it'll usually be marked by buoys or by red cans and green cones. If you're heading downstream, keep the red cans to your right and the green cones to your left. If you're going upstream, the red markers should be on your left and the green on your right.

Weirs

Straying out of the channel can be very dangerous – especially if you find yourself near a weir.
Watch out for the warning signs.

Overtaking

You will rarely need to overtake on canals and narrow rivers. There isn't usually enough space to overtake safely. So just keep your distance and stay behind.

If another boat wants you to overtake, the skipper should slow down and tell you on which side to overtake – usually the left. If you're the one overtaking, it's your responsibility to stay clear of the other boat. Both skippers should go as slowly as possible to avoid the two boats being drawn together.

Giving way

If you're approaching a bridge or narrow section, slow down. If a boat coming in the opposite direction is closer to the bridge, wave them through and keep right until they're well clear. **On rivers, the boat coming downstream has right of way.**

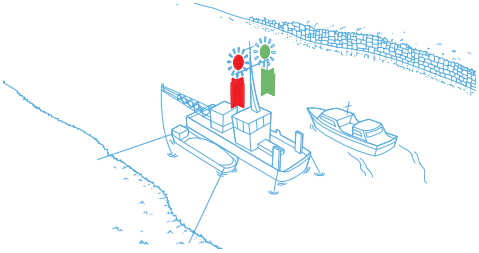
Speed limits

The maximum speed on narrow canals is 4mph.
On rivers and broad canals limits vary, so check local information before you set out and watch out for speed limit signs on the waterway.
The non-tidal River Thames has a limit of 8 kmh (5mph).
On the River Medway it's 5 knots (about 5.75 mph).

Slow down approaching bridges, locks, bends or junctions, and when passing boats or anglers. River currents will speed up or slow down your boat.
Whatever the limit if you make waves you're going too fast – slow down.

Passing dredgers or works

Pass on the side that's showing the green or white light or shape – not the side showing red. On canals, though, you may see both sides marked with red during the day – follow the instructions given by the works crew.



Sound signals

1 blast = going to the right
2 blasts = going to the left
3 blasts = I'm trying to stop or go backwards
4 blasts – pause – 1 blast = turning round to the right
4 blasts – pause – 2 blasts = turning round to the left
1 extra long blast = warning at tunnels, blind bends and junctions

Navigation lights

It's best not to cruise in the dark. If you do, you must get information from the navigation authority in charge of your waterway. The rules governing navigation lights are quite complex. As a guide, at night and in poor visibility, boats usually show:

○ **White lights** – front and back
● **Green light** – right side
● **Red light** – left side

As a result, if you see:

- A white light above a red one, it's likely to be a boat crossing from your right to the left side
- White above green is likely to be a boat crossing left to right
- White above green and red means the boat is coming towards you

Unpowered boats may show a single all-round white light.

! Warning

Cruising at night can be dangerous. Moor up before it gets dark and avoid using locks at night. Cruising after dark is not permitted by hire boat companies.

Caring for the environment

Please help to keep the waterways pleasant places for everyone who uses them – and for the wildlife that depends on them.

Follow the Green Guide to Inland Boating

The Green Blue, a joint venture by the British Marine Federation and Royal Yachting Association, provides practical advice and information on how to maintain, equip and operate your boat in an environmentally friendly manner. Follow the link on page 58 to read the full guide.

Manage your waste

Don't pump oily water from your bilge into the waterway. Well-maintained engines shouldn't leak oil. Check the drip tray under the engine and gearbox regularly. If it starts getting oily, find and mend the leak. Ideally use biodegradable oils. Avoid spilling petrol and diesel. If you do, mop it up – don't use detergents.

The toilets on your boat mustn't discharge sewage into the waterway. There are pump-out facilities for chemical or closed toilet systems at marinas and sanitary stations. Use the minimum amount of chemicals to avoid upsetting the sewage treatment system. If you have a closed toilet system, you may not need to use chemicals at all – so check your manual.

The wastewater from sinks, showers, washing machines and dishwashers is allowed to flow straight into the waterway. It can be very damaging to sensitive aquatic life. Most washing detergents contain phosphates which encourage rapid algal growth and eventual oxygen depletion when the algae die. This can cause fish and other aquatic life to suffocate. On top of this, the degreasers found in washing up liquids and soaps strip the natural oils from fish gills making it difficult for them to breathe. So to help keep the water as healthy as possible, put your cooking waste in the bin, and **use phosphate-free detergents.**

Please don't throw any waste overboard – even apple cores take a long time to rot. Litter can kill wildlife, and it can cause problems for other boaters by getting tangled in their propellers. There are plenty of waste disposal points at marinas and along the waterway.

Protect wildlife

When you go too fast, your waves can damage banks and sensitive plants. If you see your wash hitting the bank, please slow down. Cut your speed and keep your distance when passing nesting water birds too.

The side of the channel opposite the towpath is often especially rich in wildlife, so take special care not to disturb plants or animals there. Don't moor on this side unless there are proper mooring facilities.

Invasive (alien) species are a threat to biodiversity. Many thrive in our waterways and are spread on boat hulls and propellers, in bilges or engine cooling systems.

Avoid spreading invasive species by thoroughly scrubbing your waterline regularly as well as other possibly contaminated items such as anchors. Remove any visible plant, fish, animal matter and mud and put it in the bin.

Report any pollution or fly-tipping to the Environment Agency incident hotline on 0800 80 70 60 (freephone 24 hours).

Follow the Countryside Code.

Respect other people

- Consider the local community and other people enjoying the outdoors
- Leave gates and property as you find them and follow paths unless wider access is available

Protect the natural environment

- Leave no trace of your visit and take your litter home
- Keep dogs under effective control

Enjoy the outdoors

- Plan ahead and be prepared
- Follow advice and local signs

There is a link to the full Countryside Code on page 58.

Respect other waterway users

- **Waterways tend to be quiet, peaceful places.** And they're for everyone to enjoy – boaters, walkers, anglers, cyclists and others
- **Roaring engines, running generators, unnecessary use of the horn, loud music and shouting** – they can all be a real nuisance to other people and wildlife
- **Don't run your engine or generator on a mooring between 8.00 at night and 8.00 in the morning**, unless you are moored in isolation, out of earshot of other people
- **Don't run the boat engine in gear when you are moored** – it can damage the waterway wall or bank and disturb adjoining boats
- **Be considerate to other users and local residents. Clear up dog mess**
- **Don't block the towing path** or put your mooring stakes or ropes where people could trip over them
- **Keep to the centre of the channel when passing anglers** – unless they ask otherwise. Reduce your wash, but keep a steady pace

Contacts

Environment Agency

The **Environment Agency** is responsible for the **River Thames, Anglian waterways and the River Medway**.

For boating information T 03708 506506 or go to **www.gov.uk/environmental-management/boating**

To report an incident T 0800 80 70 60 (freephone 24 hours)

To check river conditions T 0845 988 1188 or **0345 988 1188** (24 hour service).

Choose option 1 then enter the relevant quick dial extension:

Anglian rivers:

- **032112** River Nene
- **033211** Great Ouse
- **031212** Ancholme

River Thames:

- **011131** River conditions and strong stream warnings
- **011132** Work on the river and lock closures
- **011133** Events on the river which affect boating

or go to **www.gov.uk/check-river-conditions-and-closures**

Sign up to be sent free strong stream advice messages for the Anglian rivers. **T 01522 785943** (office hours), email **WaterwaysSSAAnglian@environment-agency.gov.uk** or write to: Environment Agency, Anglian Waterways (SSA), Waterside House, Waterside North, Lincoln, LN2 5HA.

The **Cam Conservancy** is responsible for navigation on the **River Cam in Cambridge (from Byron's Pool to Bottisham Lock)**

For boating information T 01223 863785 or go to **www.camconservancy.org**

The **Avon Navigation Trust** is responsible for navigation on the **Warwickshire Avon between Tewkesbury and Stratford-upon-Avon**

For boating information T 01386 552517
email **office@avonnavigationtrust.org** or go to **www.avonnavigationtrust.org**

Contacts

Canal & River Trust

The **Canal & River Trust** is responsible for the majority of the remaining canal and river navigations in **England and Wales**.

For boating information go to **www.canalrivertrust.org.uk/boating**

To report an incident **T 0303 040 4040** (8am–6pm, Mon–Fri), email **customer.services@canalrivertrust.org.uk** or complete a freepost form at **www.canalrivertrust.org.uk/incident**

In an emergency call **T 0800 47 999 47** (24 hours)
Please **ONLY** use if the matter is genuinely urgent.

Navigation problem (e.g. broken-down lock, insufficient water in the canal, fallen tree) **T 0303 040 4040** (8am–6pm, Mon–Fri). Out of hours / emergency **T 0800 47 999 47**. Depending on the nature of the problem and staff availability, the Trust will try to fix it as an emergency, but you might need to be prepared for a longer wait.

Sign up to get email and/or Twitter updates (**@CRTnotices**) of stoppages and other notices at **www.canalrivertrust.org.uk/boating**

Scottish Canals is responsible for the **Caledonian, Forth & Clyde, Crinan, Union and Monkland canals**

For boating information **T 0141 332 6936** or go to **www.scottishcanals.co.uk/our-canals/**

In an emergency **T 0800 0729900**
Calls are answered by Police Scotland

The **Association of Inland Navigation Authorities** can provide details for all other navigation authorities.

T 0844 335 1650, email **info@aina.org.uk** or go to **www.aina.org.uk**

Useful information

Hire Boat Handover

Hire boat companies displaying this logo use the handover system endorsed by the British Marine Federation that is designed to provide all the basic skills and knowledge you need before setting off on your boating holiday. Get details at **www.britishmarine.co.uk/QAB**

Maps and local guides

You need a good map and guide that shows locks, weirs, bridges, tunnels and the like on your route. Hire boat companies, boatyards and marinas usually stock them. The Inland Waterways Association shop has a wide range covering all inland waterways: **www.waterways.org.uk/shop/**

An internet search using '*canal guides*' or '*inland waterways guides*' will also bring up a range of possibilities, including Collins Nicholsons Waterways Guides based on Ordnance Survey maps, Pearsons Canal Companions and Heron maps.

Apps and internet-based guides provide other options.

Knots for boating

The RYA publish a *'Pocket Guide to Boating Knots'* as well as a full handbook, *'Knots, Splices & Ropework'* available from their online shop: **www.rya.org.uk/shop/**

You can see how to tie boating knots by searching on **www.youtube.com** and on internet sites like: **www.animatedknots.com/**

Caring for the environment

The Green Guide to Inland Boating: to read the full guide, go to **www.thegreenblue.org.uk** and look under Leaflets & Resources

The Countryside Code: to read the full code, go to **www.naturalengland.org.uk/ourwork/enjoying/countrysidecode/**

Common signs

Depth limited

Width limited

Headroom limited


Overhead cable


Weir

Speed limit


Keep to the right


Keep to the left


No turning


Cross channel to right


No overtaking


Do not create wash


Sound horn

Use this radio channel


Move over or turn in the direction


Ferry


Beware swimmers or divers


No motor boats

Cill marker Canal & River Trust locks

Refuse disposal

Chemical closet disposal unit

Mooring often with time limit

Winding point

There is a companion film to this handbook.

View it at **www.canalrivertrust.org.uk/safeboating**

Or get it on a free DVD by calling

0303 040 4040

Canal & River Trust

In an increasingly fast-paced and crowded world, our historic canals and rivers provide a local haven for people and nature. We're the charity entrusted with the care of 2,000 miles of waterways in England and Wales.

Environment Agency

The leading public body protecting and improving the environment in England and Wales. The Agency is the navigation authority for the rivers Ancholme, Glen, Great Ouse, Lugg, Medway, Nene, Suffolk Stour, Thames, Welland and Wye. Around 32,000 boats are registered to use our rivers.

Scottish Canals

Safeguarding our heritage. Building our Future. We're the custodians of Scotland's canals – a vital part of our nation's rich heritage, contributing to Scottish life for 250 years.

British Marine Federation

The British Marine Federation (BMF) is the trade association for the leisure, superyacht and small commercial marine industry.

Association of Pleasure Craft Operators

The Association of Pleasure Craft Operators (APCO) is the main trade body within BMF for inland waterway businesses, representing over 140 companies offering canal and river holidays in the UK. It encourages its members to send hirers this handbook before their holiday.

Association of Inland Navigation Authorities

The Association of Inland Navigation Authorities (AINA) is the industry body in Great Britain representing authorities responsible for the management, maintenance and operation of navigable inland waterways for public benefit. AINA endorses this important initiative by its largest members.

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