



Canal & River  
**explorers**

Waterways Today  
Topic Pack



[www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)

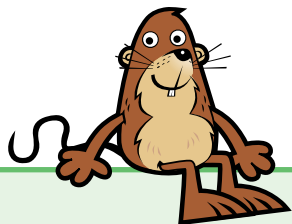


Canal &  
River Trust

Working in partnership with:



The Inland  
Waterways  
Association



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Always remember to stay **SAFE** near water – Stay Away From the Edge.

# Who designed and paid for the canals?

## Introduction

This pack is all about the waterways of today. There are more boats than ever before on the canals and rivers. People are using them as parks, places to walk the dog or feed the ducks, exercise and relax. But it wasn't always like this.

### Changing Britain

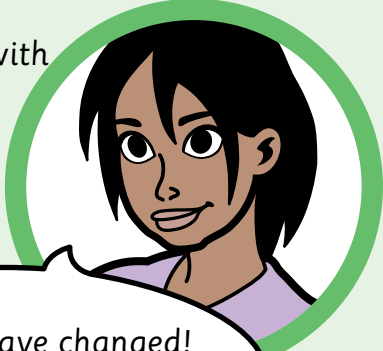
In the 1700s, the agricultural revolution brought massive changes to Britain, with mechanical equipment and new ideas about farming. People began to use coal to fuel furnaces and machinery.

### Industrial revolution

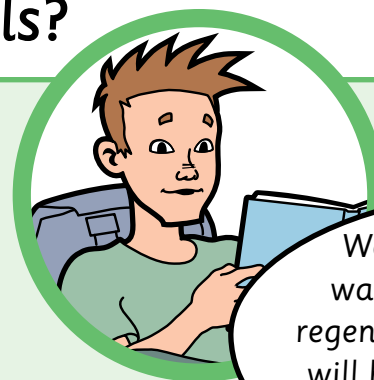
The demand for coal increased but the terrible state of the roads made it difficult to get enough coal getting through. People realised that coal could be transported easily by boat and began to build artificial waterways called canals. All this drove an industrial revolution.

### Faster transport

By the 1800s, canals were busy places with warehouses, factories and houses along their banks. Then the railways came along. They were a faster way of moving raw materials and goods around and the waterways went into decline.



But things have changed!  
This pack is all about what  
happened next.



We tell you how the waterways have been regenerated and why they will be great places to be for centuries to come.



## Fascinating Facts

### What's the difference between a river and a canal?

A river is natural. Rain falls in the hills, seeps through the ground and flows down to the sea.

Canals were built by people to carry things from one place to another.

Get started by watching a short animated film about waterway regeneration at [www.youtube.com/watch?v=pmG8MwbrX\\_A](http://www.youtube.com/watch?v=pmG8MwbrX_A)

Waterways for Growth is a European Union funded project carried out by 14 partners from 6 countries around the North Sea working together for the sustainable management of the waterways.

You can find out more about individual canals, and topics such as boating life and waterways in wartime at [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)

# Saving the waterways

# Chapter 1

For a while, no one was quite sure what to do with the waterways. Some canals were filled in, low bridges meant that boats could no longer use the waterways and many fell into disrepair.

## Restoration

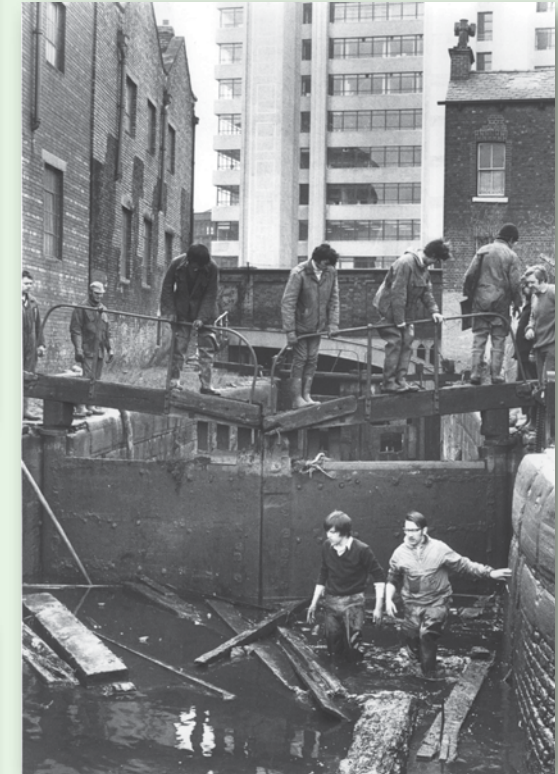
After the Second World War, the government set up British Waterways to be responsible for the maintenance of many of the waterways. Also canal societies were formed by enthusiasts to work on finding money and completing the work needed to reopen the waterways.

## Repair

The canals are now more than 200 years old today, which means a lot of money to repair them. Because they are an important part of Britain's history, many places along the waterways are protected from change. Many sites are restored in ways that help us to see what they were like when they were first built.



This picture of the Rochdale Canal shows what a mess some of the canals were in and how much work needed to be done to make them useable again



Most of these people are volunteers working on fixing and clearing parts of the canal



**Have you ever been a volunteer?**

# Saving the waterways

## Hard work

There was a huge amount of work to do. Luckily the people who worked on the canals during the restoration had better tools than the navvies, who built the canals with shovels and picks.



Did you know that there is still work going on to improve the waterways today, as well as maintaining the ones that are open?



Gas Street Basin, Birmingham in the 1970s



Gas Street Basin today

What has changed at the waterways near you?



Fascinating  
**Facts**

The **water channel** needs work as well as the **buildings, bridges, locks and tunnels**.

Look at these pictures of Gas Street Basin and Brindley Place in the centre of Birmingham. What has changed over the years in this area? Do you think you would be more likely to want to go there now?



Brindley Place today

# What can I do to help?

# Chapter 2

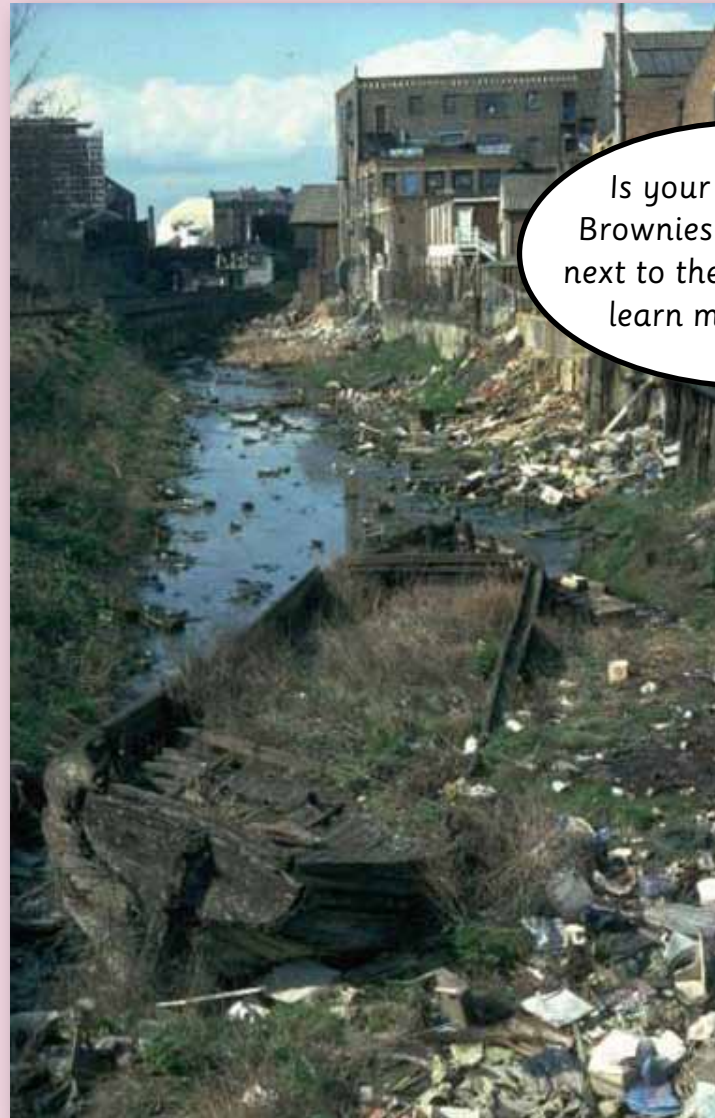
One of the most important things you can do is to go out and enjoy the waterways. They belong to you!

Canal & River Trust was set up to look after them but the canals and rivers are there for everyone to enjoy and we all have a responsibility to use them with care.

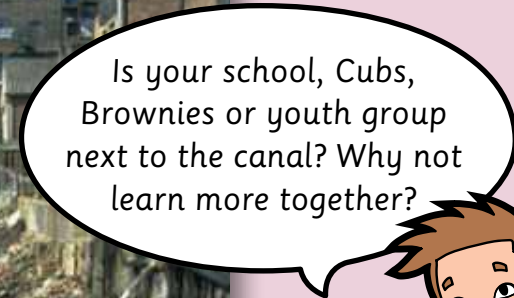
### Learning about waterways

You can learn about the history of canals or perhaps about what you can do to protect the plants and animals that live there at [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)

Learn how to use the waterways safely and make sure your friends and family know too.



If we don't look after them, our waterways could go back to looking like this



# Volunteering

Just because you're young doesn't mean that you can't help to make a difference in the world around you.

Canal & River Trust works with schools and groups to help them learn about the waterways as well as giving them the opportunity to help out. Whether it's planting seeds or designing posters, your help is valuable.

Maybe you could work towards gaining your Global Conservation Badge in Cub Scouts by helping out at your local waterway. Why not ask your leader or check if there are any events in your area at [www.canalrivertrust.org.uk](http://www.canalrivertrust.org.uk) Make sure you talk to an adult about volunteering safely.

Volunteering can develop useful skills to help you get a job in the future or to learn new things. If everyone volunteered for just a few hours, think what a great place your local community could be. Around 22 million people in this country volunteer – if only this was all on canals and rivers!



A young volunteer in Leicester helps to remove rubbish from the river



This volunteer is helping children at a school visit to Anderton Boat Lift



These local volunteers had a go at painting a bridge on the Shropshire Union Canal and had fun working together

# Volunteering



## Towpath Tidy

Towpath Tidy is a volunteering event that happens every year in March or April time. Under 16 year olds can help too if they bring a responsible adult along, or why not ask your school to get involved?

This event gives everyone the opportunity to get outside and get busy, with volunteers working alongside Canal & River Trust staff. You could be helping by polishing a plaque, helping to lead a walk or planting some bulbs, and you'll get training while you're there. You might find a job you'd like to do in the future as well as having lots of fun and meeting new people. To find out what is going on in your area go to [www.canalrivertrust.org.uk](http://www.canalrivertrust.org.uk)

**Strange  
but True**

A single party shoe beside a canal in the countryside, a bed, a bath and a baby's buggy were just a few of the things collected during the 2010 tidy!

**Fascinating  
Facts**

During the 2010 Towpath Tidy more than 206km of canals and waterways were tidied, painted and pruned!



An amazing 71 tonnes – equivalent to 22,300 bags of rubbish – were cleaned up with the help of volunteers. Imagine carrying all those away!



# How can I use waterways?

## Chapter 3

Waterways aren't all about work! There is a lot to do in your time off too. Canals and rivers are great places to keep fit, whether you're on or off the water, and there is plenty to keep you busy.

Before looking at the next few pages, see if you can come up with a list of things you could do at the canal. Here are a few to start you off...



### Dragon Boat Racing

See the Chinese New Year in on the River Trent.

### Shiverpool Ghost Hunt

A different sort of walk.

### Pirate Club

A boat club for children in London.

### Have a Bugworld Experience

Stories about creepy crawlies.

Find out about your local canal and the events that are going on at [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)



Children take part in WOW activities at the Etruria Festival



Face painting is great fun at lots of events



Going aboard a narrowboat can be really special.

Look out for special events where you can get creative, listen to stories or step aboard a working boat

# Boating

Have you ever been on a boat on a canal or river? It is a gentle journey that lets you enjoy the world around you at a slower pace than travelling by car or train.

You might even have the opportunity to have a go at steering the boat yourself! A boat does not respond as quickly as a car or bike and so you might find yourself zigzagging down the canal if it's your first time.

**Strange**  
but True



Although cars drive on the left side of the road, boats go on the right side of the canal. This can be confusing for the person steering if they are used to driving a car.

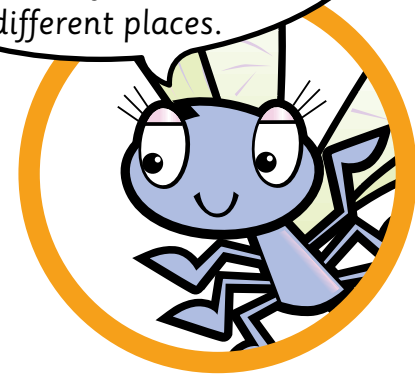


There are lots of different types of boats – narrowboats, barges, cruisers – and some are still pulled by horses

# What is it like on a boat?

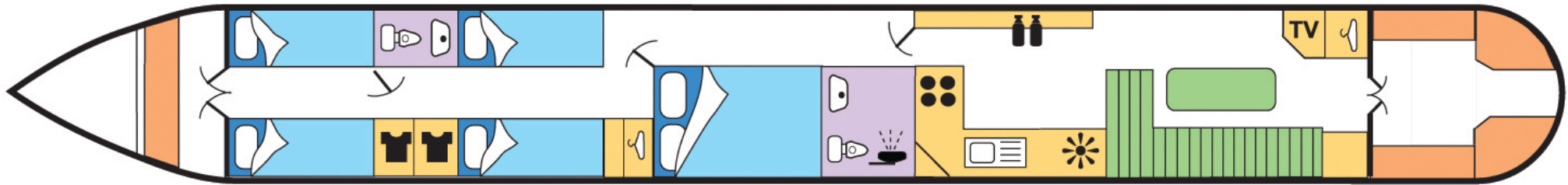
Today, boats are very different from the working boats used a hundred years ago. Living spaces for people are much bigger as no space is needed to carry cargo. There are bathrooms, kitchens and televisions. It is just like being in a floating house.

Have a look at our plan of a holiday hire boat – you could make a plan of your own with the features in different places.



- What do you think it would be like to go on a boat?
- What furniture do you think there is on boats?

This narrowboat has beds for 6 people and is 19 metres long and 2 metres wide.



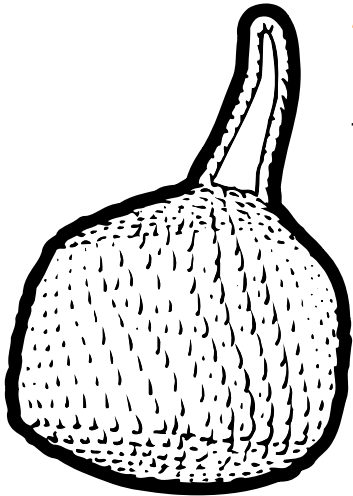
## Facilities

- |   |           |   |          |   |               |
|---|-----------|---|----------|---|---------------|
|  | Sink      |  | Larder   |  | Shower        |
|  | Washbasin |  | Toilet   |  | Table         |
|  | Cooker    |  | Wardrobe |  | Berths/Settee |
|  | Fridge    |  | Drawers  |  | Settee        |

Layout supplied courtesy of Anglo Welsh [www.anglowelsh.co.uk](http://www.anglowelsh.co.uk)

# What is it like on a boat?

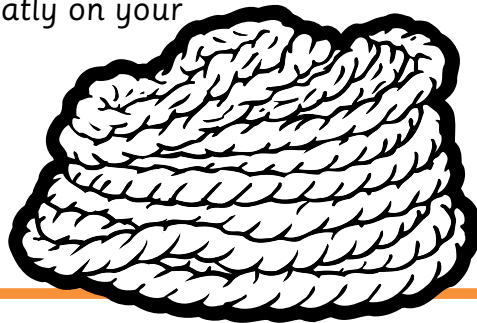
Here are some useful things you might need if you went on a boat:



 Does your boat have fenders?

These stop your boat from getting damaged if you bump into the edge of the canal or something else hard.

Rope is very important for tying up your boat. Make sure you leave it neatly on your boat so you don't trip over it.



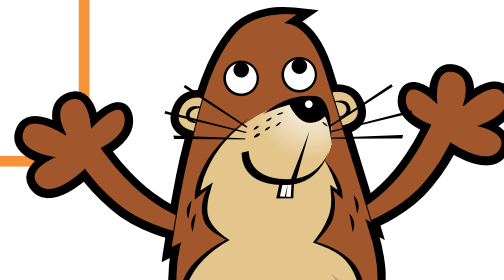
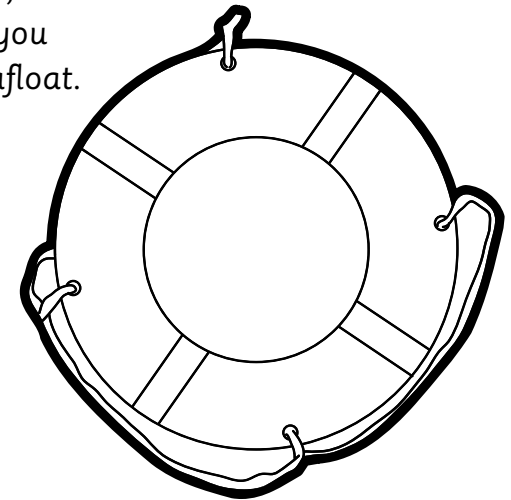
**For a children's guide to cruising:**

**Go Inland!** – A young person's guide to Inland Waterways by Claudia Myatt for the Royal Yachting Association. [www.rya.org.uk/shop](http://www.rya.org.uk/shop)



You will find mooring rings alongside the canal so you can tie up your boat safely when you stop.

Life rings and life jackets are really important if you fall in the water, which can often be very cold and give you a shock. They help to keep you afloat.



# Angling

Angling is catching fish with a baited hook at the end of a rod and line. It is a very popular sport on canals, rivers and reservoirs.

## What do I need to go angling?

### Licence

If you are over 12 years old you will need a fishing rod licence from the Environment Agency. [www.environment-agency.gov.uk/homeandleisure/recreation/fishing](http://www.environment-agency.gov.uk/homeandleisure/recreation/fishing)

### Rod and fishing line

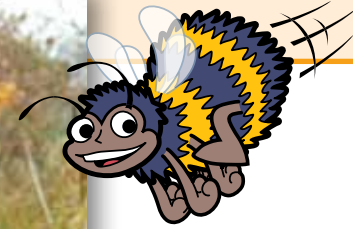
You're going to need a rod of course and there are loads to choose from. The best thing to do is to speak to someone at an angling club or go into a fishing shop to ask for advice.

### Hook

The hook, usually with bait, is fastened to the end of the line and is under the water, below the float. Be careful with hooks, as they're sharp!

### Bait

This could be maggots, redworm, sweetcorn, luncheon meat, tinned cat food or crushed hemp seed – things that fish like to eat.



Look out for taster events in your area where you can try out angling.



Here are an angler's trays of bait, kept in separate boxes so that they are easy to use

### Float

The float, attached to the line, sits on the top of the water. When a fish 'bites' it will pull the float under the water, letting you know it's time to reel in the fish.

### Reel

The line attached to the rod needs a reel. This is so that the line can be wound back in.

### Where can I find out more?

You can find out more about angling from the Professional Anglers Association (PAA). They are trained to pass on their skills and tell you the best places to fish. Contact them at [www.paauk.com](http://www.paauk.com)

# Walking

Canal & River Trust look after more than 1,500 miles of walking routes – that’s a lot of walking! Walking is good for your health and is free for all to enjoy.

Many people find water relaxing and there are plenty of things to see along the canal. Take your friends, family or even your dog to enjoy a stroll along the towpath. There are lots of planned routes, guided walks (when someone leads the walk) or you could try one of the WOW Trails at [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)

See [www.canalrivertrust.org.uk](http://www.canalrivertrust.org.uk) for walk ideas and guided events.

## 5 Top Tips for going walking

1. Make sure you wear sturdy footwear. Leave the high heels at home!
2. Take someone with you to enjoy the walk – or the dog (if you have one).
3. Why not take a camera with you to capture pictures of the things you see?
4. Tell someone where you are going, especially if you’re not taking an adult.
5. Make sure you know what to do in an emergency.

Try our water safety challenge at [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)



Walking through cities and towns can be just as much fun as walking in the countryside



The best thing about walking along the canal is that it is flat!

# Cycling

With miles of flat towpaths, waterways are popular places to go cycling.

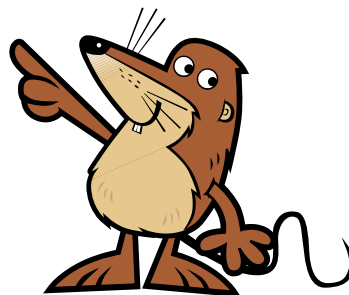
To cycle on Canal & River Trust towpaths you will need to download a free permit from [www.canalrivertrust.org.uk](http://www.canalrivertrust.org.uk) except in London where there is a separate towpath code of conduct. Cycling is a great way to keep fit and see the country.

## Where can I cycle?

There are many routes available for download from [www.sustrans.org.uk](http://www.sustrans.org.uk) The type of surface on the towpath varies from grass to gravel or tarmac, so it is worth doing a bit of research to check the area where you want to cycle has a suitable towpath for your type of bike.

## 6 Top Tips for going cycling

1. Make sure you slow down for other users.
2. Watch out for low bridges!
3. Use your bell if you need to alert other users, but remember to be polite.
4. Stay safe: wear a helmet and keep away from the edge.
5. Look out for ropes, mooring rings and fishing rods across the towpath.
6. Avoid cycling at night.



Cycling with other people is fun but remember, on a narrow towpath you should ride in single file.



# Canoeing

## Fascinating Facts

Canoes have been used for thousands of years as a way of getting around. If you fancy seeing the waterways using people power rather than on a motor boat, why not get paddling?

Membership of the British Canoe Union allows you access to the River Thames and most of the Canal & River Trust network. There are lots of canoeing clubs on the waterways; log on to the British Canoe Union website to find out more at [www.bcu.org.uk](http://www.bcu.org.uk)

Canoeing is a great way to explore the waterways and is a good way to exercise. Boats can be hired, if you don't have your own, and they can be easily transported between different waterways. In some places there are even canoe trails and launches.

### 4 Top Tips for going canoeing

1. Make sure you canoe with someone experienced as water can be dangerous.
2. Do not stay in your canoe when a lock is filling or emptying.
3. Not all tunnels are safe to paddle through. If you are paddling through a tunnel, go in a group and ensure you use a light to make sure other boaters can see you.
4. Wear a life jacket in case you do end up in the water.

Did you know you can get awards for canoeing, such as the Paddle Power awards run by the British Canoe Union?



Canoeing is best done in pairs or groups



# Places of interest

# Chapter 4



There is so much to see on the thousands of miles of waterways it is hard to pick out specific places. Here are some you might want to visit.



Look at this view of the canal from the air. Big boats and little boats use this canal

## **Fort Augustus, Caledonian Canal**

The Caledonian Canal runs straight through this popular tourist destination. There are locks leading down to Loch Ness, the supposed home of the mysterious Nessie. With several museums and a visitor centre in the area, it is worth a visit.

## **Neptune's Staircase, Fort William, Caledonian Canal**

Neptune's Staircase is the UK's longest staircase lock flight. The enormous lock gates are now operated by hydraulics rather than by gangs of men, as each gate weighs 20 tonnes. There are some spectacular views from the locks of the surrounding landscape including Ben Nevis, the highest mountain in Britain.



Little and large – two fishing boats share a descent of Neptune's Staircase



The locks at Bingley are very close together to allow boats to go up and down a steep hill.

## **Bingley Five Rise Locks, Leeds & Liverpool Canal**

A staircase of 5 locks (which is very close to the Bingley Three Rise Locks) is a spectacular feature of the Leeds & Liverpool Canal. At the opening in 1774 a boat took just 28 minutes to pass through the locks, watched by more than 30,000 people who had turned up for the occasion.

# Places of interest

## Standedge Tunnel, Huddersfield Narrow Canal

It is amazing to think that the tunnel was built without today's modern building and surveying equipment. There is a visitor centre and café as well as boat trips that allow people to see inside the tunnel.



At more than 3 miles, Standedge Tunnel is the longest tunnel in the country



Ellesmere Port Boat Museum

## The National Waterways Museum, Ellesmere Port

The Waterways Trust looks after this fascinating museum, which gives an insight into the history of the waterways. There are lots of historic boats to see and buildings to visit. Look out for special events and demonstrations.

## Anderton Boat Lift, Trent & Mersey Canal and the Weaver Navigation

Take a boat trip on the lift, and find out about its construction and the people who worked there in the visitor centre.



This ingenious piece of engineering was used as an alternative to locks to transport boats between the two waterways

# Places of interest



You can see the barrage and the canoe slalom in this picture

## Tees Barrage

The Tees Barrage, built in 1995, is a barrier that stops the tide from the River Tees estuary coming inland. The barrage made it possible to create an exciting new wetland sports and leisure area for Teeside.

The barrage itself is an impressive structure and includes a fish pass\* (with viewing area), navigation lock and canoe slalom.

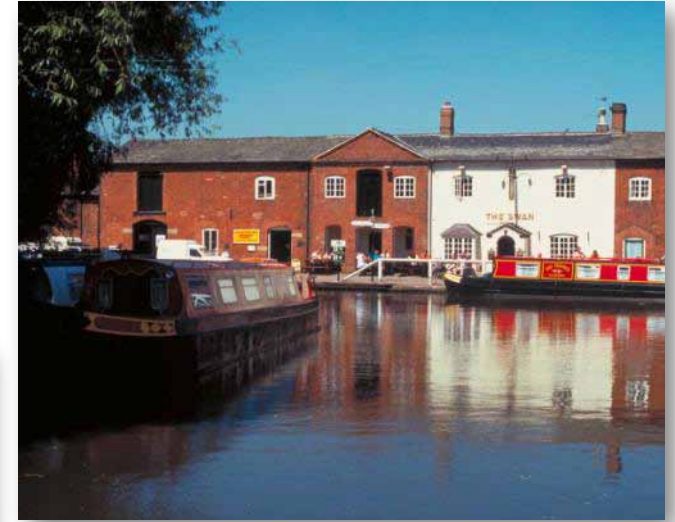
\*A fish pass allows the fish to get past obstructions

## Pontcysyllte Aqueduct, Llangollen Canal

This amazing structure is the highest and longest aqueduct in Britain and now forms part of the 11-mile stretch of canal that has become a World Heritage Site. A small visitor centre is located near the aqueduct, which can be crossed by foot or boat.



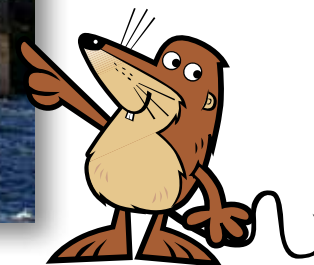
The aqueduct stands 38m above the River Dee.



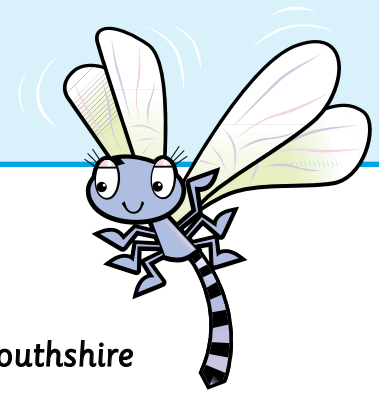
Old warehouses and a pub at the junction where two canals meet

## Fradley Junction, Trent & Mersey Canal and Coventry Canal

Fradley Junction, popular with boat spotters, is a busy place where two canals meet. It also boasts a nature reserve with its own bird hide and fishing platforms.



# Places of interest



## Foxton Locks, Grand Union Canal

This site is particularly interesting as it is the site of an inclined plane – an alternative way of moving boats up and down hills. A café and museum make this a pleasant day out.



At Foxton Locks you will see a flight of 10 locks set in stunning countryside



Lots of boats at Stoke Bruerne

## Stoke Bruerne, Grand Union Canal

Stoke Bruerne, home to Blisworth Tunnel and a flight of locks, provides an interesting location for the Canal Museum. The museum tells the stories of the people who worked on the waterways as well as displaying many artefacts from the waterways.

## Fourteen Locks, Monmouthshire & Brecon Canal

Fourteen Locks Canal Centre is an interesting location as it is still being worked on. Enthusiasts continue to work towards restoration of the locks here. The visitor centre is a good place for wildlife spotting.



This trip boat is travelling through one of the locks

# Places of interest

## Gloucester Docks, Gloucester & Sharpness Canal

Gloucester Docks is an exciting place to visit as you can see a wide range of boats, including tall ships, alongside many of the original warehouses. The docks are also home to the Gloucester Waterways Museum.



Old warehouses here are often used for historic films. This picture was taken during the filming of 'Amazing Grace'



The London Canal Museum is right next to the busy Battlebridge Basin on the Regent's Canal

## London Canal Museum, Regent's Canal

The London Canal Museum is in a former ice warehouse, which was built for a famous ice cream maker. In the 1820s, huge blocks of ice began to be imported by sea and canal from Norway. They were kept in ice wells and great big blocks of ice were cut for restaurants, hotels and fishmongers.

At the museum you can go inside a narrowboat cabin, learn about the ice trade as well as learning all about London's busy rivers, canals and docks.

## Caen Hill and Devizes, Kennet & Avon Canal

Caen Hill is a flight of 29 locks in 3 groups over 2 miles between Rowde and Devizes. The hill is very steep. So that there is enough water for all the locks, there are side ponds at each lock and some of them are great places to watch birds and wildlife or do a quiet bit of fishing.



This man is enjoying taking his boat through Caen Hill Locks

# Events

People organise events to invite others to join in with an activity or learn about the work they do. An event might help to raise funds for a special project on their waterway.

Canoe and rowing clubs hold races or 'try it' days. Sometimes local towns celebrate by putting on a carnival with boat parades, stalls and even fireworks.

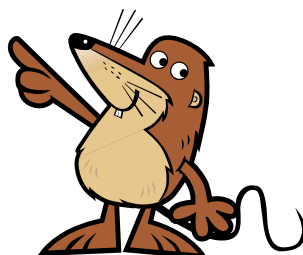
Some are waterway based and others just use the canal as a great location to have a festival. Some waterways festivals run WOW kids activities varying from rope work, building, craft, quizzes and environmental activities – so look out for them!

To find out more about events visit [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk) or look at some of these:

- **The IWA National** (the location changes each year) on August bank holiday [www.waterways.org.uk](http://www.waterways.org.uk)
- **Canalway Cavalcade**, Little Venice, held over the May bank holiday weekend [www.waterways.org.uk](http://www.waterways.org.uk)
- **Crick Boat Show** in May [www.crickboatshow.co.uk](http://www.crickboatshow.co.uk)
- **Skipton Waterways Festival** in May [www.penninecruisers.com/festival](http://www.penninecruisers.com/festival)



Canal & River Explorers has lots of children's activities at events round the country



## What are World Heritage Sites?

Since 1972 important cultural or historical places around the world have been nominated as World Heritage Sites. An international group decides which places need protecting and give advice on the best way to do this.

So far 911 World Heritage Sites have been identified.



**Can you find out where they are?**

Here are a few to start you off:

- Venice and its lagoon in Italy
- The Pyramid Fields in Egypt
- The Grand Canyon in the United States of America

To find out more about World Heritage Sites go to [www.whc.unesco.org/en/list](http://www.whc.unesco.org/en/list)

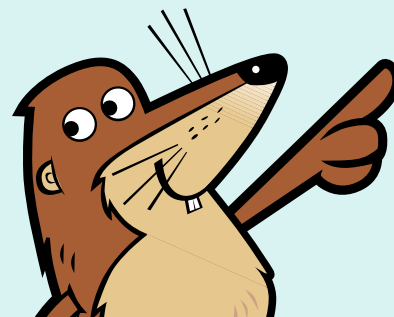
**Five waterway sites have been identified as having world importance.**

## Pontcysyllte Aqueduct and the Llangollen Canal

Eleven miles of the Llangollen Canal, including Chirk Aqueduct and Tunnel and Pontcysyllte Aqueduct, are a World Heritage Site. Thomas Telford, the engineer who built the canal, used lots of new methods and materials as well as designing the famous aqueduct.



The Pontcysyllte Aqueduct is still the highest and longest in Britain today!



# World Heritage Sites



## **Blaenavon and the Monmouthshire & Brecon Canal**

Blaenavon, and nearby Llanfoist, are considered important because of the iron production which took place here. Blaenavon also has the only complete colliery (coal mine) in Wales. The Monmouthshire & Brecon Canal is an important part of the World Heritage Site because it allowed raw materials, such as coal, to be moved to where they were needed.



Llanfoist village lies beneath the massive Bloreng Mountain, part of the Brecon Beacons National Park



The Kennet & Avon Canal runs through a World Heritage Site

## **Bath and the Kennet & Avon Canal**

This beautiful city has grown up around both Roman and Georgian architecture, which is still an important feature of the area. The canal once would have provided an important means of transport to and from the city.



# World Heritage Sites



Liverpool was an important seaport, particularly because of its links to the rest of Britain by canal

## **Liverpool and the Leeds & Liverpool Canal**

The docks area of Liverpool, Stanley Locks, and a warehouse looked after by Canal & River Trust are part of a World Heritage Site. Cargo could be brought to Liverpool from all over the country as well as taken around the country by canal.

## **Saltaire and the Leeds & Liverpool Canal**

Saltaire was built by Titus Salt, a mill owner who thought his employees deserved a decent place to live. The Leeds & Liverpool Canal provided important transport links so that the textiles made in Saltaire could be delivered to other areas of the country, to Liverpool and around the world.



Can you see the textile mills that come right up to the edge of the water?

# Listed monuments and structures

The Canal & River Trust is the third largest owner of listed structures in the country. It has almost 3,000 examples of industrial heritage and engineering feats nationwide.

## Listing

Listing is the process of recording a building or structure in detail because it has special architectural or historic interest. Buildings were first listed in Britain in 1950.

## Protection

Buildings can be powerful reminders of a past way of life and give an area character. English Heritage is responsible for identifying and protecting Britain's built heritage. This means that thought has to be given to how a building is used and how any alterations or repairs are made.

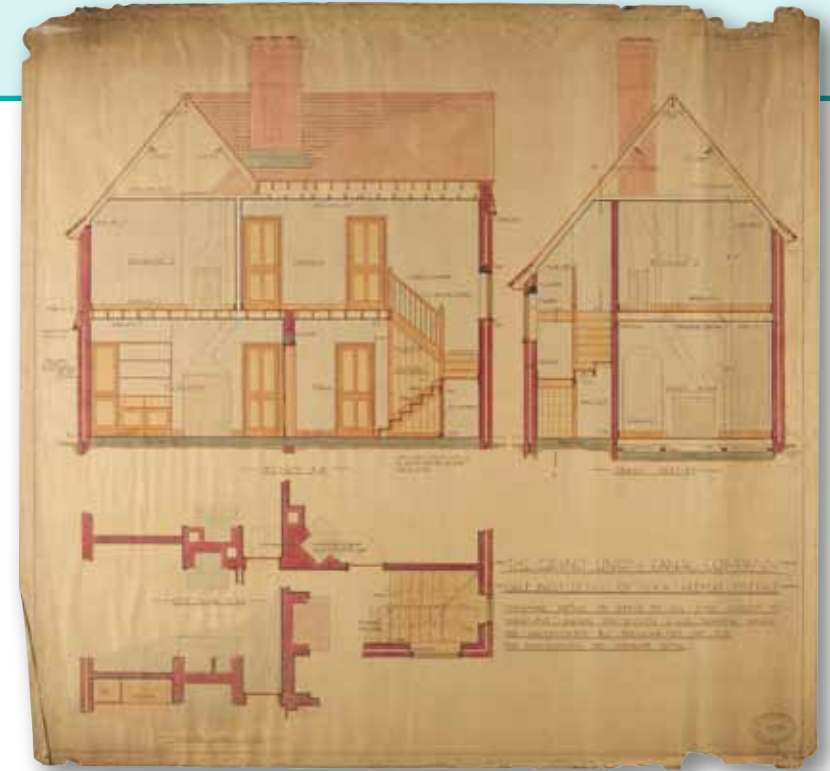
[www.canalrivertrust.org.uk/features-and-articles/features/waterway-heritage](http://www.canalrivertrust.org.uk/features-and-articles/features/waterway-heritage)

**Strange  
but True**

## How are we still discovering more?

Although we know lots of things about waterways, there are still new things to be discovered.

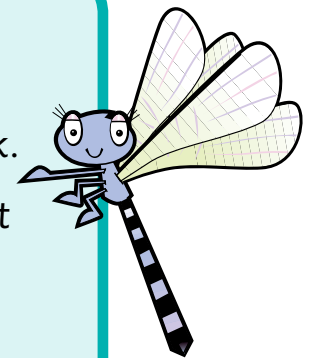
Some records and plans were made when canals were built, but many things weren't recorded. Remember they didn't have computers back then and everything had to be handwritten!



The canal companies didn't just build the canal. They also built warehouses, wharves, houses and offices. This is the plan drawn up to build a lock keeper's cottage

We learn new things all the time when engineers have to repair canals and get to see underneath and behind stone and brick.

Sometimes have special surveys carried out on buildings when people have forgotten what they were used for or want to know more about them.



# Your place, your heritage

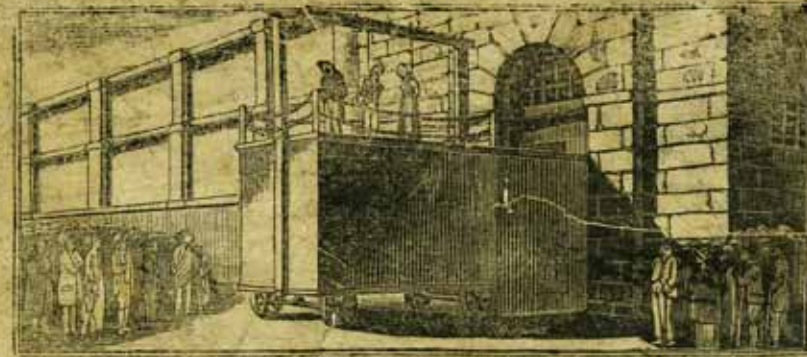
In recent years, people working for heritage organisations have been thinking about how people in the past have influenced the places we live in today. It's not just about the rich and famous people, but ordinary people too.

## Exploring our waterways past

Studying the past can help us to understand the connections between people and places. We can see how some groups of people are linked to certain places – for example, merchants and fishermen in ports, miners in the South Wales valleys, or sheep farmers in the moorlands of northern England.

There are many places which are connected to waterways. Some towns didn't exist before the arrival of a canal – Stourport-on-Severn in Worcestershire, for example. Many people lived and worked on the waterways and some boaters worked on only one canal, or carried goods for one company.

We can understand places better if we understand the lives of people who lived there in the past – and sometimes we can discover some shocking history!



## The Life, Trial, Condemnation, last Declaration, and **EXECUTION OF** **TWO OF THE BOATMEN,** *At Stafford, on Saturday, April 11. 1840.*

For the Willful Murder of CHRISTINA COLLINS, near Rugeley.

At Stafford Assizes on Monday the 10th of March, JAMES OWEN, aged 39; GEORGE THOMAS, alias DOBELL, aged 27; and WILLIAM ELLIS, alias LAMBERT, aged 28, were placed at the bar on the charge of the willful murder of Christina Collins, the wife of Robert Collins, on the 17th of June last, at the parish of Rugeley, "by casting, pushing, and throwing the said Christina Collins into the canal," by which means "the said Christina Collins was choked, suffocated, and drowned."

The prisoners having severally pleaded not guilty, a jury was sworn "well and truly to try, and true deliverance to make between our Sovereign Lady the Queen and the prisoners at the bar, and a true verdict to give according to the evidence."

These men, it will be recollected, were tried at the last Summer Assizes, before Mr. Justice Williams, on an indictment charging them with committing a rape upon the body of Christina Collins. After a long investigation, and the case for the prosecution having closed, the learned Judge decided that, although a strong case of suspicion had been raised against the prisoners, yet there was no legal evidence of any rape having been committed by them, and directed the Jury to acquit the prisoners, which they accordingly did. Mr. Sergeant Lulllow then applied to the Court to put off the trial, under the indictment "by casting, pushing, and throwing," on the ground that a material witness, Joseph Uggill, a prisoner in the gaol, who had been convicted of burglary, could not be examined in the case until he had obtained a free pardon, through an application to the Secretary of State. Owen, it was understood, had made important disclosures to Uggill, whilst in prison. The Counsel for the prisoners opposed his application; but Mr. Justice Williams consented to postpone the trial.

On the present occasion the men had much the same appearance when placed at the bar as at the last Assizes. They had on the same shabby, filthy, and generally worn by boatmen.

The deceased Christina Collins was a young woman, who was married to Robert Collins. They were both in a familiar situation of life, she being a domestic servant, and he a boatman, residing in the district of Rugeley, and was dependent on his wife. In the month of June last, she was taken to the canal, and being successful, she took an opportunity of enabling her to find her way to London.

On Saturday the 17th of June, the body of Christina Collins was found in the canal, and was carried to the house of Mr. Collins, who was the proprietor of the canal, and was found in a situation of life, she being a domestic servant, and he a boatman, residing in the district of Rugeley, and was dependent on his wife.

## The Bloody Steps

The Bloody Steps just outside the town of Rugeley on the Staffordshire & Worcestershire Canal are known for their strange story. In June 1839, Christina Collins was travelling to London on a working boat to join her husband. Mysteriously, she disappeared and her body was found in the canal at Brindley Bank. As she was carried from the canal, some say that her blood dripped onto the steps and stained them forever. James Owen and George Thomas, the boat crew, were arrested and convicted of her murder.

# Archives and memories

An archive is a place where records and collections of documents are collected. The National Archive is the place where records of official birth, marriage and death certificates are kept, as well as more than 1,000 years of government records!

The National Waterways Museum has an archive – a collection of all sorts of original documents, books and photographs. If you were researching a boating family, you might find details of the boat they worked on, photographs of them and the places they went to. To find out what's there, go to the Virtual Waterways website.

[www.nationalarchives.gov.uk/about](http://www.nationalarchives.gov.uk/about)

[www.virtualwaterways.co.uk](http://www.virtualwaterways.co.uk)



This picture shows Jane's cousin Jean with their grandfather Frederick Warner on the Worcester & Birmingham Canal at Astwood

When Jane Clark heard about a project to record people's memories, she contacted Canal & River Trust. Her grandparents lived in a lock cottage and she had lots of photographs from the 1930s showing the lock cottage and her family beside the canal.



The National Waterways Museum has a huge archive of original documents, including some wonderful photographs

# Archives and memories

## Researching your family history

Canal & River explorers have put together a pack to help you to research your waterway history. The pack will help you to explore your family's past. By following the story of a present-day Cheshire girl, the pack explores family history and how people are linked to places – in this case, our canals.

The Exploring Family History Fact File tells you about ways of finding out about the past. You'll learn how things change over time and how our lives now are linked to our past.

[www.canalriverexplorers.org.uk/grownups/resources/413](http://www.canalriverexplorers.org.uk/grownups/resources/413)

Have a look at the Family History Checklist at:  
[www.canalmuseum.org.uk](http://www.canalmuseum.org.uk)



Children on a working boat at Foxton Locks

## Heritage Open Days

On four days in September every year, buildings of every age, style and function throw open their doors. Sometimes unusual waterway places are open too.

In 2010, the Accumulator Tower was opened at Regent's Canal Dock, now known as Limehouse Basin. It was a rare opportunity to see one of the first hydraulic power stations.

[www.heritageopendays.org.uk](http://www.heritageopendays.org.uk)

In our Fact File, May found out that her granddad lived on a working boat called Test.



# Stoppage open days

Each winter, Canal & River Trust carries out an enormous programme of maintenance on its network of canals and rivers. These tasks are vital to keep the 200-year-old canal heritage working.

At some sites, people are invited to come and see the skills and traditional crafts involved in replacing lock gates, repairing lock chambers, relining canals and other tasks at special stoppage open days.

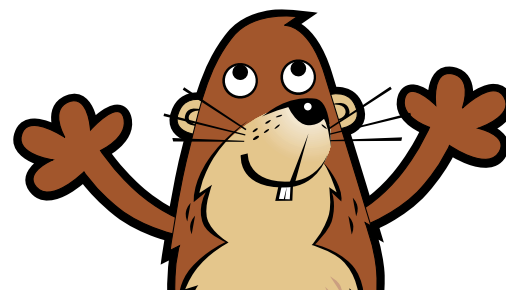
If you'd like to go to a stoppage day this winter, find out more at [www.canalrivertrust.org.uk/canal-open-days](http://www.canalrivertrust.org.uk/canal-open-days)



This team is carrying out a fish rescue for a stoppage. The fish have to be moved to a safe place before all the water is drained



The waterway team is putting in a new lift bridge on the Oxford Canal



# Healthy living

Keeping fit and healthy is something we are all being encouraged to do. By making small changes to our lifestyle, we can often make a big change to our health – but how do waterways play a part?

## Healthy walks

The 30 miles of the Erewash Valley Trail is a route where Canal & River Trust has linked up with partners, such as the local council and the health service, to encourage people to stay healthy. The walks run through beautiful countryside, using the Erewash Canal towpath, and are never far from the towns and villages on the borders of Derbyshire and Nottinghamshire.



These people are taking part in one of the regular healthy walks along the canal towpaths in Stoke-on-Trent

# Chapter 6

Allotments are small plots of land where people can grow their own food or flowers.



How the new city of London hopper allotments could look

## 21st-century gardening

Space to grow your own food is limited in London, so British Waterways and the Wildlife Trust at Camley Street Nature Reserve have decided to make an allotment in a boat! The Heritage Lottery Fund is sponsoring local schools and volunteers to use a 20-metre hopper boat as their allotment.

# Wildlife

People who love the waterways know what a great place they are to find wildlife. Every year, enthusiasts help The Canal & River Trust by recording creatures they have seen for the Wildlife Survey. Kingfishers, newts, toads and otters are being seen in record numbers on Britain's canals and rivers.

A waterside walk is a good way of seeing wildlife, but if you're lucky enough to travel by boat, you might catch sight of a heron flying just ahead of the boat. Anglers patiently waiting at the water's edge may encounter a water vole, moorhen or coot searching for food. To find out more about helping with the Wildlife Survey, go to [www.canalrivertrust.org.uk/wildlifesurvey](http://www.canalrivertrust.org.uk/wildlifesurvey)



These children are looking at very tiny water creatures with a magnifier.



Look out for posters telling you how to enter the Wildlife Survey



# Waterway science

A Site of Special Scientific Interest (SSSI) is a place of special interest because of its wildlife, plant life, or geological features. The law protects SSSIs from development, from other damage and from neglect.

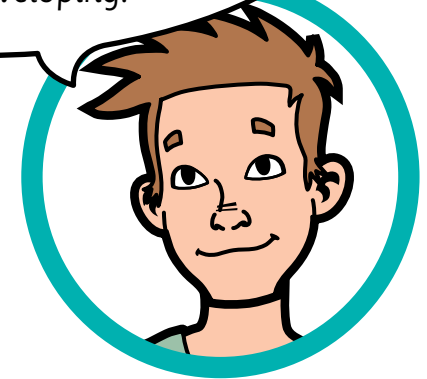
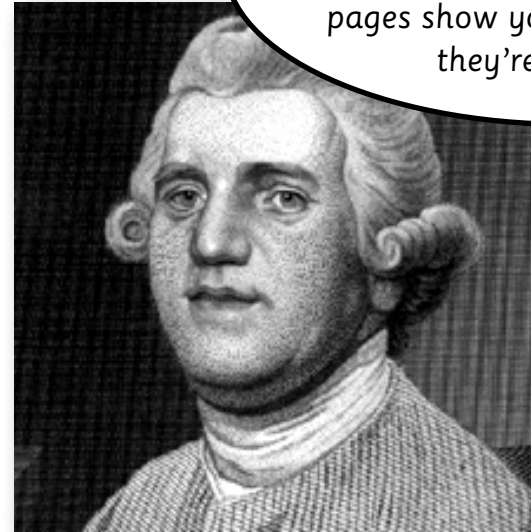
There are more than 50 SSSIs and 1,500 locally designated Wildlife Sites on our waterways. These sites are important because the waterways are 'green corridors' along which wildlife can travel.

Biodiversity is a word used to describe the number of living things within a place. Some waterway sites are important for their biodiversity and we have to look after the many different things living there.



It's amazing how many tiny creatures live on plants at the waterside

Today, waterway engineers are still thinking of ways that canals can help to solve problems. The next few pages show you just a few things they're developing.



Josiah Wedgwood was keen to transport his top quality pottery by canal

## Scientific discovery

Canals have been important to scientific discovery for a very long time. A group of wealthy businessmen once met to discuss scientific ideas in Birmingham. Their group was called the Lunar Society. Men like Josiah Wedgwood supported the new idea of building man-made waterways so that they could transport materials and goods.

One of the first things they talked about was canal building, but the society still exists today and debates things from high-speed railways to new techniques in surgery.

# Renewable energy

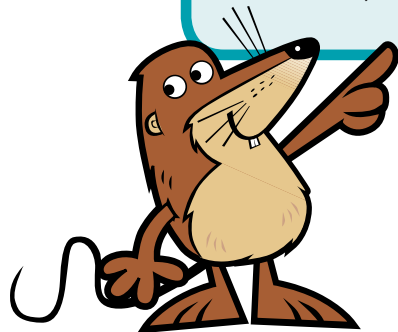
## Climate change

Climate change is a change in weather patterns caused by global warming – or the earth heating up.

Global warming is increased through the burning of fossil fuels like coal and oil. This is because burning things changes the atmosphere around the Earth and makes it warm up. The Canal & River Trust is looking at ways to use wind and water for power instead of buying electricity made from fossil fuels.

## Wind turbines

Some waterway places may be suitable for generating electricity from windmills. A 2 megawatt turbine generates enough electricity for 1,118 homes.



## Is Britain warming up?

In the 1500s during Henry VIII's reign, the River Thames in London used to freeze over every winter and Frost Fairs were held on the ice! Can you imagine this happening now?

## Fascinating Facts

In 2008 the government announced plans for up to **10,000 new wind turbines** to be put up across Britain. There are fewer than 2,000 turbines in Britain today, so this is a big increase. **Canal & River Trust hopes to install up to 40 wind turbines**, which will generate a lot of electricity.



Canal & River Trust is checking its land to see whether it could generate electricity with wind turbines.

# Renewable energy

## Hydro electric power – electricity made from water!

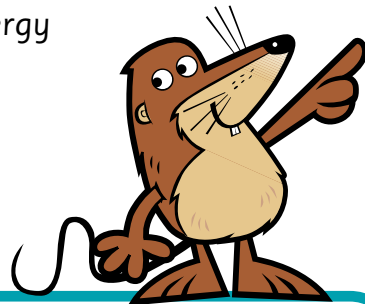
People have used water wheels and the wind to power machinery for hundreds of years. Today, we are concerned about climate change and the amount of resources we are using and are again looking at using renewable energy such as water and wind power.

Canal & River Trust has been considering how it could create energy from its waterways and land in a renewable way.

Here are 2 ways of making hydro electric power from rivers:

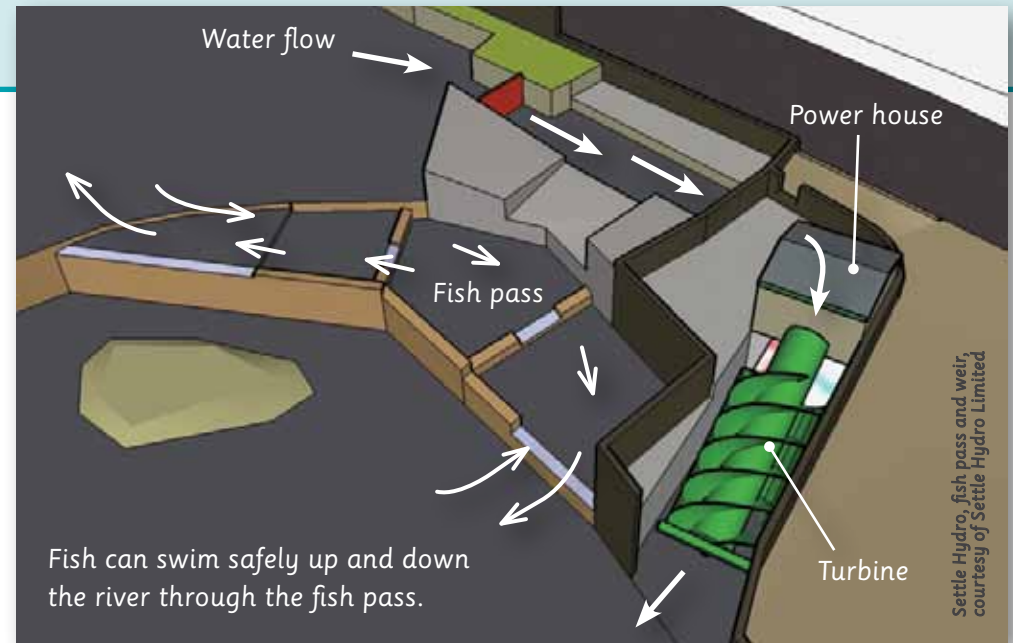
An **Archimedean Screw** makes electricity when water flowing downstream makes the screw turn. The energy is then converted into electrical energy by a generator on top of the screw.

A **Kaplan Turbine** has a propeller below the water level. Flowing water drives the propeller and this energy is converted into electricity in the power house above the turbine.



## Fascinating Facts

A modern kaplan turbine generator can convert more than **90% of the energy** available in the water to electricity.



This diagram shows how a Archimedean Screw works



This picture shows the fish pass at low water. Fish can swim up or down these 'steps', which are underwater when the river is flowing fast

Canal & River Trust carries out work all year round to look after the waterways, but it tries to do a lot of construction work in winter so that people can enjoy using the waterways in summer.

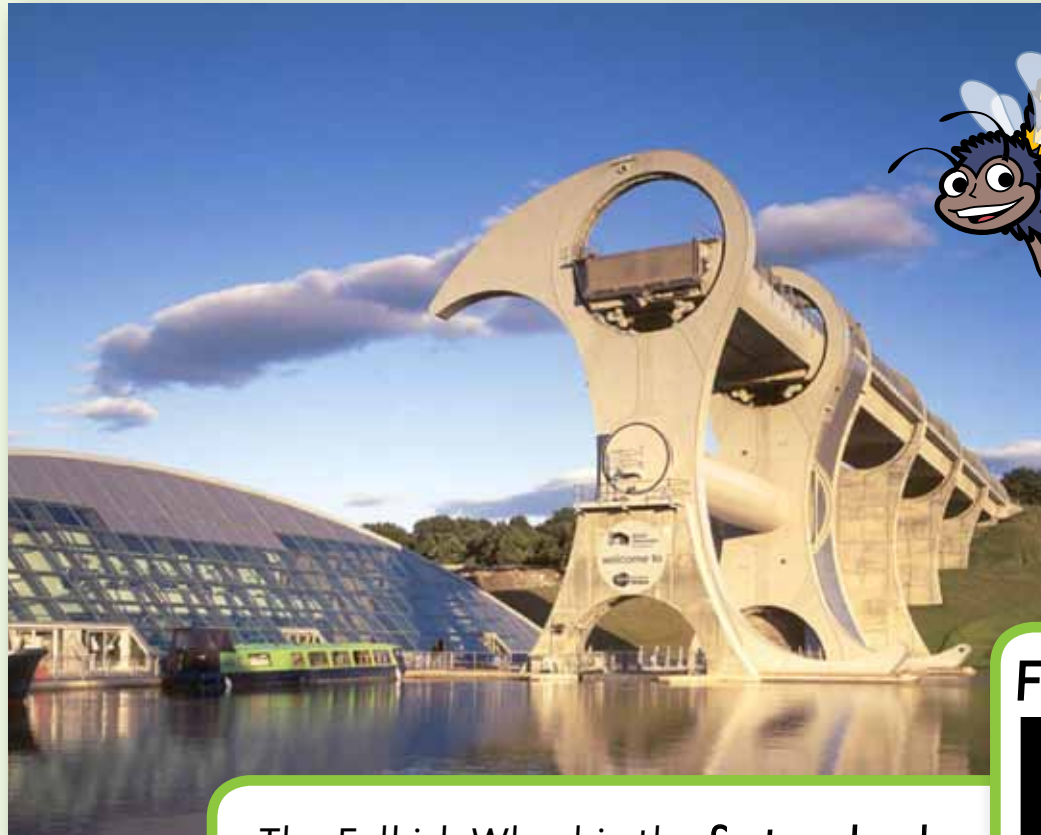
### Engineering today

Today, engineers are coming up with exciting ideas to connect and regenerate waterways using modern materials and inventive engineering.

### The Falkirk Wheel

The wheel links two canals where one canal is 35 metres (115ft) above the other! This is roughly the height of a double-decker bus.

It is a modern solution to an age-old problem of moving boats up and down hills. Originally a flight of 11 locks was built, like steps up the hillside.



### Fascinating Facts

The Falkirk Wheel is the **first and only** rotating boat lift **in the world!**

The wheel raises and lowers boats between the two canals, quickly and economically.

# Looking after the waterways

## The Liverpool Canal Link

The Liverpool Canal Link is a modern section of canal that links Liverpool Docks with the Leeds & Liverpool Canal. Canal boats can now use the link to the docks rather than using the River Mersey.

The Liverpool Canal Link extends the Leeds & Liverpool Canal through some of the docks in Liverpool across the famous Pier Head and in front of the Three Graces (which is the name given to the impressive buildings in the photograph). It is hoped that lots more canal boats will now use the docks.



Boats can now travel to the South Docks via the Liverpool Link

## Monmouthshire & Brecon Canal

Engineers had to move quickly to rebuild a big section of the canal when its banks burst in 2008. More than £7.5 million was spent on relining the canal with clay, repairing bridges and improving drainage. In just over a year, the work was completed and the canal was ready for business again by the following spring!



This team is relining the Monmouthshire & Brecon Canal



Working on repairs to the Monmouthshire & Brecon Canal

# Engineering discovery

Sometimes engineering work can reveal the most amazing discoveries. Here's just one recent find...

## Brunel Bridge


Work was about to begin on a huge road building scheme in London, when the Inspector for Ancient Monuments discovered that there was a hidden bridge inside an old canal bridge that was about to be demolished!

What's more, the original bridge had been designed by one of Britain's most famous engineers – Isambard Kingdom Brunel. The inspector found some of Brunel's notebooks, which showed that the bridge had been tested and was an amazing design, mainly held together by the force of gravity.

The bridge was carefully taken apart and will now become part of a canalside improvement project so that people can see it again.



The original Brunel Bridge was carefully taken apart and is being stored and looked after by English Heritage

 What surprising discoveries have been made in your area?



## Fascinating Facts

When volunteers were working with the engineering teams on the Droitwich Canals, they found a very old copper kettle in the mud. It must have been accidentally dropped from a boat cabin many years ago!



# Maintenance

Every winter, Canal & River Trust carries out maintenance work on its 2,000 miles of canals and rivers.

Some work, such as repairing culverts (drainage channels) and repointing bridges and locks (repairing the mortar in between bricks), is done at regular intervals. Weeds have to be cleared and paths repaired.

Traditional materials are used so that structures look right. This means that if stonework is being repaired, the engineers have to find the right kind of stone so it is a good match. Sometimes big jobs need to be done, such as cleaning ironwork on bridges and repainting it, or making and fitting brand new lock gates. This is a very skilled job.



Engineers make sure that stonework matches original materials when doing repairs



This dredger is removing mud from the bottom of the canal and putting it into a boat, called a mud hopper, to be taken away

## Dredging

All year round, rain washes mud into the waterways. This builds up on the bottom of the canal and makes it difficult for boats to move around. The mud is removed by digging it out, which is called dredging.

You can see dredging boats out on the waterways. They have a large digger on the boat and often have four legs, which can be put onto the canal bed so that the boat stays still while the digger is working.

The mud is dug out from the middle of the canal and put into empty boats. Later it has to be scooped back out and put somewhere to drain all the water off.



# Maintenance

## Erosion control

A flowing river, cattle coming down to the water to drink or boats passing up and down the waterways all create waves against the banks.

One of the ways of stopping this from happening is to ask boaters to slow down so that their boats don't create waves behind them.

Engineers have developed lots of ways of making the banks stronger. In towns or where there are lots of boats, the sides of canals are often made of brick, but in the countryside a softer edge is better for wildlife.



The edge of the canal can be washed away by the flow of water



This stretch of waterway in Kidderminster has been lined with steel piles to make the banks strong

## Piling

One way of protecting canal banks is to knock in steel or concrete piles at the edge of the waterway. This method has been used for many years.

To put piles in, you need a pile driver. This is a really big hammer, usually mounted on a boat. The hammer drives the piles right into the canal bed at the sides of the waterway. More than half the pile has to be hammered down into the mud, so it's a very noisy thing to do!



Waterside plants growing at the canal edge act as a buffer and stop moving water from wearing the bank away

## Bank protection

In some places, it is important to make sure that plants are growing at the water's edge. Reeds are good places for water birds to nest and water voles can still get to their burrows in the banks.

One way of protecting the bank, while still allowing wildlife to use the waterway is to use rolls of special coir matting, a kind of mat made out of coconut fibres. The rolls are fixed at the sides of the canal and water plants, such as reeds or iris, are planted behind them.



On the Explorers website, you can find a wide range of waterway resources for learning, visiting and fun activities to do at home or in the classroom.

The resources can be used to guide a term's learning in the classroom and, combined with a visit, help schools deliver exciting learning.

## Cubs and Brownies

Cub Scouts and Brownies can also work towards many of their badges by using waterways. Explore the website for ideas.



Cub Scouts have a go at pond dipping at Fradley Pools

## Where to find out more

You can find out more about waterways from lots of organisations! There are charities like Canal & River Trust, but there are also lots more canal societies, boat clubs and history groups.

[www.canalrivertrust.org.uk](http://www.canalrivertrust.org.uk)

[www.nationalarchives.gov.uk](http://www.nationalarchives.gov.uk)

[www.waterways.org.uk](http://www.waterways.org.uk)

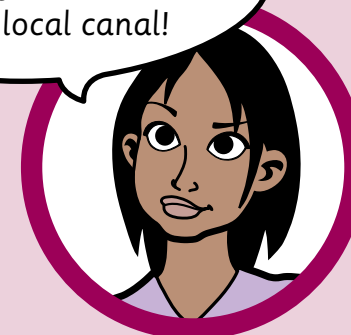
[www.wildlifetrusts.org](http://www.wildlifetrusts.org)

[www.ukcanals.net](http://www.ukcanals.net)

[www.norfolkbroads.com](http://www.norfolkbroads.com)

[www.broads-authority.gov.uk](http://www.broads-authority.gov.uk)

Try searching the internet by putting in the name of your local canal!



# Finding out more

Our Topic Packs give a themed or subject-based overview of waterways. We're updating and improving our resources all the time, so have another look on the WOW website from time to time!

Topic Packs are a great way to introduce the topic of canals and rivers and are designed to encourage greater understanding through research and discovery. Containing archive material, historic images and personal memories they are a lively way to deliver the curriculum.

**Other Topic Packs include:**

**Life on the English Waterways** – all about living and working on the waterways between 1760 and 1960.

**Building and Carrying** – how the waterways were built, who built them and what was carried on them.

**Waterways at War** – all about the part that waterways played during war time.

**Waterway Habitats** – learn how waterways are vital to the nation's wildlife.

There are also many other resources to download, fun games to complete and suggested waterway places to visit at [www.canalriverexplorers.org.uk](http://www.canalriverexplorers.org.uk)

