



Pontcysyllte

Safle Treftadaeth Y Byd
World Heritage Site



**Bryniau Clwyd a
Dyffryn Dyfrdwy**
Clwydian Range
and Dee Valley

Part of a UNESCO World Heritage Site
Area of Outstanding Natural Beauty

i see...

**Siarter
Amgylcheddol
Environmental
Charter**



**Snowdonia-
Active
Bryni-
Bywriol**

Llangollen Canal

Reconciling Conservation and Recreation

Siarter Amgylcheddol Environmental Charter



Snowdonia-
Active
Eryri-
Bywiol

Charter signatories seek to:

- Avoid damage to sites and minimise disturbance to wildlife and the environment
- Ensure all group leaders understand more about the habitats, species, geology and environments of North Wales and how to avoid disturbance and damage
- Encourage others to respect the wildlife, landscapes, culture and community life in and around North Wales
- Work with land managers, statutory bodies and other interested parties to best manage groups on existing sites and consider the implications before developing new sites
- Respect conservation based management plans that have been agreed and publicised
- Show consideration to landowners, residents and other users when parking and operating
- Encourage groups, colleagues and students to respect, protect and enjoy the special character of the region – habitats, species, wildlife, geology, archaeology and manmade structures
- To discuss any essential perm-anent fixtures with the statutory bodies and relevant parties
- Leave a site cleaner that we find it and take litter home



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iSee Canals of Wales

Llangollen Canal

Outdoor activities offer the ideal platform to teach groups about their surroundings. This guide will help outdoor instructors engage their clients with the unique industrial, cultural and natural heritage of the canals of Wales.

The canals in Wales were built to efficiently transport goods around the country, playing a significant role in the industrial revolution. The opening of the canals meant businesses prospered in rural communities bringing profit and jobs. However, the opening of the 'faster' railways sent canals into decline. The vital work of the **Canal & River Trust** has restored many canals to a haven for history, wildlife and leisure.

Originally narrowboats were towed by horses which is why we can today enjoy walking or cycling alongside the canal on the tow path.

Designed to fit the pocket of a buoyancy aid or in your pocket.

This booklet is available in Welsh and English.

chirk to
pontcysyllte
aqueduct

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pontcysyllte
aqueduct

.....

pontcysyllte
aqueduct to
llantysilio

.....

in the
water

on the
banks

in the
hedgerow

paddle the
right way

.....

other
resources

.....



Limekilns can be spotted along the canal, the largest of these being at **Froncysyllte**, used to make lime from limestone for building and agriculture.



You will see grooves in the stonework all along banks of the canal. These are for **stop planks** which are inserted to dam sections of the canal for maintenance.

The canal was primarily built to feed water from the **River Dee** into the **Shropshire Union Canal**, which served the industrial areas of the midlands and the north west of England.



Chirk tunnel was one of the first canal tunnels built which had a towpath. The railings curve into the ground at the entrance to avoid snagging the tow-rope.



Gledrid Bridge is in England and marks the entrance to the World Heritage site.



As you cross **Chirk Aqueduct** you cross between England and Wales.

PONT CYSYLLTE aquaduct

Pont - meaning 'bridge'
Cysyllte - meaning 'connect'
Say it "Pont-kus- sulth-teh"

Opened 1805

15 million
GALLONS



38.4 metres HIGH

307

metres LONG

- Highest, longest aqueduct in Britain.
- In 2009 it became an UNESCO World Heritage sites which means it's important on an international scale.
- Sandstone from the nearby Cefn Mawr quarry was used to build the 18 piers of the aqueduct.
- The ribs and plates were all cast at William Hazledine's purpose built Plas Kynaston iron foundry.
- Every 10 years the plug is pulled on the aqueduct and drained for maintenance. It take 2 hours to drain.
- The aqueduct cost £47,000 and 10 years to build, today it would cost an estimated £400 million to build.
- The work was undertaken by Thomas Telford - the same engineer who designed the Menai Bridge to Anglesey - and supervised by the more experienced canal engineer William Jessop.

19 ARCHES



At **Pentrefelin Bridge** a narrowing shows where a lift bridge once crossed to Pentrefelin slate mill, where slate from quarries to the north were cut into slabs for architectural use.

The crescent shaped weir at **Horseshoe Falls** draws 12million gallons water per day from the river Dee to the canal and helps to supply Cheshire with drinking water.



LLANTYSILIO

A542

Valle Crucis Abbey



Chain Bridge

Berwyn Station

The **Chain Bridge** has been rebuilt three times due to flooding but still carries the oldest suspension chains in use.

Miles

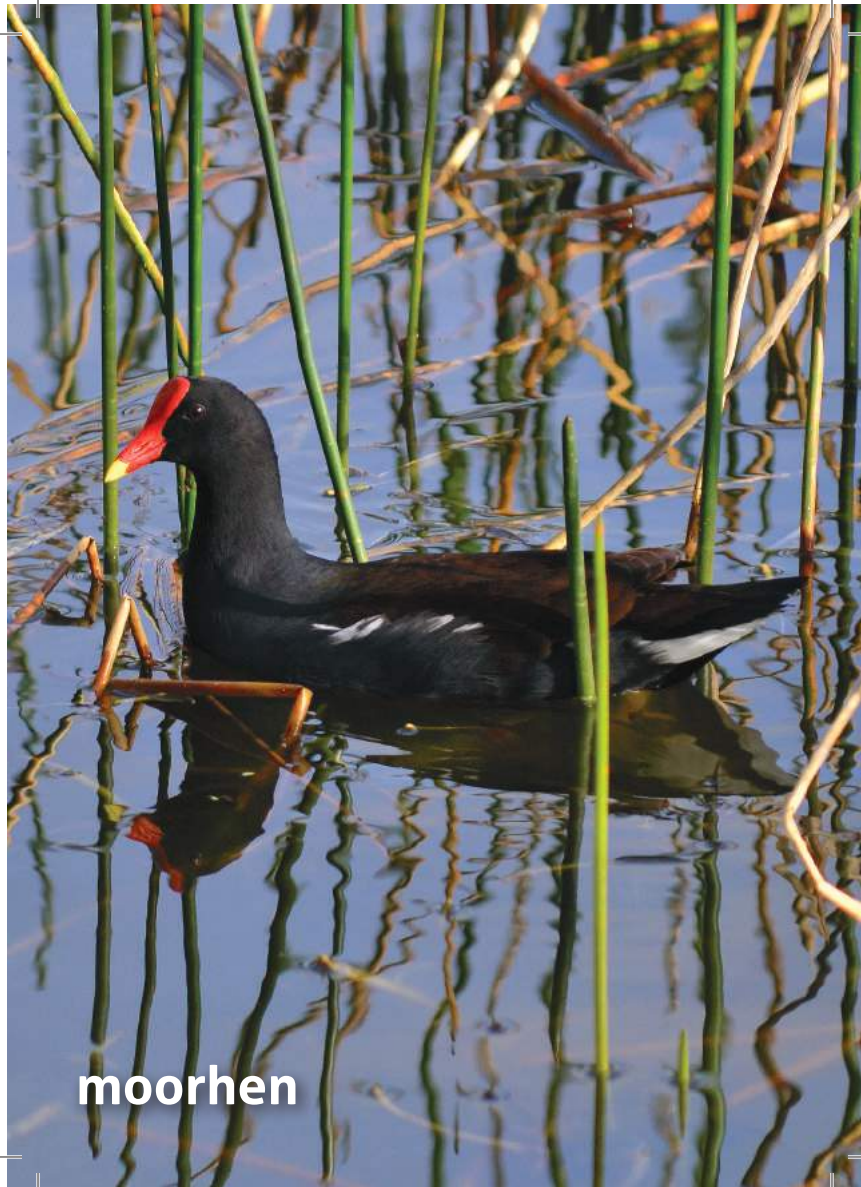
Corwen



Beyond the **Bryn-Howel Bridge** a boat house sits in the garden of the adjacent mansion, now the Bryn-Howel hotel. This indicates that pleasure boating was popular from the 19th century.



Llangollen winding hole enabled powered boats to turn around as few would be going further into the shallower parts of the canal beyond.



moorhen

in The Water

Though built for industrial and agricultural freight, our waterway channels are now our most obvious wildlife habitat. Canals and navigable rivers were colonised by plants and animals soon after construction. Now, 200 years later, many are designated as important nature sites at local, national and international level. Their slow flows and managed water levels provide a unique habitat that has become a vital resource for wildlife.



► The **heron** has a wing span of around 6ft.

Unlike confident coots, **moorhens** hide in the reeds, and when scared they run for shelter.

The biggest carp ever caught was a 94 lb **common carp** in 2010.



in The Water



◀ **Trout** have body language! When competing, submissive fish close their mouth, contract their fins, go pallid and drop towards the canal bed.

► **Coot's** feet have distinctive lobed flaps of skin on the toes, which act instead of webs when swimming. They take off by running along the water.





◀ **Mayflies** fly close to the water surface making them an easy catch for brown trout who leap out the water to feed on them.

▶ **Water vole** droppings aren't scented, instead they mark their territories by rubbing their hind feet on the scent glands on their chest and then stamp on their droppings... resulting in 'trampled latrines'.



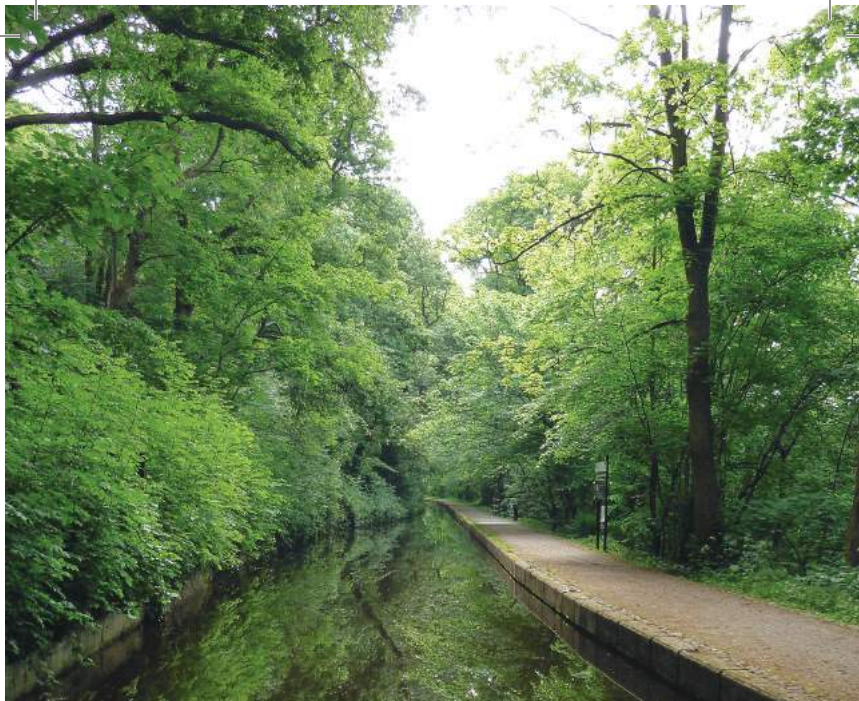
◀ Severe winters can lead to as many as 90% of Britain's **kingfishers** perishing through lack of food.

▶ **Yellow water lilies** grow up to 40 cm across and their yellow flowers are said to smell like the dregs of wine.





bulrush



on The Banks

Waterway banks, where land and water meet, are particularly valuable for biodiversity. Depending on the structure and vegetation cover, the waterway banks can provide habitat for a wide variety of wildlife. Towpath verges which run alongside many canals can extend many miles along waterways and support a very rich flora and fauna. Their wildlife value has developed over a period when meadows and field margins in the wider countryside have lost many species. Flower-rich towpath verges have largely developed over the last 50 years as towing of boats declined.

► Boaters planted **crab apple** trees so they had fruit as they travelled the country.

Crack willow has a large crack in its trunk, which can be a haven for bats.

Alder is resistant to rot under water, most of Venice is built on alder piles.



on The Banks



◀ **Bats** are the most well known users of tunnels and bridges along the canal where they roost and hibernate.

► **Damselfly** have been around for 300 million years. One of the main differences between a damselfly and a dragonfly is that damselflies rest with their wings closed and dragonflies with their wings open.





◀ Grasshopper warbler

Several species of warbler migrate from Africa to breed in the UK in the summer. They feed on the insect life of the canal, such as mayflies and damselflies.

▶ **Marsh marigolds** could be one of our most ancient plants. It's thought it was growing here before the last Ice Age.



◀ Spot the difference: Frogs have smooth, moist skin whereas **toads** have warty skin.

▶ Unlike other large mammals who stay cool to save energy whilst diving for prey, **shrews** warm up before entering cold water.





hazel



The hedgerow

Canal hedgerows were frequently planted by the original canal companies. Hedgerows are found along most canals and provide cover, shelter and food for many animals. They can also act as corridors between isolated habitats providing shelter for animals as they move between sites. The Canal & River Trust use **hazel** to protect and create the soft waterway banks.

► Two-thirds of the world's crops depend on animals to transfer pollen between male and female flower parts, of all animals **bees** are the most important in most ecosystems.



in The hedgerow



◀ It was thought that if you burned **elder** wood you would see the devil, but if you planted elder by your house it would keep the devil away.

► The **dog rose** plant was named 'dog' as it was believed that the root was effective against the bite of a mad dog





◀ **Badgers** were eaten in Britain during World War II and can run up to almost 20 mph!

▶ **Foxes** use 28 different types of calls to communicate with each other.



◀ A **Dormouse** is hard to spot - they wake up after dark and forage for flowers, fruit, nuts and insects.

▶ There are 4,000 species of beetle in the UK... of which 46 are species of **ladybird**.





Pontcysyllte
Safle Treftadaeth Y Byd
World Heritage Site



**Brynau Clwyd a
Dyffryn Dyfrdwy**
Clwydian Range
and Dee Valley

Adrian & Deborah's Natural Education
and Conservation Services

Paddle the right way along eleven miles of stunning heritage

The Llangollen canal is a great place for beginners, family groups or anyone looking for easy access, predictable conditions and lots to see.

For the more experienced the River Dee can offer a much more adventurous way to get close to nature.

You are very welcome to share this World Heritage Site but consider other users. We want everyone to enjoy their stay. To find out more about paddling on our waterways visit www.canalrivertrust.org.uk



Do I need to buy a license for the Trust's waterways?

Yes, unless you are a current member of British Canoeing or Canoe Wales who get to use our waterways for free visit www.britishcanoeing.org.uk or www.canoewales.com

You can buy a short term licence on-line at www.canalrivertrust.org.uk

Consider other People

- Park sensibly away from the towpath and without causing obstruction
- Respect other users and try to keep noise to a minimum
- Observe the navigation rules for the waterway & be aware of other craft

Be Fishing Friendly

- Co-operate with anglers to avoid lines, nets and swims
- Keep to the central channel and maintain a steady speed
- If you are travelling in a group keep together & pass anglers in one group

Enjoy the Canal and Stay Safe

- Always be certain to let others know where you're going and when you're expected to return
- Make sure that the journey you plan is within your capabilities
- Make sure you never paddle alone
- Everyone should wear a life jacket or buoyancy aid and have a waterproof torch and whistle attached to them
- Check that your equipment is well maintained and ready for the water. Ensure your boat has the required buoyancy to keep it afloat in the event of a capsize
- Cover cuts or sores with waterproof plasters, wear appropriate footwear and avoid swallowing water. Wash your hands before eating

Protect the Natural Environment

- Constantly assess the wildlife around you. If you see signs of disturbance move quietly away
- Canal and river banks are important places for wildlife. Avoid damaging banks and bankside vegetation by not 'seal' launching or dragging boats into the canal
- Take your rubbish away with you



STOP THE SPREAD



Are you unknowingly spreading invasive species on your water sports equipment and clothing?

Invasive species can affect fish and other wildlife, restrict navigation, clog up propellers and be costly to manage. You can help protect the water sports you love by following three simple steps when you leave the water.



CHECK

Check your equipment and clothing for live organisms - particularly in areas that are damp or hard to inspect.



CLEAN

Clean and wash all equipment, footwear and clothing thoroughly.

If you do come across any organisms, leave them at the water body where you found them.



DRY

Dry all equipment and clothing - some species can live for many days in moist conditions.

Make sure you don't transfer water elsewhere.

For more information go to www.direct.gov.uk and search for **Check Clean Dry**





Asiantaeth Datblygu Gwledig
Rural Development Agency



Cronfa Amaethyddol Ewrop ar
gyfer Datblygu Gwledig
Ewrop yn Buddsoddi mewn Ardalysau Gwledig
European Agricultural Fund for
Rural Development
Europe Investing in Rural Areas



Llywodraeth Cymru
Welsh Government



Snowdonia-Active
Eryri-Bywiol



Glandŵr
Cymru

The Canal & River Trust in Wales



Bryniau Clwyd a
Dyffryn Dyfrdwy
Clwydian Range
and Dee Valley

Ardal o Harddwch Naturiol Eithriadol
Area of Outstanding Natural Beauty

Useful resources:

Pontcysyllte Aqueduct & Llangollen Canal World Heritage Site

- goo.gl/J7gYLU, goo.gl/JZmXUR

Pontcysyllte Aqueduct & Canal by Peter Wakelin,

Waterways & Wildlife: Managing our natural environment - Canal & River Trust (pdf available here: goo.gl/9PWZu3)

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Field guide to Llangollen Canal

Waterproof • Fits instructor buoyancy aid

A green narrowboat with a white stripe and a small cabin is on the Llangollen Canal. Two people are on board. In the background, a large stone viaduct with multiple arches spans the canal. The surrounding area is lush with green trees and grass.

iSee Canals of Wales - Llangollen Canal has been created by Snowdonia-Active in partnership with:

Canal & River Trust, a charitable trust set up to care for over 2,000 miles of waterways of England and Wales. Their work ranges from improving towpaths to creating new wildlife habitats to maintaining the distinctive infrastructure.

Cadwyn Clwyd, a Rural Development Agency which provides guidance and support to develop the rural economy of North East Wales.

Clwydian Range and Dee Valley Area of Outstanding Natural Beauty, the scenic gateway of North Wales.