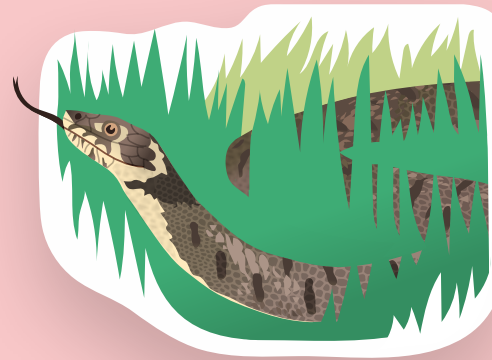


## PART SIX

# How have people, past and present, moved around the Gwent Levels?

IMAGES BOTTOM-LEFT TO TOP-RIGHT: ED DREWITT (1 & 3); PETER POWER/NEWPORT MUSEUMS AND HERITAGE SERVICE; CHRIS HARRIS; TIIA MONTO; ANNE LEAVER



THE BIG PICTURE  
**Newport 500 years ago**  
How has Newport changed from a town to a city? **p. 74**



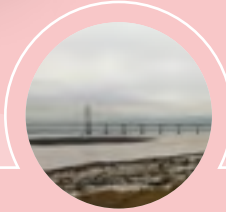
SECTION FIVE  
**Moving goods around Newport**  
Why might Newport's transporter bridge become a World Heritage Site? **p. 73**



SECTION FOUR  
**Newport's expansion**  
How has its growth affected the Gwent Levels? **p. 72**



SECTION THREE  
**Shifting muds – what's beneath our feet?**  
Investigate how local channels and rivers have changed over time. **p. 70 – 71**



SECTION TWO  
**Black Rock and Rogiet**  
How have these two places been important transport links? **pp. 68 – 69**



SECTION ONE  
**The Newport Ship**  
Write a ship's log of the journey arriving at Newport. **pp. 66 – 67**

THESE ARE THE FOOTPRINTS MADE BY A 15TH CENTURY PORTUGUESE SAILOR WEARING A POINTED SHOE CALLED A POUAINE

# The Newport Ship

Newport has a thriving port bringing and sending goods around the world. Even 500 years ago Newport was busy with ships. The Newport Ship, a Spanish-made ship visiting from Portugal, was undergoing repairs in 1468. The ship toppled over and with no modern machinery to lift it back up, it was left where it fell. The space needed to be used by other ships, so half the ship's timbers were cut down and reused. Slowly, over time, the remains of the ship were covered and preserved in mud, only recently discovered in 2002 when the Riverfront Theatre was being built. The Newport Ship is the world's only remaining 15th century ship.

There are many clues to the life of the ship before it visited Newport; they give insights into the life of the sailors who came from Portugal. From over 1,000 remains including food, remains of animals such as insects, fleas and rats, clothing, pieces of ceramic pottery and wine barrels, we know the ship had spent time in southern Portugal.

### Highlights include:

- Insights into how the ship was built.
- The ship carried domestic animals and their bedding such as hay.
- It specialised in carrying barrels, known as casks, of wine.
- The sailors on board ate a range of foods grown in southern Europe such as grapes, figs, walnuts and seeds.
- Clothing found includes a decorated helmet and a long, pointed leather shoe – the more pointed the shoe, the more important the person.
- A silver coin was found hidden in a small hole in the wood; it was used as a good luck charm when the ship was built.



Final resting place of  
The Newport Ship  
DAVID JORDAN

The remains of the Newport Ship are now in storage. With 100,000 hours of hard work, 70% of the wood has been treated using a waxy chemical and then dried using special freeze-drying machines – the water is removed by freezing it under a vacuum. With the water extracted the wood is unable to rot. The timbers have been fixed together using plastic nails; they mimic the iron ones originally used and which rust away.

A well-preserved skeleton, minus the skull, was found beneath the ship. It had nothing to do with the ship and instead dates back to the Iron Age when it was a ritual to bury a body in a river.

It is possible there are other parts of ships and walkways still buried in mud. Many channels were much wider than they are today; back then ships were able to get much further inland.



## Four things to explore with the Newport Ship

- The website of the Newport Ship gives more information and details on visiting.
- Consider where ships and goods come from and go to from Newport today – visit the Newport Port Company for more details.
- How are ships built today? How would sailors dress today and what foods would they eat? How would sailors have navigated back then, and how would they navigate from Portugal to Newport today?
- Shipbuilding, including wooden ships, was an important industry in Chepstow – find out more online and through the Gwent Archives and local museum.

Watch an animation about the Newport ship at [livinglevels.org.uk/newport-ship](http://livinglevels.org.uk/newport-ship). Here there is also more information about the ship, a guidebook and visiting with your school.



The French silver coin (22mm diameter) found hidden in a small hole; it was used as a good luck charm when the ship was built.

NEWPORT MUSEUMS AND HERITAGE SERVICE

### ACTIVITY

## Newport Ship's log

Use the information above and the Newport Ship website to write a ship's log of the journey the Newport Ship took from Portugal to arriving in Newport.

### Consider:

- What life would have been like as a 15th century sailor.
- The smells on the ship.
- What the food was like.
- How the Gwent Levels looked as the ship sailed up the Severn Estuary.
- The first view of the Newport docks.
- What might have happened to the sailors after their ship collapsed.

### Further activity

Research what new foods the Romans brought to the Gwent Levels 1,500 years earlier.

INTERPRETING DATA



A pointed leather shoe of a sailor from the Newport Ship.

REX MORETON/NEWPORT MUSEUMS AND HERITAGE SERVICE

Remains found on the Newport ship, including (top-down) juniper, almond shells and pomegranate seeds  
NATIONAL MUSEUM OF WALES





# Black Rock & Rogiet

Black Rock and Rogiet Countryside Park have been important transport hubs for the Gwent Levels and surrounding areas since Roman times. Visiting these places with your classes gives a great idea of how these places functioned and why they were important. Below is more information on each site and links to further information.

[livinglevels.org.uk/learning-resources](http://livinglevels.org.uk/learning-resources)



## Black Rock

The rock here is over 300 million years old; it is known as carboniferous limestone and, as its name suggests, it is dark grey to black. It is made up of ancient sea creatures, particularly crinoids or sea lilies (related to starfish), and muds that built up at the bottom of the sea, eventually turning into rock and fossils.

Before the two Severn bridges had been built, the only way to get across the estuary was by boat. Black Rock, just on the edge of the Gwent Levels near Sudbrook, Chepstow and the Prince of Wales Bridge, was one of the places where people could cross. In 1863 a railway line stopped on Portskewett Pier at Black Rock where people took a boat to a connecting train and pier at New Passage near Severn Beach on the English side.

While the railways and pier have now gone, you can still visit the site of the ferry jetty at Black Rock to look out across the Severn Estuary and get a sense of the coastline. The site forms part of the Wales Coast Path.

Black Rock and Beachley have been used as landing places for boats bringing goods and people by the Romans and Normans, and a ferry served Beachley as early as 1138 bringing monks, servants and cattle from Aust, on the other side of the Severn Estuary.

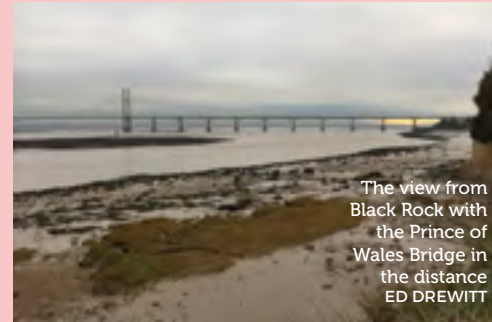
**Further information and stories to use with your classes can be found on the webpage for this resource:**

- PDF of the information panels revealing the history of the site and images of its past;
- Map of the coastal path;
- Black Rock/Sudbrook trail, providing many stories and images of the history of the area.

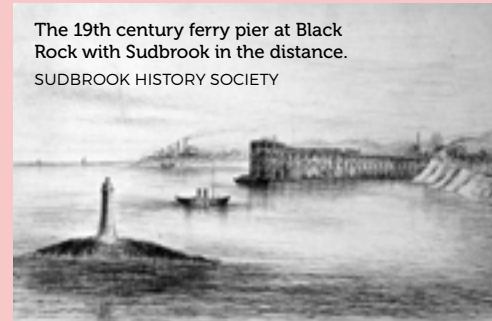
For more information on Black Rock and to download a Memory Treasure Map to accompany a trip there, visit [livinglevels.org.uk/black-rock](http://livinglevels.org.uk/black-rock)

At Black Rock there are now sculptures related to lade net fishing and engineering on the Gwent Levels.

[livinglevels.org.uk/sculpture-trail](http://livinglevels.org.uk/sculpture-trail)



The view from Black Rock with the Prince of Wales Bridge in the distance  
ED DREWITT



The 19th century ferry pier at Black Rock with Sudbrook in the distance.  
SUDBROOK HISTORY SOCIETY



Wild flowers at Rogiet Countryside Park  
ANDY KARRAN, GWENT WILDLIFE TRUST

## Rogiet Countryside Park

Snuggled in between housing, countryside and Severn Tunnel Junction, Rogiet Countryside Park is a space to explore and enjoy nature. It hasn't always been a quiet wild place though. Just over 30 years ago it was still a busy railway yard, known as a marshalling yard, full of sidings and trucks waiting to take goods such as coal, cows and steel to markets, often across the UK and other parts of the world. It closed in 1987. Getting supplies of goods from Wales to other parts of Britain and the world required careful planning and a network of trains and trucks. Rogiet was a key place for this.

Three information panels have been produced about the site, including photos and more facts about the site when it was a marshalling yard. They can be viewed at the countryside park as interpretation panels. They are available as a PDF on the webpage for this learning resource too [livinglevels.org.uk/learning-resources](http://livinglevels.org.uk/learning-resources).

On the webpage for this resource there are recordings with Ray Evans and Eric Broom talking to children about their time working on the steam trains. Hazel Bennett explains how local people then decided on turning the space into a countryside park.

Discover more about the Rogiet Hoard found in 1998 on the timeline, [livinglevels.org.uk/timeline](http://livinglevels.org.uk/timeline)

For more information on Rogiet and to download a Memory Treasure Map to accompany a trip there, visit [livinglevels.org.uk/memory-maps](http://livinglevels.org.uk/memory-maps)

## Walking at Black Rock



Black Rock has some superb views of the Severn Estuary. Walk some of the coastal path where you'll see grazing fields showing the original drainage patterns. Black Rock is an ideal location to picnic too.

### Three things to do at Black Rock

- A bioblitz – open an hour looking for as many plants and animals as you can; record and upload them to your local environment records centre app, [lercwales.org.uk/app.php](http://lercwales.org.uk/app.php)
- Imagine how this place may have looked, felt and worked

as a railway and ferry jetty. Walk along the coastal path and explore the landscape – some of the grazing fields have changed very little over hundreds of years.

- Stop and listen – how many different sounds can you hear? Consider how the two bridges affect the landscape, physically, visually and audibly. Birds to listen for include the curlew, redshank and wigeon (visit bird sounds at [rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/](http://rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/))

### How to get to Black Rock

On reaching the outskirts of Portskewett turn down Black Rock Road (signed 'Black Rock Picnic and Lave Net Fishery Site'). Black Rock picnic site car park is at the end of single lane on your right (ST 512 881). Postcode NP26 5TP. There is a barrier/flow plate system into the car park which would not be suitable for a large coach.

EXPLORING THE ENVIRONMENT

## Severn bridges

From Black Rock you have brilliant views of the two Severn bridges. The old M48 Severn Bridge was opened in 1966; the Second Severn Crossing, now known as the Prince of Wales Bridge, was opened in 1996.

## Severn Tunnel

The Severn Tunnel was constructed by the Great Western Railway between 1873 and 1886. In 1879, the works were flooded by what is now known as 'The Great Spring'. Through innovative efforts, the flooding was contained, and work continued, albeit with a greater emphasis on drainage.

Fifty million litres of water per day infiltrate the tunnel. It is removed using several large pumping engines. The tunnel is around 4 miles (7km) long, of which just over 2 miles is under the river. The tunnel was the longest underwater tunnel in the world for more than 100 years until 1987.

The Severn Tunnel has recently undergone works to electrify the railway line that runs through it. Find out more about the challenges and engineering that was involved to do this.

For more information on how crossing the Severn Estuary was accomplished throughout the ages visit [severnbridges.org](http://severnbridges.org)

## Walking at Rogiet



### Three things to do here

- A bioblitz – spend an hour looking for as many plants and animals as you can; record and report them to South East Wales Biodiversity Records Centre, [sewbrec.org.uk](http://sewbrec.org.uk)
- Print photos of how the countryside park used to look and compare with how it looks now. Work out where the photos were taken.
- Look for clues to its past life as a railway. How has nature taken over?

### How to get to the country park

Near the entrance to Severn Tunnel Junction railway station take the road bridge over the railway line. Take the next turning on the right down into the car park for Rogiet Countryside Park. (ST 462 874; postcode NP26 3TZ)

EXPLORING THE ENVIRONMENT

# Shifting muds – what's beneath our feet?

## ACTIVITY

## The Gwent Levels' changing landscape: comparing maps



Investigate, using maps, how channels and rivers have changed over time. Compare maps from the 1830s and maps of today to see differences. Look at the presence/absence and positions of rivers, streams, roads and fields then and now.

See Part 1 (How has the Gwent Levels landscape changed over time?) and Part 5 (How was the Gwent Levels used to produce food?) of this learning resource for more information on maps and websites to visit.

Older maps tell engineers what might be beneath our feet. There are some channels, now silted up, that may have boats and jetties from hundreds of years ago. If new structures, such as buildings and bridges, are planned on the Levels, archaeologists and engineers have to look for these potential old creeks and objects so they know where and how they can build without any problems.

## CURIOUS QUESTIONS TO EXPLORE

**The Gwent Levels is changing all the time. Muds move around, the saltmarsh comes and goes. Reedbeds grow and turn into bogs.**

Over the past 2,000 years there have been many parts of the Levels that boats could sail along to jetties. Many of these are now silted up, hidden away. Deep down in the mud, many of these old creeks still contain the old wooden beams of jetties and even sunk boats.

Find out more about the seascape and compare images of Goldcliff at low tide and at high tide, [livinglevels.org.uk/the-seascape](http://livinglevels.org.uk/the-seascape)



Foreshore excursion  
with Professor Bell  
JEREMY WHITE



Bog oak at Goldcliffe  
CHRIS HARRIS

## Tredegar House and its family's involvement with Newport's expansion

The Morgan family, who lived at Tredegar house, were involved with many big changes that Newport went through during the 1800s. Here's a summary:

- 1805: A tramroad was constructed that linked ironworks in Newport to the River Usk. Sir Charles Morgan was involved in the ironworks and owned most of the land the tram road passed through. Tolls were imposed and it became known as 'Park Mile' or the 'Golden Mile'.
- 1807: Sir Charles Morgan and relative Samuel Homfray created the Tredegar Wharf Company to build new warehouses and docks at Newport and Pillgwenlly.
- 1830: Sir Charles Morgan's annual income was £40,000 (800 times the salary of a well-off working man!). This was largely due to the tolls from the Golden Mile; fees were for every ton of coal or iron crossing Tredegar Park.
- 1835: The Newport Dock Act was passed by Parliament allowing Sir Charles to build the new town dock. Work started immediately.
- 1842: New Town Dock opens.
- There was previous and continued involvement in the docks with the Morgan family, including connections to the Transporter Bridge.





An artist's reconstruction of the Barland's Farm boat  
DEXTRA VISUAL/LIVING LEVELS 2019

## Barlands Farm Boat

In 1993, archaeologists working on the development of a supermarket storage depot on the site of Barland's Farm, near Magor, made an extraordinary discovery. A bank of an ancient tidal creek once stretched all the way across the Levels, from the inland edge to the sea; a distance of about 2 miles (3km). Under several metres of clay, they uncovered the remains of a stone structure, possibly a jetty or bridge. As they investigated further, the archaeologists uncovered the well-preserved remains of a small boat next to the jetty. The boat survived to a length of 9.7m, but its original dimensions were probably 11.4m long, 3m across and 0.9m deep. A Roman coin along with pottery, coins and leather shoes, were all dated to the late third or early fourth century AD, during the period when Britain was part of the Roman Empire, Cardiff was a Legionary fortress and nearby Caerwent a Roman town. Further investigation of the ship's timbers using dendrochronology

(tree-ring dating) showed that the oak trees used in the boat's construction had been cut down between AD 283 and 326, giving a likely date for the boat of around AD 300.

Ship finds from the Roman period are very rare; timber structures, and other organic materials, usually rot away after a relatively short time. The Gwent Levels are made up of layers of clay laid down by tides and floods that washed across the land before the creation of the sea wall. Organic objects, such as timbers, buried in these clays do not decay normally because the ground is saturated with water and no oxygen is present to allow fungi and bacteria to begin the process of decay.

The Barland's Farm Boat is currently in storage at Newport Medieval Ship Centre. For more information visit [livinglevels.org.uk/barlands-farm-boat](http://livinglevels.org.uk/barlands-farm-boat)



Archaeologists working on the recovery of the Magor Pill boat

AMGUEDDFA CYMRU - NATIONAL MUSEUM OF WALES

## Magor Pill Boat

In 1994, local archaeologist Derek Upton found the remains of a ship buried in the mud 500m from the sea wall at Magor Pill, an ancient tidal creek that once crossed the levels.

A sample of timber was analysed and showed that the ship had been constructed sometime in the 13th century. Boat finds from this period are extremely rare, so the decision was taken to recover and conserve the remains. This proved a difficult task as the site was only exposed for a maximum of two hours each side of low tide.

The ships' timbers, which were well preserved by the estuary mud, were sent to the National Museum of Wales for conservation. Further analysis of the timbers, using tree-ring dating (dendrochronology), showed that the ship was built in AD 1239/40. The vessel was incomplete but would originally have been around 14m long, 3.7m wide and 1.2m deep.

Heavy machinery was required to recover the Magor Pill boat  
AMGUEDDFA CYMRU - NATIONAL MUSEUM OF WALES



During the medieval period such boats would have carried goods, animals and people to seaports at Newport, Caerleon, Chepstow and Monmouth, and as far inland as Hereford along the River Wye. The vessel was carrying iron ore, probably from Glamorgan.

At the time the ship sank, the entrance to Magor Pill was a small port or landing place on the edge of the Levels, called Abergwaitha (first recorded in 1245). The port probably served Tintern Abbey's Lower Grange, Magor, and the surrounding area. The remains of the port have long since vanished under the muddy estuary water.

Why did it sink? The boat may have sank during a storm, the keel may have split at a weak point, or its heavy cargo may have shifted on the wooden hurdle it was placed on, causing the boat to capsize.

For more information visit [livinglevels.org.uk/magor-pill-boat](http://livinglevels.org.uk/magor-pill-boat)

SECTION FOUR

# Moving around the Gwent Levels

A few hundred years ago people living on the Gwent Levels didn't travel very far from where they lived or worked.

Farm equipment was very basic and much of the hard labour was done by hand. Over time, farming became mechanised as technology and tools became more sophisticated and quicker; there was a move from using horses and people to do work to tractors and machines. Many of the small lanes across the Gwent Levels were farm droves, corridors and back routes used by farmers to move farm animals and equipment between fields. While some remain muddy and stony today, others have been tarmacked and are used as roads by everyday traffic.



Partly developed small farm track  
PETER CLAYTON



Tarmacked farm road with public right of way  
MIKE FAHERTY



Pylons and motorway into Newport across the Levels; a sign of infrastructure to accommodate a large town or city.  
ED DREWITT

## ACTIVITY

### Newport's expansion

Make an animation showing how Newport has grown over time. This can be done with stop motion animation tools or software, which are available as apps or downloads. Students could use Lego, junk modelling or Playmobil type toys to show how the village has changed from a few houses, with one or two narrow roads, to grow to a large city. Students could include some of the ideas below.

- The building of more houses for people to live in;
- The growth of traffic and new and wider roads;
- Building of warehouses and factories on farmland;
- Air pollution and litter;
- Effects on wildlife.

As an extension, students could consider how future road projects, building of houses and growth of industrial estates affect the local environment.



- The effects of building the steelworks and industrial estates;

## INTERPRETING DATA



SECTION FIVE

# Moving goods around Newport

For more information about going to the bridge and its history visit [livinglevels.org.uk/newport-transporter-bridge](http://livinglevels.org.uk/newport-transporter-bridge)

Look through the timeline to see a photo of when the bridge was still being constructed [livinglevels.org.uk/timeline](http://livinglevels.org.uk/timeline)

ACTIVITY

## Port of Newport maths problems



Use the data about the Port of Newport to answer the maths problems below.

- Which quay is bigger?
- How much deeper is the north quay than the south quay? How much longer is the north quay than the south quay?
- Assuming a ship is rectangular, work out the area of the largest ship that can fit into each quay.
- Which quay can fit the greatest number of ships in end to end?

INTERPRETING DATA

**The Port of Newport is classed as a major sea port and in 2014 handled in excess of 1.85 million tonnes of cargo.**

Today it employs 3,000 people and contributes £186 million to the Welsh economy. It has been a port since the Roman times and when the Newport Ship collapsed into the river, the port, then a town dock, was in the middle of Newport. The current port, on the outskirts of the city, was built in 1865. During the 1800s, common land on the Gwent Levels, large open fields used by local people to grow crops and graze animals, became enclosed as part of the Inclosure Acts. With nowhere to farm, many local people moved to Newport to work and live, with many being employed in the growing port.

Today, goods come from and go to all around the world from Morocco to Malaysia and the United States to Ukraine. Ships carry a huge selection of different cargo including steel, wood, materials to be recycled, coal, grain, animal feeds, natural materials (biomass) for fuel, sand, cement and fertilisers. More information can be found at [abports.co.uk/Our\\_Locations/South\\_Wales/Newport](http://abports.co.uk/Our_Locations/South_Wales/Newport)

The Port of Newport has two quays where ships can dock. Although the quays are long, the size of the ships is restricted. Why might this be?

Quay	Length	Depth of water	Length of ship	Beam (width of ship)
North	5,569m	11.1m	244m	30.1m
South	2,450m	8.2m	122m	17.2m

ACTIVITY

## Building a bridge



As Newport grows the port becomes busier and more people visit the city. More roads are likely to be built to take cars, lorries and buses to different places. To ease congestion, one idea is to build a new bridge over Newport Docks; it would need to be as long as the Second Severn Crossing (Prince of Wales Bridge). Design a bridge that would span this distance.

**Things to discuss**

- What would the bridge be made from?
- How much might it cost?
- How long would it take to build?
- What effect would a new bridge and road have on wildlife?
- How would the Gwent Levels be protected? How would the bridge avoid the Gwent Levels?
- How would it affect the look of the area?

INTERPRETING DATA

### Newport's transporter bridge

In 1906, a transporter bridge opened in Newport to deal with the increasing number of people working in the port. Rather than walking the 4-mile distance from one side of the river to the other, the transporter bridge was able to take people (and cars) straight over the water and ships. Across the world 20 were constructed and this one in Newport is only one of six left that still work.

Research why Newport's transporter bridge might become a World Heritage Site.



Newport Transporter Bridge  
IMAGE: TIIA MONTO

Span of bridge	Weight of steel in each tower	Weight of steel in the suspension cable	Diameter of suspension cable
197m	282 metric tonnes	199 metric tonnes	75mm

# Newport 500 years ago

This is a scene of Newport in the 1400s when the Newport Ship was in the docks for repairs. Look carefully at the painting. Newport was a small town with a castle. What different things can you see in the painting? How has Newport changed over the past 500 years?



ANNE LEAVER