

PART FIVE

How was the Gwent Levels used to produce food?

Images from left to right: Professor Martin Bell; Living Levels Landscape Partnership; Gwent Archives; public domain; Chris Harris; Kate Nicol; Alexander Maleev/National Geographic Creative



SECTION ONE Time capsule

What farming-related objects would you put into the time capsule?
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SECTION TWO Land use

Investigate, using maps, how the land use of the Gwent Levels, south of the M4, has changed over time. **p. 48**



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THE BIG PICTURE Farming in the past

What is this person doing? **p. 53**

These are the welly prints of a local farmer strolling through the mud in one of her fields

Farming on the Gwent Levels over the centuries

Farming on the Gwent Levels

Around 7,500 years ago the sea level was lower than it is today; in the Severn Estuary people were able to walk and hunt across places which today are covered by sea. The Gwent Levels were visited by people during the summer and autumn months when the land became dry enough to walk over and hunt. People did not stay long, perhaps days or weeks, living a nomadic life in order to find food and shelter. In more recent times, during the past few thousand years, the sea was only a little lower than it is today. The Romans would have been looking at a Severn Estuary that started to look similar to that of today, with a series of major settlements and ports around its edges showing how it had become an important trade route.

Throughout different ages the wide, open land on the Gwent Levels changed its appearance considerably. During the Bronze Age, 3,400 years ago, rectangular buildings were used for raising animals on the saltmarsh during the spring and summer. In the Roman period a fortress was built at Caerleon and the army needed more land on which to graze their cattle and horses, and so earthen banks were constructed around areas of drier, higher ground to protect their pastures from the incoming tide. Following the Roman period sea levels rose, and the Gwent Levels were once again flooded by the tides, but around the time of the Norman Conquest individual areas of marsh started to be embanked again. Over time these separate earthen embankments merged into sea walls that protected both the Caldicot and the Wentlooge areas of the Gwent Levels. Monastic communities were involved in this work. These medieval sea walls have now been lost to later coastal erosion, and the ones that protect the coast today are only around 500 years old.



Grazing Sheep and cows on the Gwent Levels

Images:
Chris Harris



Farming on the Gwent Levels CONTINUED...

The Gwent Levels provide rich, fertile soils that give rise to high quality pasture. Some farmland, particularly on higher ground towards the coast, was arable and used for growing crops, such as wheat, used in bread-making. Many other areas of farmland in Britain have been developed intensively with fertilisers, pesticides, highly efficient machinery and ever increasing densities of grazing animals. This produces lots of food quickly, but this way of farming is not so good for wildlife – it means wild flowers, insects, birds and other animals are unable to survive in the numbers they used to.

While some farmers on the Gwent Levels use a range of modern products, from animal medicines to modern machinery, and traditional techniques such as spreading of manure onto the land to produce more grass – although much more than would have been spread in the past – these are less harmful to the environment than many practices elsewhere. Therefore, more wildlife lives on the Gwent Levels, from bumblebees to rare water plants and birds such as lapwings and skylarks.

Flint tools found on the Levels

Images:
Professor Martin Bell



ACTIVITY

Time capsule

What would you put into a time capsule that describes farming life over the centuries in Gwent?

- ✦ Visit St Fagans National Museum of History and find three or more tools or machinery that would have been used to farm on the Gwent Levels. The Life Is... Gallery exhibits different farming tools alongside many of the historical farm-buildings.
- ✦ Choose one of the objects, research more about it and describe why you have chosen it.
- ✦ Think about how and what it was used for, what it is made of and whether it was replaced by newer technology – if so, what takes its place today?
- ✦ Newport Museum has a small display which touches on agriculture and includes a large cider press and cheese press on display.

ACTIVITY

Modern farming



How did the Gwent Levels change during the Second World War when more food was needed and produced in Britain, so it was self-sufficient?

Find out more through the Gwent Archives, gwentarchives.gov.uk and the Museum of Wales collections' web pages, museum.wales/collections



Where does the food produced on the Gwent Levels travel to today? Where does the meat from cows and sheep go to be sold? What happens to cows milk? Discuss whether buying foods that haven't travelled far to be sold in a supermarket or local shop is better for the environment, the animals and for local people.

Invite a local farmer to come in to school or visit a farm, speak with a local farm vet and/or find out from a supermarket whether they sell local meat and milk.

CURIOUS QUESTIONS TO EXPLORE

How do we know how people farmed the land thousands of years ago?

Buried cows have been found that date back to the Romans. Bronze Age and Iron Age footprints from cattle have been found in the mud. By doing experiments on ancient cattle bones (isotope analysis), researchers have found that 20% of grazing animals destined for Caerleon may have been reared outside of south-east Wales and delivered by ships that sailed up the River Usk and docked at Caerleon. Some of the wooden jetties, where the cattle walked off the boats, have been preserved in the mud.

PROBLEM SOLVING

Land use

ACTIVITY

Land area



Over the past few hundred years, the Gwent Levels has changed in places. Newport has grown, a motorway runs along the top part of the Levels and industrial estates have appeared.

(i) Compare maps of the Gwent Levels from the 1830s and today

Access digital 1830s maps of the Gwent Levels through livinglevelsgis.org.uk

Compare with modern maps today, for example on:

- ✦ Your own digital map service at school.
- ✦ Digimap for Schools.
- ✦ Ordnance Survey map (152, 154 and OL14) for the area (ordnancesurvey.co.uk)
- ✦ Google Maps
- ✦ Google Earth

(ii) Using a programme such as Digimap for Schools, measure the area of farmland south of the M4 between the Prince of Wales Bridge and the east

side of the River Usk. Then measure the farmland shown in the 1830s maps covering the same area. How do they compare?

Digimap for Schools, digimapforschools.edina.ac.uk/subscribe, is an online map resource for schools that helps compare between old and new maps. There is a relatively small subscription fee (£69 excl. VAT for primary schools) alongside free resources and ideas/tips for teachers, dfsresources.edina.ac.uk

Students should realise that farmland has reduced in area. Discuss why and the pros and cons associated with it.

(iii) Measure how long the coastline is between the mouth of the River Usk, Newport and Sudbrook

This is the distance of coastline that borders the Gwent Levels; much of this is a man-made sea wall, keeping the seawater out at high tides.

PROBLEM SOLVING

Monkscroft reen

Image:
Living
Landscapes
Partnership



Farm women on
Llanover estate,
perhaps near
Abergavenny
(1850s)

Image:
Gwent Archives



Growing food from the marshland

Tredegar House

There has been a house on this site since medieval times and records of the house during the Tudor period, albeit a very different mansion to the one you see today.

nationaltrust.org.uk/tredegar-house

- ✦ Today, Tredegar House and its estate has three formal gardens, the Orchard Garden, Cedar Garden and Orangery Garden, each with their own distinctive characters.
- ✦ The estate's own farm, Home Farm, was where produce for the family and community came from; it enabled the family to be self-sufficient.
- ✦ Many of the farm buildings still exist, for example, barns which once formed one long continuous barn, are over 300 years old. The laundry and dairy date back to the early 1800s.
- ✦ The corner window of the main house is the Master's Dressing Room, and so the Master of the house, would have been able to keep an eye on the farm.
- ✦ The modern building estate was built on the old Kitchen Garden – an old orchard and vegetable garden.
- ✦ In 1911 a woman was employed to come in every day to bake bread. She made not only bread but also enormous slabs of fruit cake which supplied something sweet for teas at cricket and lunches for when family members went out shooting and hunting.



Hayrick on Tredegar Estate (c.1900)

Image:
Gwent Archives



Modern-day Tredegar House
Image:
Chris Harris

Things to consider:

- ✦ How did Tredegar House provide food for itself and its community in the 1800s? What different foods would they have grown? What animals would they have farmed?
- ✦ On a visit to Tredegar House look carefully at the walled garden. Make a plan/drawing of the garden. What were walled gardens used for? How would this have kept people in the house fit and healthy?
- ✦ Orchards are important places for wildlife although we have lost many old orchards – explore why they provide good homes for insects, birds and mammals. Why have so many orchards been lost in South Wales? Why are some being replanted and making a comeback?
- ✦ Find out more about the lives of women who lived and worked at Tredegar House, nationaltrust.org.uk/tredegar-house/features/tredegar-house-a-herstory

ACTIVITY

Tree of life and stories

The large cedar of Lebanon tree at Tredegar House is 250 years old.

- ✦ If this tree could speak what stories about the house and its gardens would it tell?
- ✦ What changes in farming and land use have happened in that time in the countryside surrounding Tredegar House?
- ✦ What type of tree is a cedar? What does it look like and where would it have come from originally?



CURIOS QUESTIONS TO EXPLORE

The Extinct Auroch

ACTIVITY

The extinct auroch

The auroch was a large wild cow with huge curved horns that is now extinct. They once grazed on the saltmarsh, grassland and woodland of the Gwent Levels. They died out in the UK just over 3,500 years ago as hunting, farming and an increasing human population pushed them out.

- ✦ If you could bring back the extinct auroch, what sort of world would it see today?
- ✦ Would it be able to survive on the Gwent Levels?
- ✦ Would it ever be possible to bring back a live auroch from bones in a museum? If so, how?
- ✦ Is this something we as a society should do? Why might it be better to focus on conserving living animals?
- ✦ Find out about places in Europe where auroch-like cows are being used to help turn farmland back into wild spaces for nature.

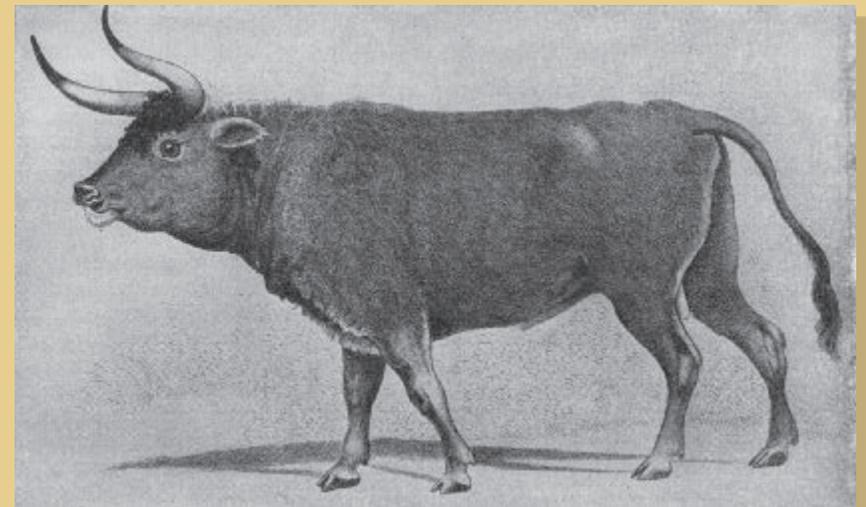
CURIOUS QUESTIONS TO EXPLORE

First-generation cross bull from Tauros Programme (Maremmana x Pajuna) in the Netherlands, 2013.

Image: Henri Kerkdijk-Otten



Charles Hamilton Smith's copy of a painting possibly dating to the 16th century.



Language of the Levels

Over hundreds of years, a language that describes the different parts of the field and water systems on the Gwent Levels has developed.

Many of these names are still used today and can be seen in old documents referring to the Levels and their development; many of the drainage systems such as ditches date back to the Roman and medieval periods.

The drainage systems help to keep the water off the land. Sea walls along the coastline stop seawater getting onto the land, allowing it to be used for grazing and growing crops. The sea walls were often used for travelling along and today many are public footpaths.

Reen

One of the more common words used still today is reen – this refers to water ditches that people have dug and that run along the edges of fields; you most often see them running between a road and a field. There are different spellings for this depending on where you are in the country. You may see it spelt rhyne in Somerset. A reen has many different uses – it is used for draining water off fields, holding water in the summer for plants and animals to live, keeping animals such as cows and sheep in the fields and acting as a field boundary, like a fence or hedgerow would also do.

Sewers

This doesn't relate to sewage or toilet waste. Instead it is the name for the various water courses – streams, ditches, rivers – on low-lying land such as the Gwent Levels.

Pill

A pill is a tidal creek, an area of mud or a wide ditch that has water flowing down through it from a stream or river, and is filled by seawater at high tide. In the past pills have been wide enough for boats to sail up. To stop water moving upstream through a pill and onto farmland, structures called a gout or goat, an outfall, pillhead or clyce, have been built that act as a barrier. The part that opens or shuts this is called a door, gate, flap or sluice.

Nogger

In the past, fields were watered in the summer to keep them lush and growing well for sheep and cows to graze. Water came from the adjacent reens. Planks pitted with holes, known as noggholes, were put at the bottom of reens. The holes were plugged with a wooden peg called a nogger. When people wanted to water or irrigate their fields, they would remove the noggers and allow the water to flow through the noggholes.



Chapel reen

Image: Living Levels Landscape Partnership

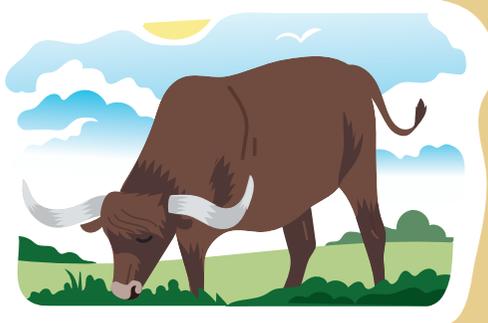
ACTIVITY

Using the Levels' lingo



Ask the students to imagine that they are a landowner in the past on the Gwent Levels. They need to write some instructions to the person they employ to maintain the drainage system. They need to use the language above to describe where and how the drainage system needs to be dug out and restructured to ensure it drains the water, keeps the animals safe and allow the land to be watered, but not flooded. They could also use the information from 'Resource 2: How does the water on the Gwent Levels affect our lives?'

WORKING CREATIVELY



Coping with sudden change

ACTIVITY

Rebuilding your farm after a flood

In the 1607 Great Flood lots of farms were destroyed through flooding. A huge storm surge saw the sea come all the way in across the Gwent Levels.

Ask students to imagine that they need to rebuild their farm following the flood. Research what a farm was like and draw a labelled plan of your farm and its farmland. It should include:

- ✦ A place for the owner to live;
- ✦ Possible places for farm workers to live;
- ✦ Places for animals to graze and shelter at night;
- ✦ Provision for food for yourself;
- ✦ Provision for food for your animals.



CURIOS QUESTIONS TO EXPLORE

Old farm building for keeping animals and storing equipment and provision.
Image: Kate Nicol



'The Old Farmhouse'
Image: David Anstiss



Farming in the past

This is Mr Rees of Tŷ Gwyn, Peterstone Wentlooge in the late 1940s or early 1950s.

What is he doing in this photo?
How would this work be done today?

Find out more about the tool (a scythe) he was using – St Fagans National Museum of History has more information on these.

The road Mr Rees is on is now called Broadstreet Common; previously it was always referred to as either the B.4239 or more commonly, the Coast Road.



Image: Alexander Maleev/
National Geographic Creative