

# Introduction

This unit comprises three documentary case studies which explore important geographical issues in selected locations in Britain. Although they have been chosen because of their relevance to the geography curriculum at Key Stage 3 in England and the curriculum in Scotland, they are inherently interesting as documentaries which, we believe, pupils will find stimulating.

The programmes feature stories of strong human interest and, where applicable, they combine physical and human geography in the same programme, emphasising the interrelationships between these two major components of the subject.

They also demonstrate humankind's impact on the environment and its influence on the way we all live.

**Geographical Eye** as a series looks at significant geographical themes through the experiences of individuals or communities. It is hoped that, as a result, pupils will be able to appreciate the ways in which seemingly distant and sometimes abstract issues affect the lives of ordinary people.

Television can provide an additional bonus by bringing this relevant material, which would often be difficult or impossible to acquire by other means, into the classroom.

## contents

Programme 1

**Fishing and Survival: making a living in a coastal town** | 2

Programme 2

**Enough Water to Go Around?** | 7

Programme 3

**The Price of Coal: coal mining in South Wales** | 12

# Fishing and Survival: making a living in a coastal town

## Programme Summary

- ◆ This programme is based in the fishing port of Brixham in Devon. It looks at the working lives of typical fishermen, the different methods they use, how the marketing of the catch is organised, and the effects of overfishing.
- ◆ Fishing communities today must face the need to conserve dwindling fish stocks and the complexities of the EU's Common Fisheries Policy (CFP).
- ◆ Using this area as a case study the future of the fishing industry is also explored:
  - ◆ Is the Common Fisheries Policy working?
  - ◆ How can the fish stocks be managed in a sustainable way?

## Task A

- a Find Brixham on an atlas map or a road map.
- b How far is it from London, Manchester, Leeds, and your home?
- c Make your own journey plan to Brixham and use your road map to measure the distance to Brixham. How long do you think the journey will take?

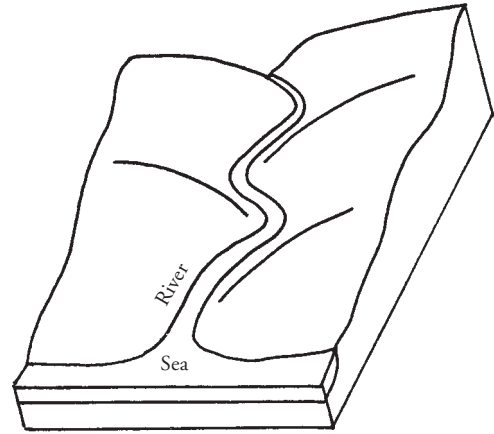
## Task B

The coastline around Brixham has lots of bays and estuaries. Use your atlas to find these estuaries and the towns at their mouths.

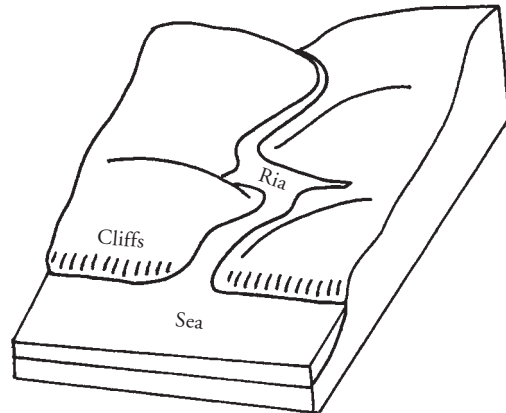
<i>Estuary</i>	<i>Town</i>
River Fowey	Fowey
River Dart	Dartmouth
River Exe	Exmouth

These long narrow and steep-sided estuaries – called *rias* – provide sheltered harbours. But how were they formed?

Diagrams 1 and 2 show part of the coast of south-west England.



**Diagram 1** – during and just after the Ice Age. The sea level was much lower than today and the rivers cut down towards sea level, eroding deep narrow valleys.



**Diagram 2** – the coast today. The sea level has risen, flooding the lower parts of the valleys – rias – and the sea has carved cliffs into the hard rocks.

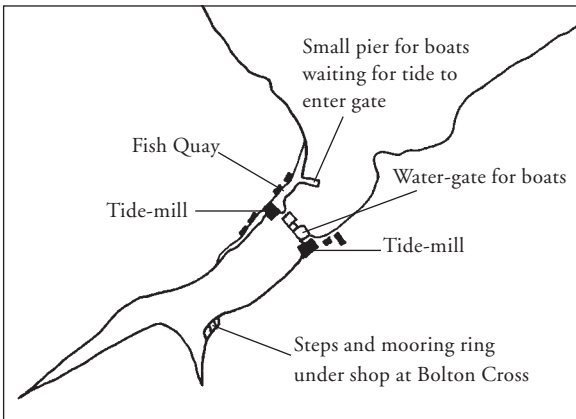
## Task C

- a The ice sheets did not reach as far south as Devon but there was a lot of water in the rivers. Why?
- b Why was the sea level lower during the Ice Age than it is today?
- c Why did the sea level rise after the Ice Age?
- d Why do you think much of the coast in south-west England consists of cliffs?

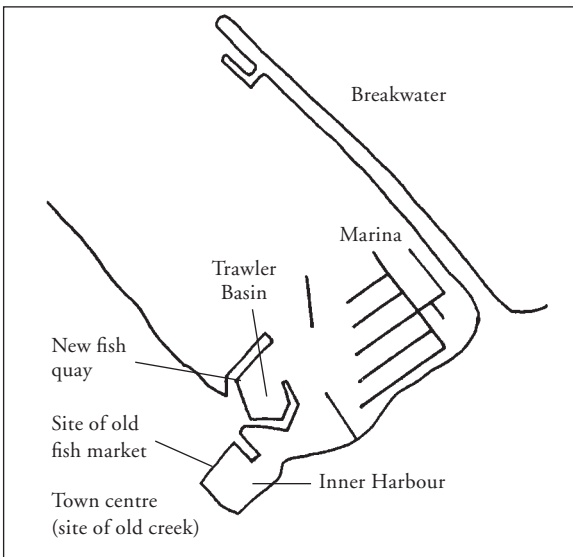
# The growth of Brixham

Brixham lies in a very sheltered position on Tor Bay. The harbour is a small ria, but much of the old tidal estuary has been reclaimed and built on. The Romans had a fort there but the first real settlers came around 582 AD and set up farms near the sheltered creek.

**Diagram 3**  
The Tide Mills 1172 – c.1560



**Diagram 4**  
The harbour today



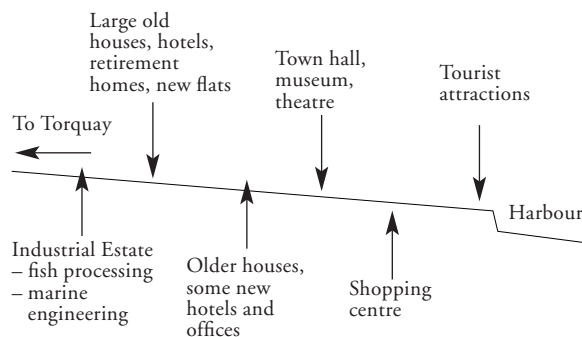
Between the twelfth and sixteenth centuries a dam was built across the creek and the tides were used to drive a tidal mill for grinding corn. A gate in the dam let boats through. Today, part of the creek above the old dam is silted up and built over.

As boats got bigger the old harbour became too small, and new quays, and a breakwater to shelter the harbour from easterly winds, have been built.

As you walk into Brixham along the A3022 from the south-west you will see buildings which get gradually older as you approach the centre of town.

**Diagram 5**

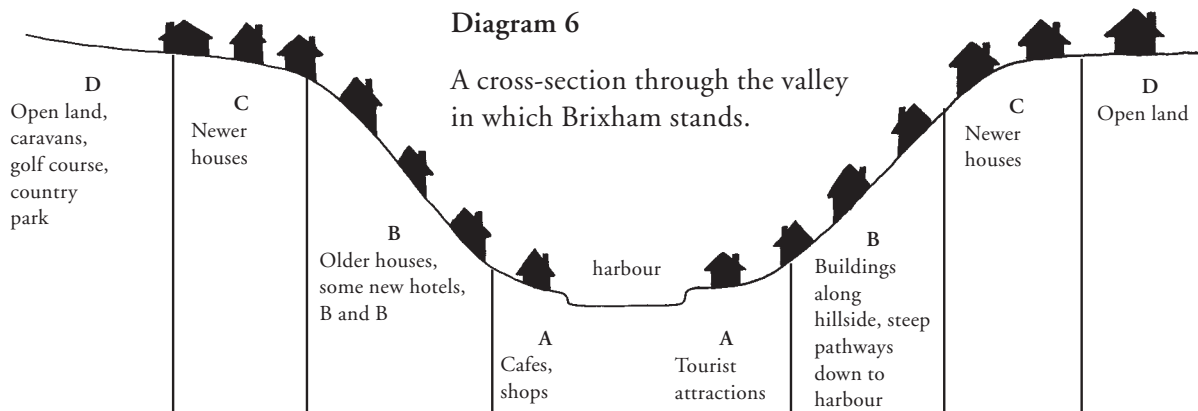
Some notes taken on a walk into Brixham along the A3022, showing the land use on the way.



## Task D

Using Diagrams 5 and 6, write a few lines about how the site of Brixham has affected its growth.

**Diagram 6**

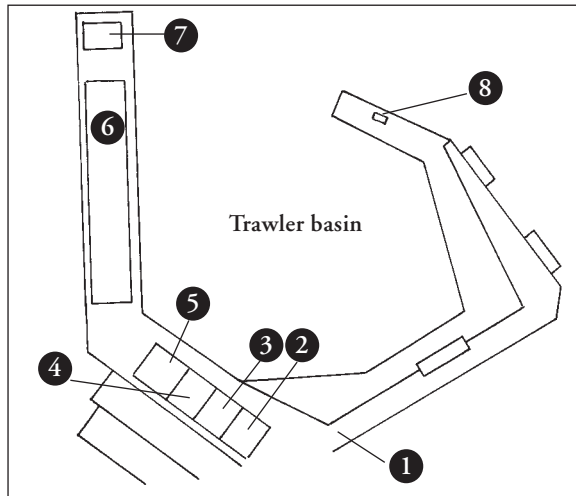


# Fishing in Brixham

Brixham is the largest fishing port in the south-west, with 100-150 boats registered at any one time.

- ◆ It is near to the shallow waters of the continental shelf.
- ◆ These waters have a great variety of fish in them.
- ◆ It used to have rail links to the big cities.
- ◆ Refrigerated road transport can now carry fish to other parts of Britain and Europe.
- ◆ It has a sheltered harbour.

Diagram 7 shows the fish quay at Brixham.



Key to diagram

1. 'New' Pier, built 1803
2. Harbourmaster's office
3. Offices
4. Loading bays for vans and refrigerated lorries
5. Freezer plant
6. Fish market
7. Ice plant
8. Fuel supplies

Fish is landed at the fish quay and sorted into boxes overnight ready for the early morning auction. The auction is attended by many buyers who may have their own fish shops selling to individual customers. Some may supply hotels. Others are fish merchants who

buy fish for customers all over Europe. Some of the fish is supplied to fish processors who pack it and freeze it for supermarkets. So there are a lot of people involved in fishing in Brixham, not just the ones who work on the boats.

## Task E

Use the information above to help you to draw a flow diagram to show how fish gets from the sea to the customer.

Table 1 gives you some idea of how valuable the Brixham catch was in 1994. There are lots of other things caught, like crabs and lobsters, which explain why the figures in the columns do not add up to the totals. Which fish are most important to Brixham? How is the value of the catch changing?

Table 1

	1992	1993	1994
Dover sole	£3.6m	£3.75m	£3.84m
Plaice	£1.26m	£1.4m	£1.3m
Lemon sole	£1.13m	£0.84m	£0.75m
Cod	£0.13m	£0.10m	£0.10m
Angler fish	£0.38m	£0.4m	£0.56m
Sprats	£0.17m	£0.24m	£0.51m
Scallops	£1.6m	£2.28m	£2.3m
Cuttle fish	£0.54m	£1.58m	£1.9m
Total fish	£11.6m	£12.9m	£14.8m

## Task F

Decide on a way of drawing graphs to show the following information about fishing in Brixham:

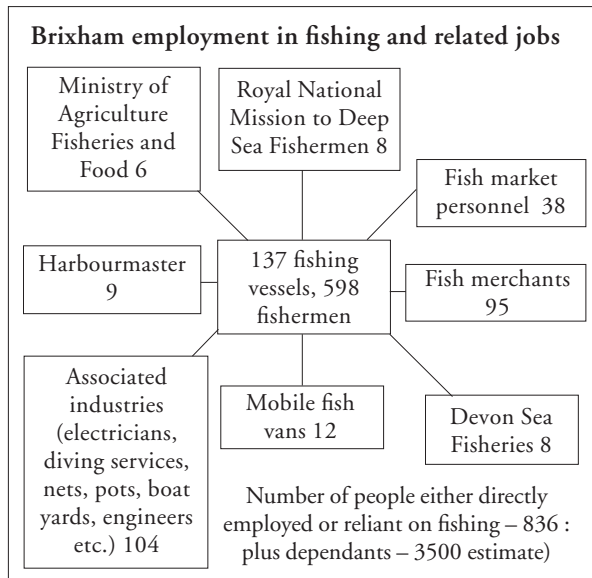
- ◆ The changing value of the catch.
- ◆ The importance of different kinds of fish in 1994.

And now draw your graphs. What do they show?

# Making a living in Brixham

Diagram 8 shows that there are many other industries related to fishing apart from the people who actually go to sea. There are between 2,000 and 3,500 dependent on the fishing industry in Brixham.

**Diagram 8**



Tourism is the other big industry, employing 16,500 people. Tor Bay is part of 'The English Riviera' and the whole area earns over £300 million a year from tourism. The biggest development in Brixham has been the marina, built in 1989 at a cost of £310 million to attract yachts and pleasure cruisers.

**Table 2** shows some of the attractions that bring visitors to the Torbay area.

Attraction	No. of Visitors (latest available figures 1994)
Aquaventureland	85,000
Babbacombe Model Village	371,700
Babbacombe Pottery, Torquay	100,000
Berry Head Country Park, Brixham	201,500
Brixham Aquarium	37,000
Brixham Museum	5,684
Cliff Railway, Babbacombe	230,000
Cockington Court	17,000
The Deep	23,000
The Fun Factory	146,000
Kents Cavern	114,000
Paignton Aquarium	13,500
Paignton Newbarn Angling Centre	9,000
Paignton Pier	465,000
Paignton Zoological and Botanical Gardens	276,688
Paignton and Dartmouth Steam Railway	149,825
Riviera Centre, Torquay	700,000
Shipwreck Island	70,000
Torquay Museum	11,150
Torre Abbey Mansion	23,685

## Task G

Place these attractions in rank order of importance. Pick out the attractions which are obviously in Brixham.

However, the main things that attract families are the beaches and the weather.

	March °C	May °C	September °C
Pisa	11.3	17.0	20.7
Barcelona	12.9	17.8	21.2
Nice	12.2	17.5	19.7
Paris	9.6	14.2	14.7
Torquay (Torbay)	12.1	14.4	17.5

(Source: The Meteorological Office)

**Table 3**

The climate data in the table were taken from a tourist fact sheet. What other information would a tourist like to have?

## Task H

The English Riviera does have a warmer climate than the rest of Britain, with especially mild winters.

- Why does the south-west have a mild climate?
- What aspects of its weather might not suit tourists?

However, both tourism and fishing are risky industries; both are affected by the weather; tourism is seasonal – competing with holidays abroad; fishing has to compete with foreign fishing fleets; there are declining fish stocks.

The EU Common Fisheries Policy is meant to protect the fish stocks but it makes it hard for fishermen to earn a living, especially on the big expensive boats.

Grants are available from the Government and the EU to help new developments away from fishing and tourism. For example, at Rea Barn in Brixham, 12 small industrial units are being partly financed with EU money.

# The future of the fishing industry

## Are too many boats chasing too few fish?

### Background Information

- ◆ The EU's Common Fisheries Policy came into full force in 1983. It is designed to give boats from all EU countries access to EU waters.
- ◆ The sea within 6 miles of the coast can only be fished by fishermen of the coastal state. Between 6 and 12 miles, fishing is restricted to boats from countries whose fishermen have fished there for many years. Between 12 and 200 miles, any boat from an EU country can fish.
- ◆ The seas around Europe are divided into 'boxes' to which quotas are allocated. Only a certain amount of fish can be caught in each box by each boat. This is to stop overfishing.

Scientists tell us that some fish may eventually become extinct. Our fish stocks are under threat from:

- ◆ pollution
- ◆ overfishing
- ◆ modern fishing techniques

### Task 1

Is it possible to run the fishing industry so that fishing ports like Brixham survive and the industry can be managed in a sustainable way?

Some of these ways are shown below. Work in groups and discuss the advantages and the disadvantages of each one.

#### Fishing quotas

Catches are allocated to each boat. When the boat has caught its quota, any fish caught of a particular species must not be landed.

#### Restricted days at sea

Allow boats to be at sea for a limited number of days each year.

#### Minimum net size

The size of the mesh must be larger than a minimum size to allow small fish to escape so that they can grow to breeding age.

#### Do nothing

Because fishing is their livelihood, fishermen will not allow the fish stocks to fall dangerously low.

#### Decommissioning

Pay fishermen to scrap their boats and so reduce the size of the fishing fleet.

Can you think of other possible methods?

# Enough Water to Go Around?

## Programme Summary

This programme covers:

- ◆ Provision of fresh water and some of the causes, effects and ways to prevent water pollution.
- ◆ The variety of ways water is used.
- ◆ Issues on the River Kennet, west of Reading, and the effects on the life of the river.
- ◆ Water boreholes in the chalk. Swindon receives its water supply by this method.
- ◆ Just how much water a household uses and what would happen if the taps dried up.
- ◆ Ways of increasing supply, such as building reservoirs like Thames Water's Farmoor Reservoir near Oxford. But schemes like this have serious drawbacks.
- ◆ The need to start managing both the supply and the demand for water.

## Background Information

The River Kennet and its tributaries flow for most of their courses (80%) over chalk. The Kennet rises from a series of springs west of Marlborough and joins the River Thames near Reading. The chalk of the Berkshire Downs lies between the Kennet valley and Swindon, which is situated on impermeable older Jurassic clays.

Rocks which allow water to pass through them are **permeable**. If the water passes through the spaces or pores between the grains of rock it is **porous**, like chalk, but if it passes through the rock via cracks or joints it is **pervious**, like limestone.

The places shown in the programme lie within the Thames Water region for both water supply and sewerage services. Two of the many organisations which regulate all water supplies are:

**The Office of Water Services (OFWAT)** whose primary duty is to ensure that water and sewerage functions are properly carried out;

**The Environment Agency** whose brief includes pollution prevention and control, water resources, fisheries and conservation.

## Before the Programme

### Task A

**a** Use your atlas to find a map of the Thames Valley; pick out the rivers Thames and Kennet, Berkshire Downs, Marlborough, Swindon and Oxford.

**b** Match up the correct 'heads' to their 'tails':

A spring is...

... a deposit of rock which holds water and allows it to pass through it underground.

Sewage is...

... the point where water comes out from underground.

An aquifer is...

... the water held below the water table in aquifers.

Sewerage is...

... the upper surface of rock which is full of water or saturated.

The water table is...

... the water-borne waste from houses and industry.

The groundwater store is...

... a system of pipes for collecting and carrying waste water from homes and factories.

# Where does your water come from? – Rainfall

Before rain becomes tap water it has to be collected, stored, treated and then sent to your house or school. Waste water has to be removed, treated and returned to the environment after it has been used. All this costs money!

The Thames Water area is one of 10 **water service companies** (WSCs) which provide both water supply and sewerage services; another 19 provide **water supplies** only.

## Task B

Do you know who supplies the water and removes the sewage from your house or your school? It could be one of the big WSCs or a smaller water supply company. How might you find out?

- ◆ Ask at home to have a look at an old water bill.
- ◆ Ask your teacher to get a copy of the school's bill.

Here is the sort of information you will find on a water bill.

**Diagram 1** Part of a water bill for summer 1997

Period of charge from 1/4/97 to 19/6/97  
HOW YOUR CHARGES HAVE BEEN CALCULATED

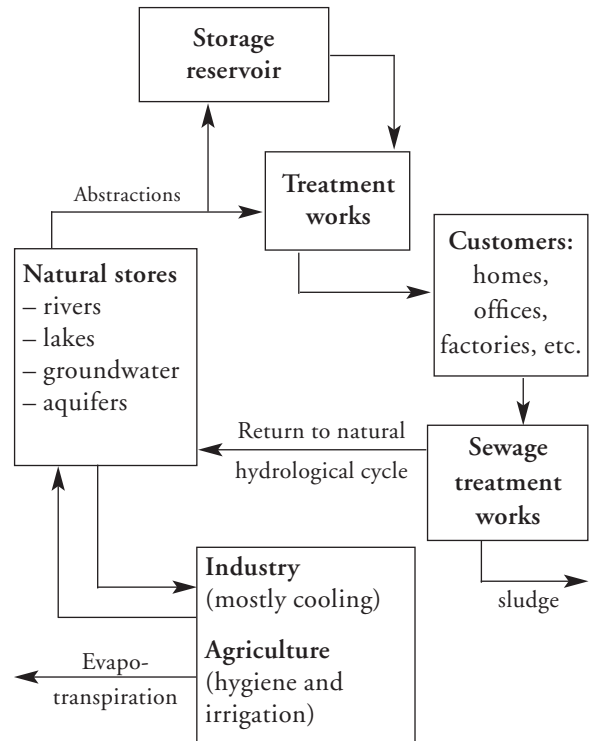
	Annual Charges £
Period 1/4/97 – 19/6/97	
Water Supply	
Rateable Value	342
multiplied by	50.69p
Standing Charge	173.35
Total Water Charge	45.79
Sewerage Service	
Rateable Value	342
multiplied by	59.50p
Standing Charge	203.49
Total Sewerage Charge	50.81

Are water supply and sewerage provided by the same company on your bill? Which is the most expensive service? Are there any differences if

a family has a water meter, where only the actual water used is paid for?

How does all this work together?

**Diagram 2** A flow diagram of the human water cycle



## Task C

**a** Make a copy of the flow diagram, but leave the boxes empty.

**b** Before you begin to fill them in you will need to explore your own water supply a bit more. For example, for the 'Natural stores' box here are some starter questions to think about:

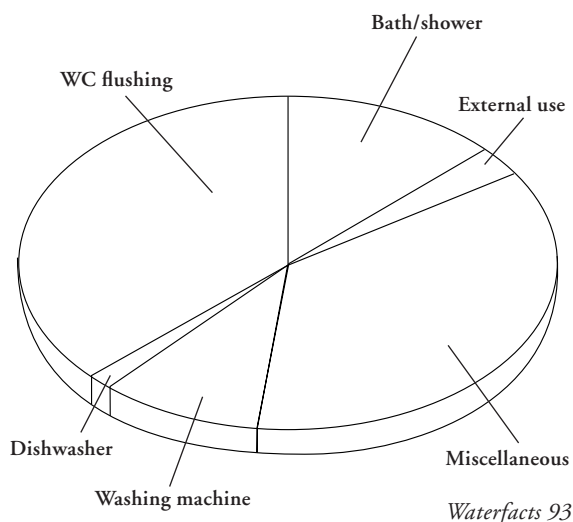
- ◆ Are the rocks in your area permeable or impermeable?
- ◆ If permeable, is there any evidence of past or present springs? Check local names: for example Berkswell, near Coventry, still has a spring.
- ◆ Where is your nearest storage lake or reservoir?
- ◆ A good indication of boreholes is a pumping station: are there any locally?

# How do you use water?

In the programme Adam and his family show all the different ways in which they use water. The problems that might arise if the taps dried up and they had to collect buckets of water from a tanker in the street are shown. An average bucket is about 10 litres, while a drink can is about a third of a litre.

## Task D

**Diagram 3** A pie diagram of water use in everyday household activities



To give some idea of just how much water some of these activities really take:

- a Work out how many third-of-a-litre cans you would need to fill your bath, or for that 20 minutes you stayed in the shower!
- b Which would have used less water?

Just as the family did in the programme, one of the best ways to find out how much water people use at home is to try the following task. A day at the weekend will probably give you the best results.

## Task E

Make a copy of the table below and complete it for just one day.

Activity	Estimated total amount (litres)	Tally for every time used (e.g. <del>III</del> I)	Total
Taking a bath	80		
A shower	5/min		
Flushing toilet	9.5		
Washing machine	80		
Dishwasher	35		
All drinks	10/day		
Washing up	10		
Washing face/hands	5		
Teeth	1		
Outside use, e.g. sprinkler	9/min		
Other?	_____		
<b>Grand total for your household</b>			_____ per day

To finish the task, organise a small group discussion just like the family in the programme, and decide what your own priorities would be if you had to manage your water supply.

Would your list be the same or are your priorities different? If so why?

# Will the water supply meet the demand?

In the UK, we think there is plenty of water, but in 1995, 53 Drought Orders were made in England and Wales. Did you have any Drought Orders in your area last year?

What is a drought? At least 15 continuous days with rainfall less than 0.25 mm per day.

## Task F

Study the graph (Diagram 4).

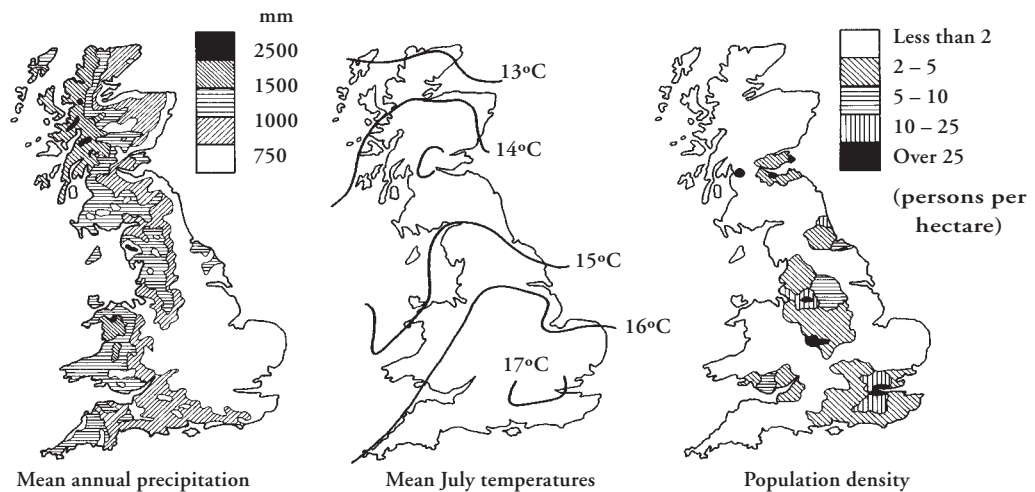
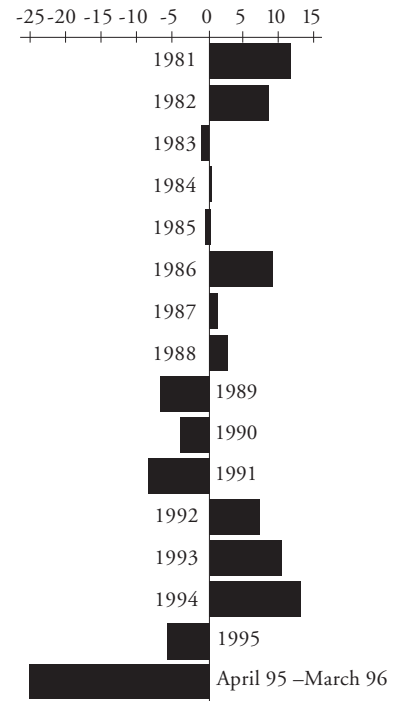
- a In how many years in the last 10 has rainfall fallen below average?
- b What does this suggest about the UK's rainfall?

Globally, too, 10 of the warmest years since 1860 have occurred since 1980.

The three maps (Diagram 5) provide some possible clues about where the rain falls and whether it falls in the right places. Study the maps and then answer the questions below.

**Diagram 4 Rainfall for England and Wales 1981 to 1996**

% Variation from 1960 – 90 long term average



**Diagram 5 Three maps of Britain**

## Task G

- a Which area has the highest precipitation? Give some figures.
- b Which area has the highest July temperatures? Give some figures.
- c Which area has the highest density of people?
- d Use a map of Great Britain and draw a straight line between the River Exe and the River Tees. What is the land like on either side of this line? Where will the water supply be highest? Where do you think the demand will come from in the future?

# Can future demands be met by better water management?

Can future demands be met by better water management?

John, the Kennet water bailiff, ends the programme by saying, 'We should actually look after our water resources and make sure they are properly managed'.

## Task H

**a** From information in the programme explain THREE ways by which you can recognise a healthy river compared with a polluted one. Write a few lines on one of the simple solutions.

## Task I

The River Darent, another Thames tributary, flows north-south joining the Thames near Dartford.

Here are three newspaper headlines:

'DRIED-UP RIVER TO HAVE FLOW RESTORED' – 1993

'£7 MILLION SCHEME AIMS TO REPLENISH DYING RIVER' – 1994

'SIX SPRINGS SET TO BOOST DARENT' – 1995

The River Darent shows what can happen if abstracting or taking water out goes too far.

From information in the programme and the study guide and exploring your own water supply, list at least FOUR other actions that would need to be taken to make the River Darent a healthy river again.

Thames Water and the Environment Agency Joint Action Plan eventually cut water abstractions from six boreholes by 30%.

What about other solutions to solving water shortage problems, like building reservoirs?

## Task J

Thames Water have proposed a large reservoir near Abingdon, the South West Oxford Reservoir Development Scheme (SWORDS).

Here are some of the people who might be affected and have different viewpoints:

- ◆ The residents of a nearby village, the farmers, the construction engineers.
- ◆ The environment agency, the local history and archaeology society.
- ◆ The water supply company, the environmentalists, the water sports club.

**a** Which groups are likely to be in favour of a new reservoir and which against?

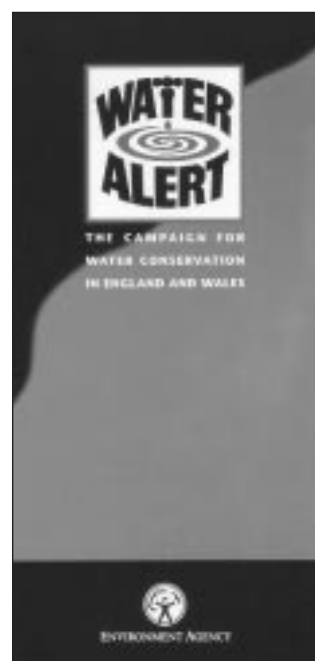
**b** Write a few lines explaining what you think the views of one of these groups might be.

**c** What would your own attitude be to building a new reservoir?

There are other solutions to solving the problem of water shortages than building reservoirs: 'demand management' – encouraging people to reduce demand by conserving water and by installing water meters.

Slogans help to get the message across, as do free installation of water meters and 'Water Hippos'. What's happening in your area?

The Environment Agency's Regional Office will tell you about the 'Water Alert' campaign.



# The Price of Coal: coal mining in South Wales

## Programme Summary

This programme covers:

- ◆ The provision of one form of energy – coal – and the effect of mining on the environment.
- ◆ Protests about the development of the new Selar opencast site.
- ◆ How coal was mined in the past and today.
- ◆ How an opencast site is opened up, exploited and restored.
- ◆ The landscape created by deep mining and the environmental issues surrounding the 1990s' opencast.

## Background Information

In 1913, there were 620 coal mines in the South Wales coalfield employing 232,800 men. Today, Tower Colliery, the only deep pit left, was bought by its employees in 1994 after privatisation. It employs only 330 people.

The earliest workings were tunnels dug into the hillside where the coal seams were exposed at the surface – called adits or drift mines. The later mines were deep vertical shafts. Life was very hard. A thirteen-year-old boy said:

*'I used to go by train to Cwmaman pit... I had about a three mile walk underground... I used to get up at 4.30 in the morning and get home about 4.00 in the afternoon. I've been so tired... I've fallen asleep with my face on my dinner plate.'*

From 1830, coal was transported to the rest of the country, and with the coming of the railways in the 1840s the trade increased. By 1913, the production had risen to 57,000,000 tonnes mainly for export.

However, by 1974, coal production had declined, and in 1996 Tower Colliery produced only 500,000 tonnes. Most was sold to British Steel or Aberthaw Power Station or exported to EU countries.

Modern mining is very different from that of the early days. The Tower miners still work shifts, get very dirty and travel about three miles to the workface from the bottom of the shaft, but they can ride to it and most do. The real difference is that the miners own the mine!

Can you think of at least two advantages and two disadvantages of the miners' owning their own mine?

Coal extraction in the 1990s is by 'opencast mining' – opening up enormous holes in the ground, particularly on the northern outcrop known locally as the 'north crop' of the coalfield. It employs far fewer people than deep pits, but provides work in an area of high unemployment. It can be noisy, pollutes the air and, in the opinion of environmentalists, damages the landscape.

### Facts and Figures about Tower Colliery

- ◆ Opened in the 1860s
- ◆ Taken over by the government 1947 – 1994
- ◆ £2 million raised by 239 miners to buy it
- ◆ In 1995 became the only worker-only mine in Europe
- ◆ 700m deep, worked by two shifts
- ◆ Produces low-sulphur anthracite coal
- ◆ About 10,500 tonnes of saleable coal produced weekly
- ◆ Profit about £3 – 4 million before tax in 1996.

# Where does coal come from?

## Task A

Use an atlas map and Diagram 1 to find the mining sites shown in the programme.

Using Diagram 2, give three reasons why it was easy to reach the coal seams in the different parts of the coalfield.

So where does coal come from? A recent publicity notice advertising 'Celtic Fossils Workshops' gives a couple of clues. It said:

*'Following a fossil collecting excursion to Celtic Energy's Llanilid West Revised Opencast site in Llanharan, those participating in the organised workshops will have the chance to examine rock to find fossils, especially Coal Measure plants...'*

What are 'Coal Measures' and what are the plants like? The fossil drawings in Diagram 3 give some idea of the sorts of plant the students who attended this course might have studied.

These leaves are rather like today's 'ferns', but in Carboniferous times (250 million years ago) they grew to the size of trees, forming dense swamp forests. In this part of South Wales, this forest grew where a large tropical river entered the sea through many channels to form a delta.

Occasionally, the sea flooded in and drowned the forest, covering it with sand, mud and silt, which often contained shelled animals like mussels. Eventually trees grew again and the whole cycle began once more, so that the sequence of rocks repeated itself. Each sequence is called a 'cyclothem'.

Diagram 1

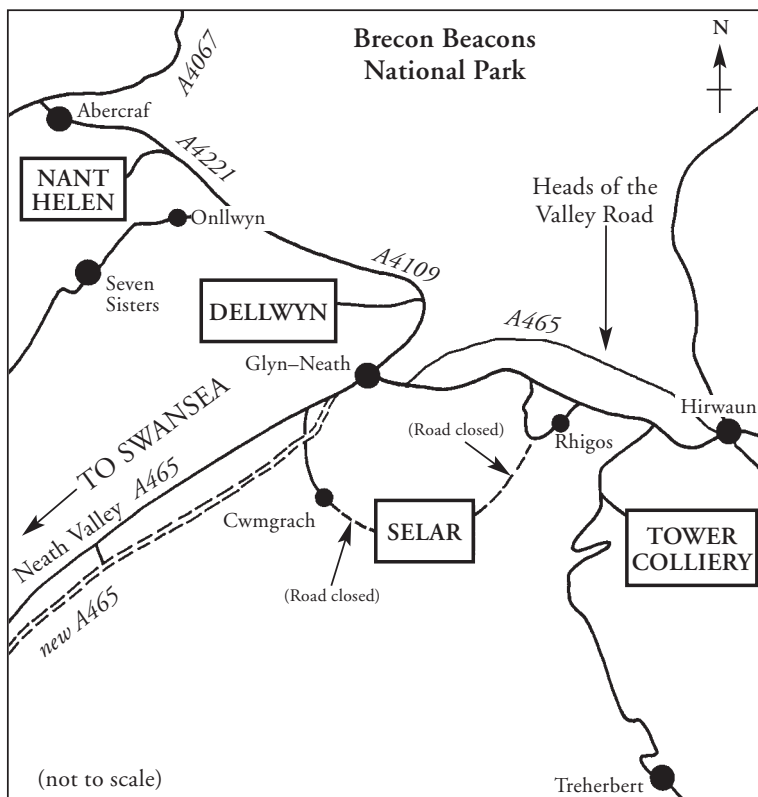


Diagram 3

Drawings of fossil ferns

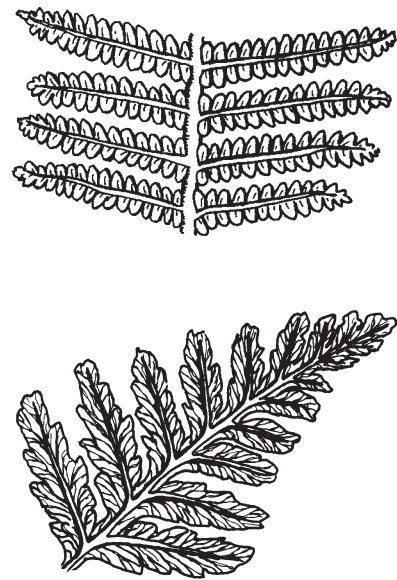
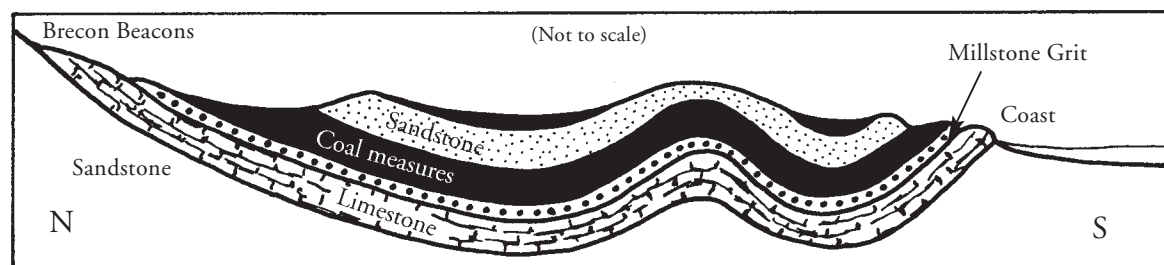


Diagram 2

The geology of the South Wales coalfield

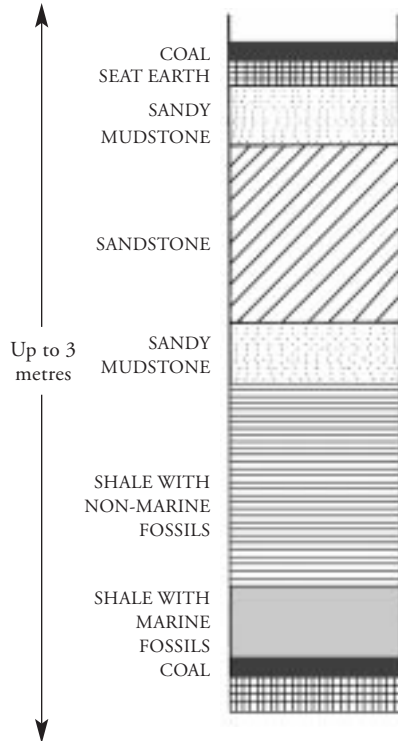


# Getting the coal out of the Nant Helen opencast site

The Nant Helen site looks like a large hole in the ground with lots of wide steps down to the bottom. Look at Diagram 4 – a section through a coal cyclothem.

## Diagram 4

A simplified section through a coal cyclothem



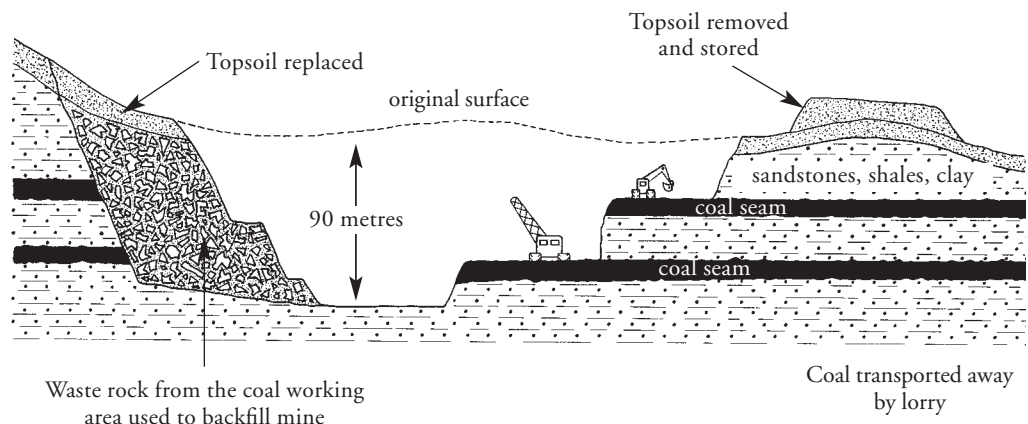
The section shows that the Coal Measures are a group of rocks, in which there are layers or 'seams' of coal, BUT importantly most of the rock is not coal.

## Task B

Look at the other sorts of rock on the section. Where do you think the deep miners put any of the waste rock found between the valuable coal seams?

## Diagram 5

How the coal is extracted



The men working the opencast site use the coal cyclothem to good effect: the surface of each big step is the top of a coal seam and the riser is the unwanted rock between the coal seams.

## Task C

Study Diagram 5, which shows how the face of the opencast site moves forward leaving the waste rock stacked up behind until it reaches the height of the old ground surface. It is then covered with the soil that has been stored separately.

Using the diagram and clues from the programme, imagine you had visited Nant Helen, and write up a page of a field notebook explaining how opencast mining works.

Just as the Coal Measures are not all coal, so there are different sorts of coal, even in the same coalfield! One of the big attractions of the South Wales coalfield was that different types and qualities of coal were found in the eastern, middle and western areas of the coalfield.

At Nant Helen, for each bucketful of the coal they mine, they throw away 25 bucketfuls of rock waste. Why might they go to all this trouble to get out the coal?

Remember, there are actually 13 seams at Nant Helen. Only two are shown in the diagram below.

# New jobs for old

For decades coal mining was a vital industry in the South Wales valleys, but today mining is only a minor employer. Here are some of the reasons for the decline:

- ◆ competition from cheaper foreign coal
- ◆ less demand because of other sources of energy, especially North Sea gas and oil
- ◆ exhaustion of the better seams
- ◆ difficulty of using modern machines in the old mines

## Task D

Look at Table 1, which shows some figures for different types of employment in Wales between 1981 and 1991. These figures are for the whole of Wales, but they reflect what has been happening in the Valleys.

Table 1

	1981	1991
Population ('000s)	2,814	2,892
People in employment ('000s)	940	964
a) by sector		
– Agriculture, forestry, fishing	23	21
– Energy and water	61	24
– Metal manufacturing	55	36
– Other manufacturing	185	183
– Construction	54	46
– Services	562	654
b) by gender		
– Males, full-time	525	450
– Males, part-time	26	43
– Females, full-time	230	250
– Females, part-time	159	220

*Employment statistics for Wales 1981 – 91*

- 4 Find two trends in the information about the workforce and explain them, using the information in your graph. What has been done to provide 'new jobs for old' in the Valleys, and to stem the movement of people away from the area to find work on and around the coast?

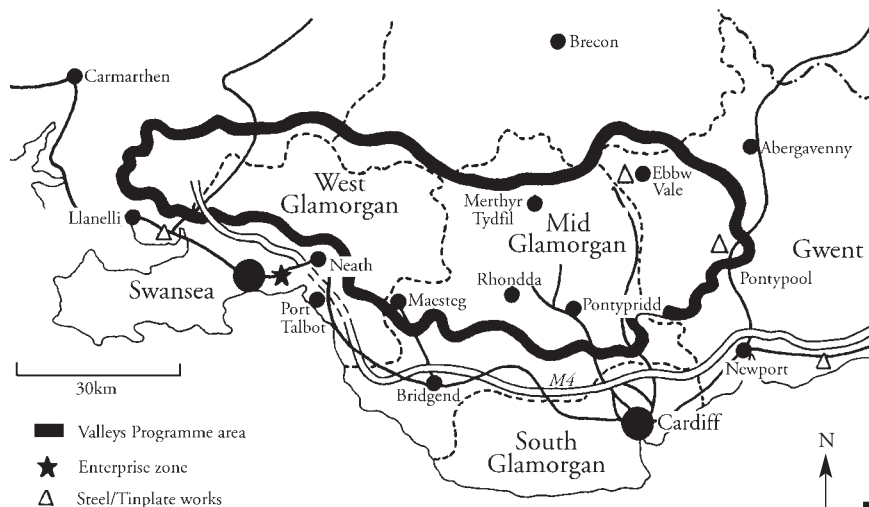
The Welsh Development Agency (WDA) set up the Valleys Initiative in 1988 with the aim of improving the prosperity of the people. The WDA's 1995/96 Annual Report lists their recent achievements. Here are a few of them:

- ◆ £33 million invested in Merthyr Tydfil over the last 4 years, creating 900 jobs;
- ◆ improving 400 ha of derelict land;
- ◆ developing 160,000 sq. m of commercial space and the complete removal of the Dowlais Great White coal tip;
- ◆ £801 million invested in the Rhondda valley for a large plastics factory on the reclaimed site of the Maerdy Colliery, creating 9,830 jobs.

## Task E

Study Diagram 6, which shows a map of the 'Valleys Initiative' boundary, and check the location of Merthyr Tydfil and the Rhondda. If you compare its shape and area with the South Wales Coalfield you can see how they almost coincide.

Diagram 6 Map of the Valleys Initiative



- 1 List the employment sectors which have fallen, starting with the biggest drop.
- 2 Pick out the only sector with a higher total in 1991 than 1981.
- 3 Can you think of a way of showing the information graphically?

# To dig or not to dig?

Ceri, a local teenager, opens the programme and airs her views about opencast mining; Diane Watts, a community counsellor, ends it with the question 'What do you think should come first, jobs or the environment?' As you watch the programme make a careful note of their arguments.

Here are the views of three more people with an interest in the issue:

The Chairman of Celtic Energy wrote, after hearing that an application to open up a new opencast site had been refused:

*'Celtic Energy is currently operating nine sites in South and West Wales... We directly employ 500 people, with over 1,000 employed through the predominately local sub-contractors who work our sites. An additional 1,500 jobs are sustained locally in firms supplying and servicing our varied requirements.'*

and

*'We are not a threat to existing or incoming firms. Companies such as Sony and O.P. Chocolate operate undisturbed adjacent to opencast operations. And housing developers are selling quality executive homes right next to our Llanilid Revised site.'*

In March 1997, Les Yandell, a retired resident near Nant Helen site, reported in a local paper that:

*'It's absolutely chaotic with between 25 and 30 massive trucks belching out black diesel fumes all day long. Celtic Energy could have done more to ease the pollution.'*

Dennis Evans, Head of DT at Bishop Hedly High School, Merthyr Tydfil, on receiving financial backing from Celtic Energy to develop a new GCSE leading into their sixth form GNVQ Engineering course, said:

*'Any support from outside organisations is beneficial and enables students to pursue studies of this nature.'*

## Task F

- 1 These different views show how difficult it is to decide which should come first – jobs or the environment. After you have learned more from the programme about the coal mining in South Wales and how the landscape has been changed by it over the last 150 years, organise a group discussion with members of your class taking on the views of these different people. Before you start, try and find out what other groups might have a view, such as the Countryside Commission for Wales (CCW).
- 2 Draw up a table to show the advantages and disadvantages of opencast mining.
- 3 Can you list other possible future job opportunities in the South Wales Coalfield?
- 4 Should the disadvantages outweigh the advantages and prevent further opencast development?

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