

GENERAL CERTIFICATE OF SECONDARY EDUCATION
GEOGRAPHY C (1988)
RESOURCE BOOKLET FOR DECISION MAKING EXERCISE
THURSDAY 12 JUNE 2008

2401/F/H/RB

This Resource Booklet should be available to candidates for up to three working weeks prior to this date.



THE ISSUE
FUTURE FORESTS: CAN WE SEE THE WOOD FOR THE TREES?

INSTRUCTIONS TO CANDIDATES

This Resource Booklet must be handed in to your teacher at the end of each lesson. **You must not write on the booklet.**

INFORMATION FOR CANDIDATES

The following abbreviations may be used:

- MEDC – More Economically Developed Country.
- LEDC – Less Economically Developed Country.
- EU – European Union which includes the United Kingdom.

CONTENTS OF THE RESOURCE BOOKLET

- Resource 1 – Global distribution of forests
- Resource 2 – Forests as a resource
- Resource 3 – Stages in the destruction of the tropical rainforest
- Resource 4 – Deforestation affects us all
- Resource 5 – Forest sustainability
- Resource 6 – Working together for sustainability
- Resource 7 – Managing forests in the future
- Resource 8 – Britain's forest under threat
- Resource 9 – Forest management in the UK
- Resource 10 – About UK woodland
- Resource 11A – Saving an Ancient Woodland
- Resource 11B – Location and images of Wentwood Forest

This document consists of **14** printed pages and **2** blank pages.

RESOURCE 1

Global distribution of forests

- Almost one third of the Earth's land area is covered by areas of forest. These forests are distributed in broad bands which stretch across the continents.
- Different growing conditions suit each type of forest. Different climate, soils, slopes and drainage suit different species of tree.

Region	Total forest area (million hectares)	% of total land surface of the region
Latin America & the Caribbean	993	49.2
Former USSR	792	35.5
Africa	734	25.0
Asia & the Pacific	602	17.6
North America	579	31.6
Europe	156	28.9
World	3856	29.7

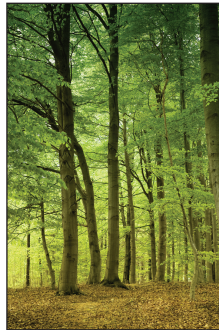
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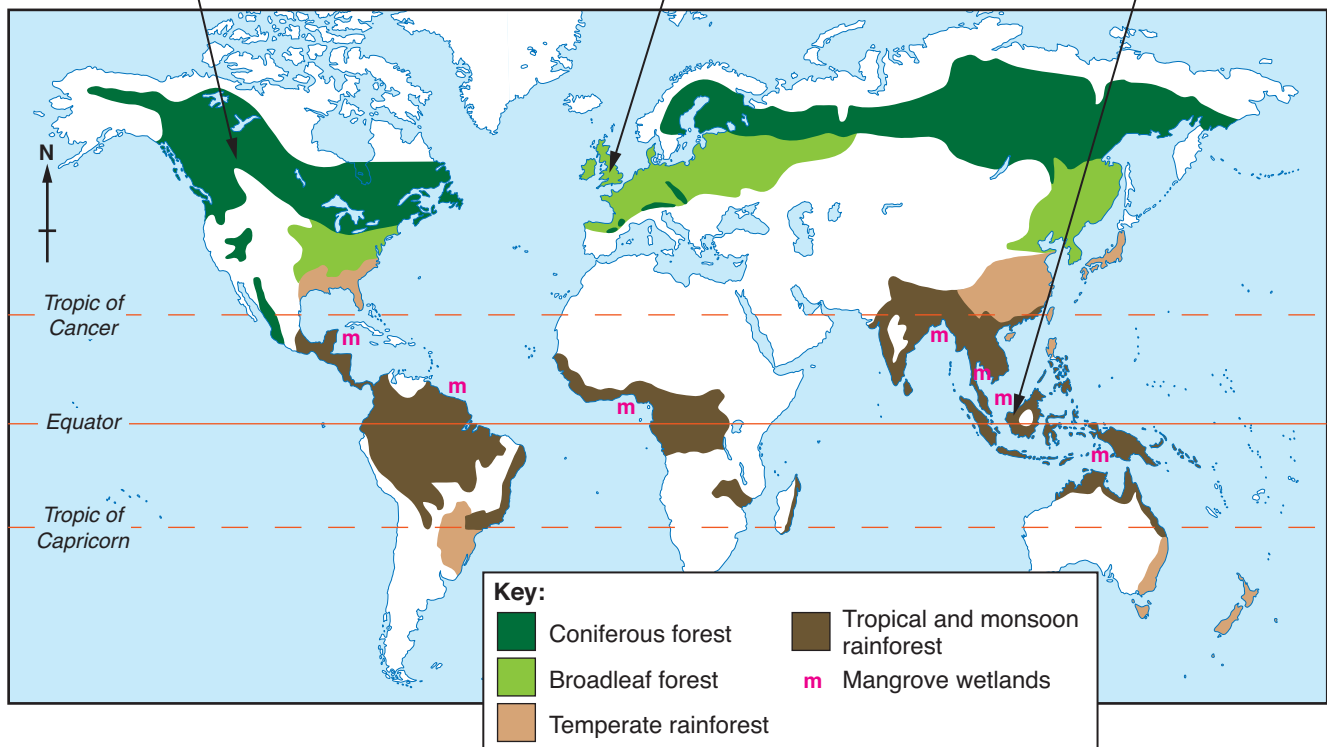
A coniferous forest in Canada



A broadleaved forest in Britain



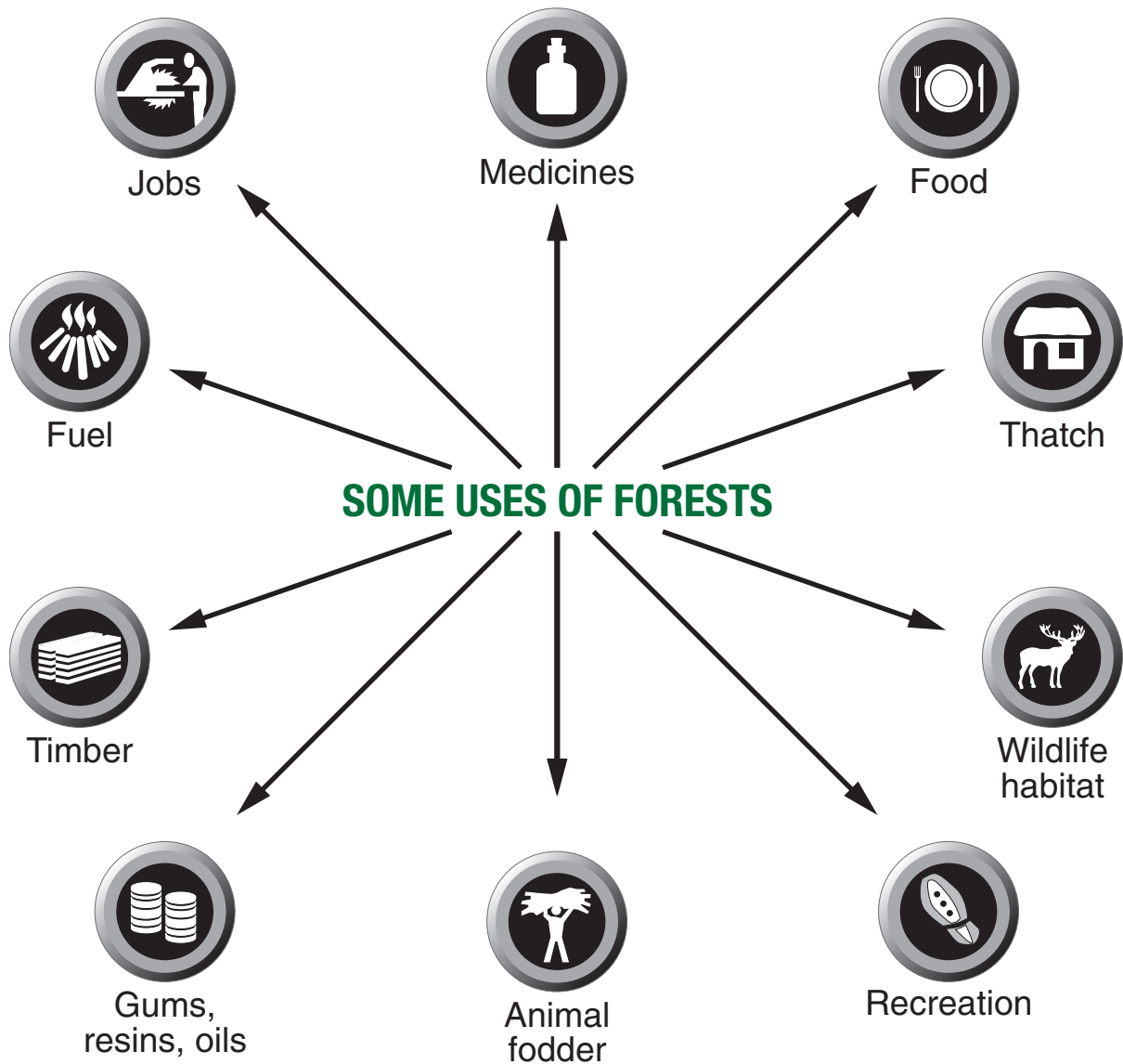
A tropical rainforest in Malaysia



RESOURCE 2

Forests as a resource

- Today's landscape is the result of 6000 years of change by humans.
- In the past temperate woodlands were cleared but now tropical forests are being removed at a rate of 11–20 million hectares per year.
- Wood is a renewable resource but little is being done to make it sustainable.



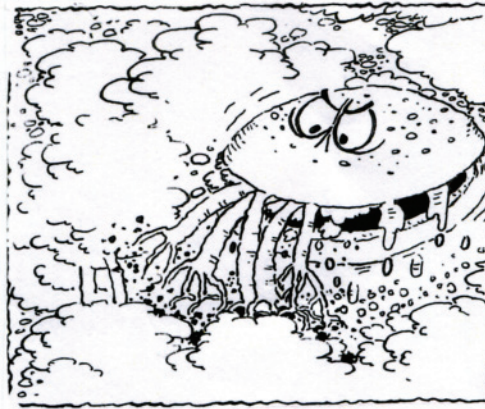
RESOURCE 3

Stages in the destruction of the tropical rainforest

Stage 1 Natural forest is inhabited by native people.



Stage 2 Roads are built for mines, logging and settlers. Vast areas are flooded for HEP stations. The Indians retreat to more remote areas.



Stage 7 Within 20 years land is abandoned, scrub takes over. Soil is infertile, sediment and nutrients are leached to rivers.



Stage 6 Weeds kill off grass and cattle starve. Ranchers have to clear more forest.



Stage 3 Settlers clear forest for farming. Cattle ranchers clear large areas for grazing.



© Worldwide Picture Library / Alamy

Stage 5 Ranchers take over abandoned plots. Native people die from diseases introduced by settlers.



Stage 4 Crop yields fail. Settlers abandon their plots. 50% move within 5 years. They then clear more land.



What can happen without forest

- Up to 40% less rainfall, because farmland, grassland and scrub forest store much less water to release into the atmosphere.
- Daytime temperatures would be higher, because more solar radiation would reach the surface and in turn heat the air above.
- More moisture would be present in other parts of the Earth's water cycle.

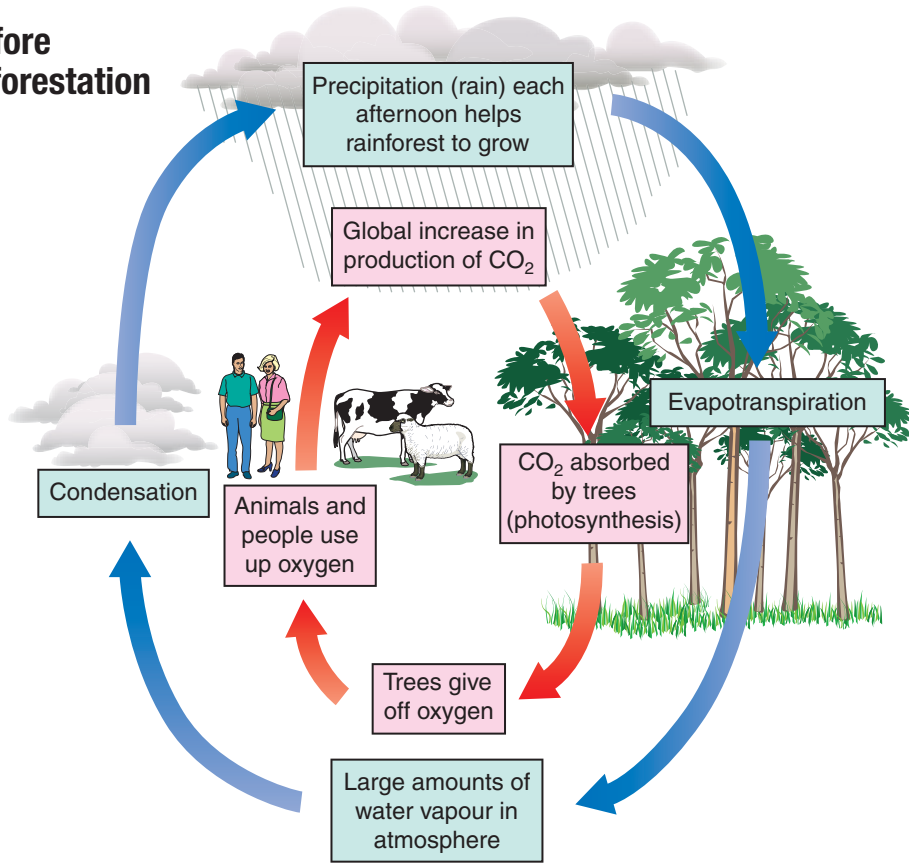
Tropical fires of disaster

- Fifty percent of a tree is carbon so burning forests adds to the carbon dioxide in the atmosphere and in turn the greenhouse effect.
- Brazilian Amazonia is probably providing 700 million tonnes, or 10% of all the CO₂ added to the atmosphere by humans.

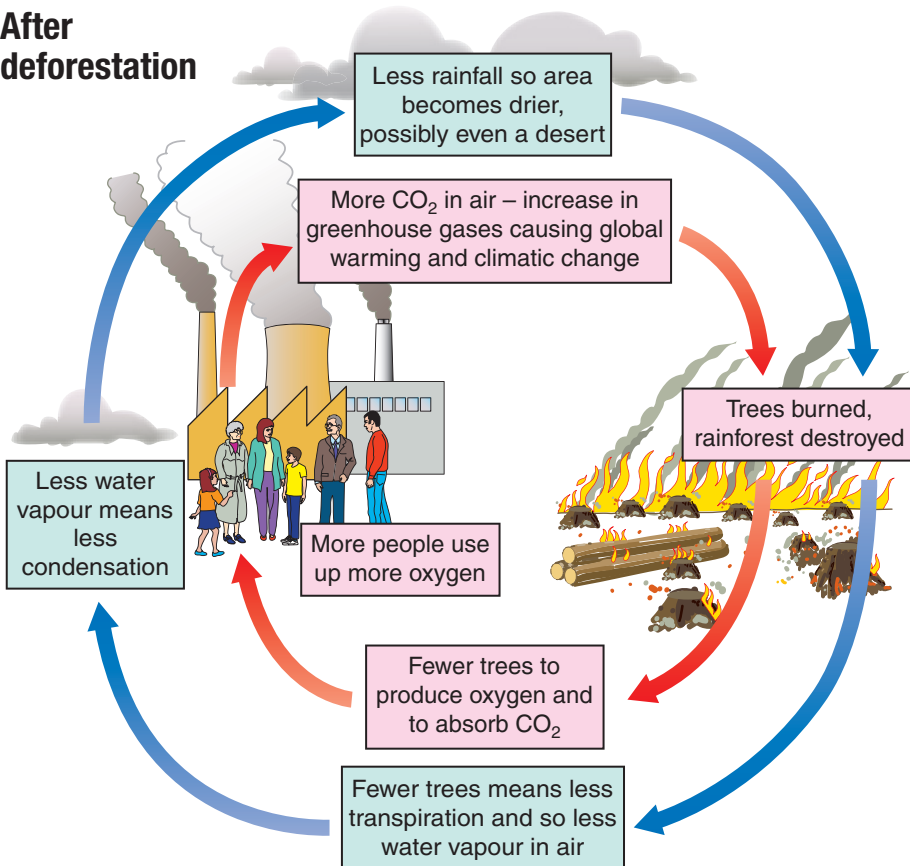
RESOURCE 4

Deforestation affects us all

Before deforestation



After deforestation



RESOURCE 5

Forest sustainability



World Commission on Forests and Sustainable Development

Final Report Released

Among its recommendations were:

- 1 To stop the destruction of the Earth's forests.
- 2 To use the rich forest resources to improve the lives of native forest communities.
- 3 To involve local people in decisions about the forests.
- 4 To apply sustainable management so forests are not lost forever.
- 5 To stop subsidising forest products.
- 6 To monitor the rate of forest clearance.
- 7 To make better use of our knowledge about forests.
- 8 To educate people about the importance of forest communities.

RESOURCE 6

Working together for sustainability



- FSC is a stakeholder owned system promoting responsible management of the world's forests.
- FSC trademark provides international recognition to organisations who promote the growth of responsible forest management.
- FSC product label allows consumers to recognise products that support the growth of responsible forest products.
- Thousands of wood products are produced using FSC certified wood and carrying the FSC trademark.
- Over the past ten years, 50 million hectares in more than 60 countries have been certified according to FSC standards.
- FSC operates through its network of national initiatives in more than 34 countries.
- FSC undertakes marketing programmes and information services worldwide.

Midishi village, Somalia

Action Aid has helped villagers to establish a tree nursery so young trees can be grown. Later they can be transplanted in the local area.

A local farmer gave a plot of land that was enclosed by a wall. Seedlings were planted but first attempts were disappointing because of lack of rain and poor seeds.

When the project is established local people will take over completely. Fruit trees such as peach and guava have been planted together with trees which will stop soil erosion.



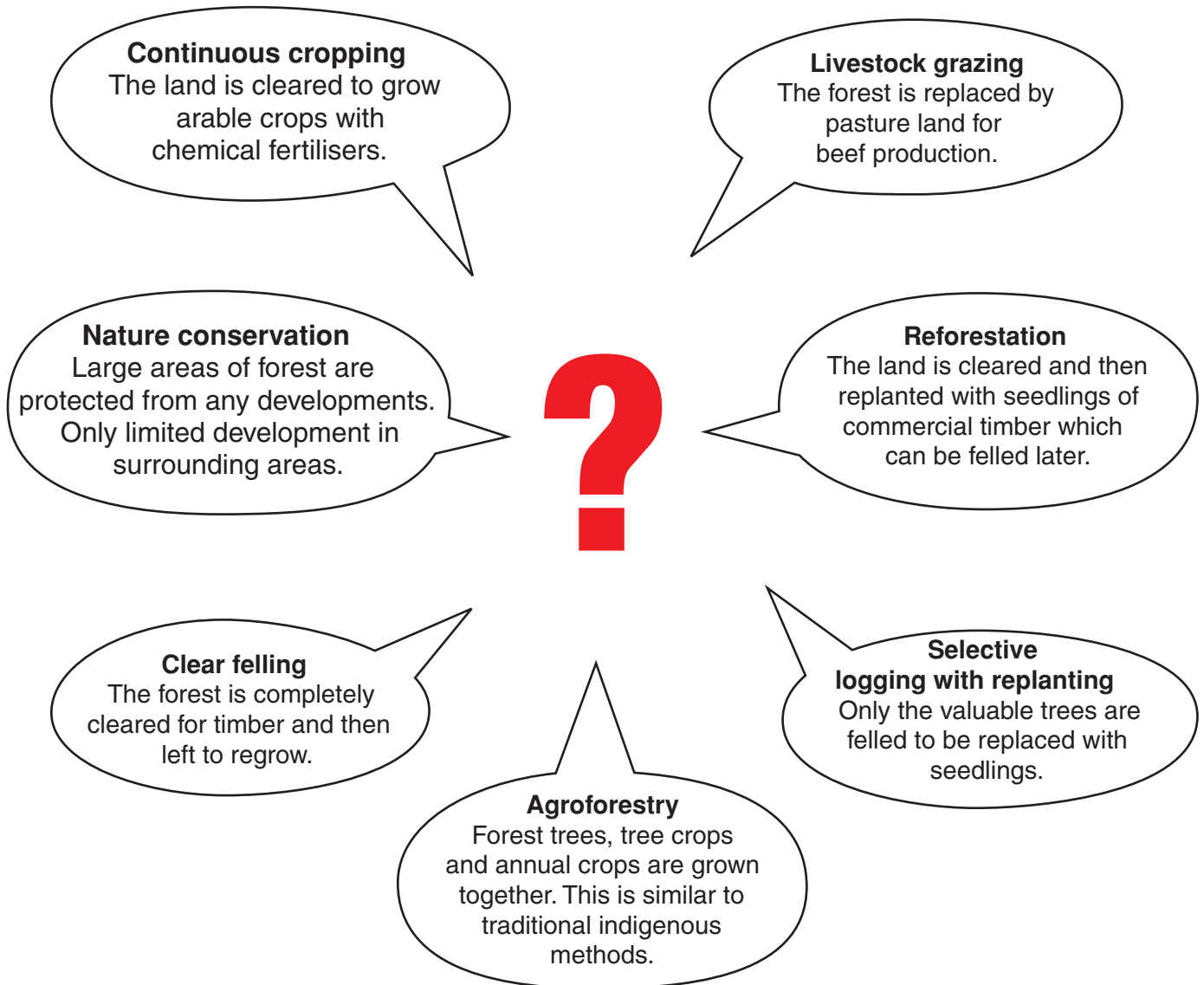
A local tree management scheme in Somalia

© ActionAid

RESOURCE 7

Managing forests in the future

Here are some different ways of managing the forest in the future. Each has advantages and disadvantages. Some exploit the forest: others protect and conserve it.



RESOURCE 8

Britain's forest under threat

A 'forest' used to mean land set aside for hunting. Today, a 'forest' is a large area of woodland, though little remains of Britain's natural woodland. Most has been cleared to give more land for farming and to provide wood for building houses, as an industrial raw material, for charcoal and for fuelwood.



'You mean we are all property developers who have only joined to eye-up the green belt?'



Close grazing by sheep prevents new tree growth in the uplands

© iStockphoto.com / Paul Butchard

Areas where trees have grown for several hundred years are called ancient woodlands. At least 50% of Britain's ancient woodland has been lost in the last 40 years. This has happened in upland and lowland areas.

Profits from crops such as wheat or from rearing cattle, are greater than from woodland. Under EU agreements, farmers are paid a fixed price for many products, even if too much is being produced and the product cannot be sold.

Most planning laws do not apply to farmland. Farmers are mostly left to use their own judgement. Their need to earn a living often conflicts with conserving the environment for the future. Woodland sometimes stands in the way of 'progress', though some schemes are rejected.



Large fields are needed for mechanised farming methods

© iStockphoto.com / George Cairns

RESOURCE 9

Forest management in the UK

a) Aims of the UK Forestry Commission

To advance knowledge and understanding of forestry and trees in the countryside.



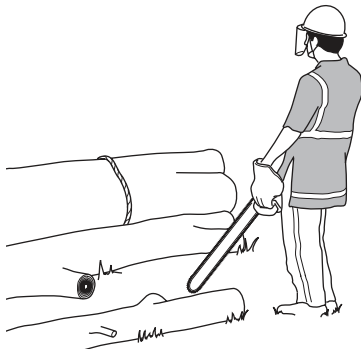
To develop and ensure the best use of the country's forest resources: and to promote the development of the wood-using industry and its efficiency.

To undertake research relevant to the needs of forestry.

To combat forest and tree pests and diseases.

To advise and assist with safety and training in forestry.

To encourage good forestry practice in private woodlands through advice and schemes of financial assistance and by controls on felling.



To develop its forests for the production of wood for industry by extending and improving the forest estate.

To protect and enhance the environment.

To provide recreational facilities.

To stimulate and support the local economy in areas of depopulation by the development of forests, including the establishment of new plantations, and of wood-using industry.

To foster a harmonious relationship between forestry and agriculture.

In pursuit of the foregoing objectives to manage the estate economically and efficiently, and to account for its activities to Ministers and Parliament.

In the UK, the Forestry Commission is a government body which manages about 40% of the woodland area. It has several aims, some of which seem to conflict with each other. For example many native trees have been replaced by fast growing conifers to make a quick profit. These have damaged ecosystems and many action groups are now campaigning for the restoration of native woodlands.

b) Campaign to save native woodland

Felling plan to save native trees

Millions of conifers and other non-native trees are to be felled in the next 20 years to regenerate indigenous trees in England's woodland.



England's ancient woodlands have been threatened by foreign species

© woodlandpictures / Kenneth Watkins

Oak, ash and beech would be encouraged to naturally seed and regenerate, said Forestry Minister Jim Knight, and Lord Clark, of the Forestry Commission.

Shading from conifers and over-grazing by livestock had taken their toll on ancient and native woodland, they said.

Lord Clark said woodlands were 'jewels in the crown' and needed to be saved.

RESOURCE 10

About UK woodland:

- Trees and forests are crucial to life on our planet. They generate oxygen, store carbon, play host to a spectacular variety of wildlife and provide us with raw materials and shelter.
- Ancient woodland is the last remaining link with the original wooded landscape, which covered the UK after the last Ice Age.
- The UK is one of the least wooded places in Europe. Only 12% of the UK is woodland, compared to an average of 44% in other parts of Europe.
- We have around 50 species of native trees and shrubs, including three conifers, in the UK.
- In 1980, native species accounted for only 5% of trees planted in the UK. Thanks, in part, to the efforts of conservation organisations like the Woodland Trust, by 2000, this figure had risen to over 40%.
- Ancient woodland now accounts for only around 2% of the UK's land use.
- Nearly 50% of the ancient woodland that still remained in the 1930s, has since been either lost to agriculture and development, or damaged, mainly by conifer plantation.
- Our version of the 'rainforest', ancient woodland is home to more threatened species than any other UK habitat and is irreplaceable.
- Ancient woodland is fragmented; eight out of 10 woods are less than 20 hectares (50 acres) in size and nearly 50% of ancient woods are less than five hectares.

About the Woodland Trust:

- The Woodland Trust was set up in 1972 by Kenneth Watkins OBE.
- The Woodland Trust has more than 30,000 members and supporters.
- They look after over 1,000 woods across the UK, covering 20,000 hectares (50,000 acres).
- The Trust has planted more than eight million native trees in the UK, more than any other conservation organisation.
- Around 15 million people visit Woodland Trust woods every year.
- In recent years the Trust has spent almost £60 million on woodland conservation.
- It was the first major landowner to have all its woods in England, Scotland, Wales and Northern Ireland accredited by the Forest Stewardship Council (FSC).
- Its agenda highlights contemporary challenges – the threat to ancient woodland, improving diversity, increasing native woodland and increasing enjoyment to woodland.
- With this clear vision, the Trust aims through a mix of acquisition, lobbying, education and fundraising to keep woodland at the forefront of environmental progress.

RESOURCE 11A

Saving an Ancient Woodland

Wentwood Forest

Past and present

Wentwood Forest, the largest planted ancient woodland site (PAWS) in Wales and the ninth largest planted ancient woodland in the UK, is a remnant of a vast woodland that once stretched from the River Usk to the Wye Valley in South Wales. Lying a few miles to the north east of Newport, it has a long and venerable history – it is mentioned in texts dating back to the Dark Ages, and was once a hunting forest for Chepstow castle.

Ancient woodland is the richest wildlife habitat in the UK and is our equivalent to the rainforest. Wentwood Forest, and the surrounding area, is home to thousands of wildlife species. Over 23 species of native butterfly; 75 species of bird, including turtle doves, nightjars and spotted flycatchers; dormice; otters; pipistrelles; plus ancient woodland plants, such as wild daffodil, wood sorrel, and yellow pimpernel, have all made the wood their home.

The first conifers were planted at Wentwood by 1880 and the majority of its native trees had been cut down by the end of World War II. They provided an invaluable supply of timber for the first and second World Wars. When the woodland was replanted in the 1950s and 1960s, the natural broadleaf splendour was replaced with non-native conifers, damaging much of the remaining woodland habitat.

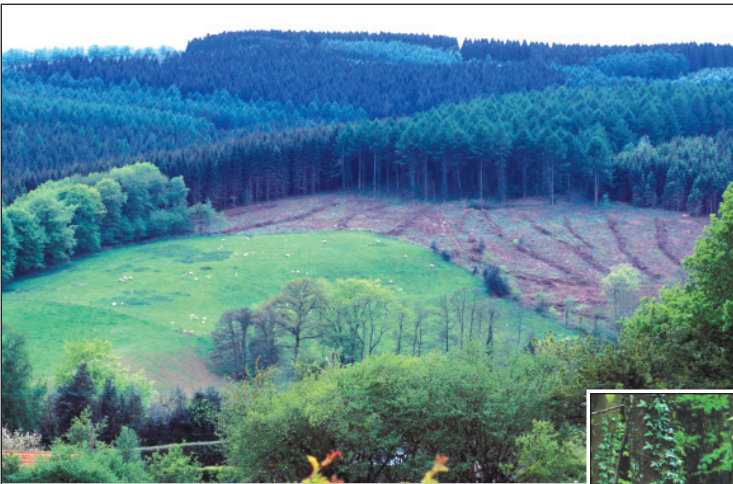
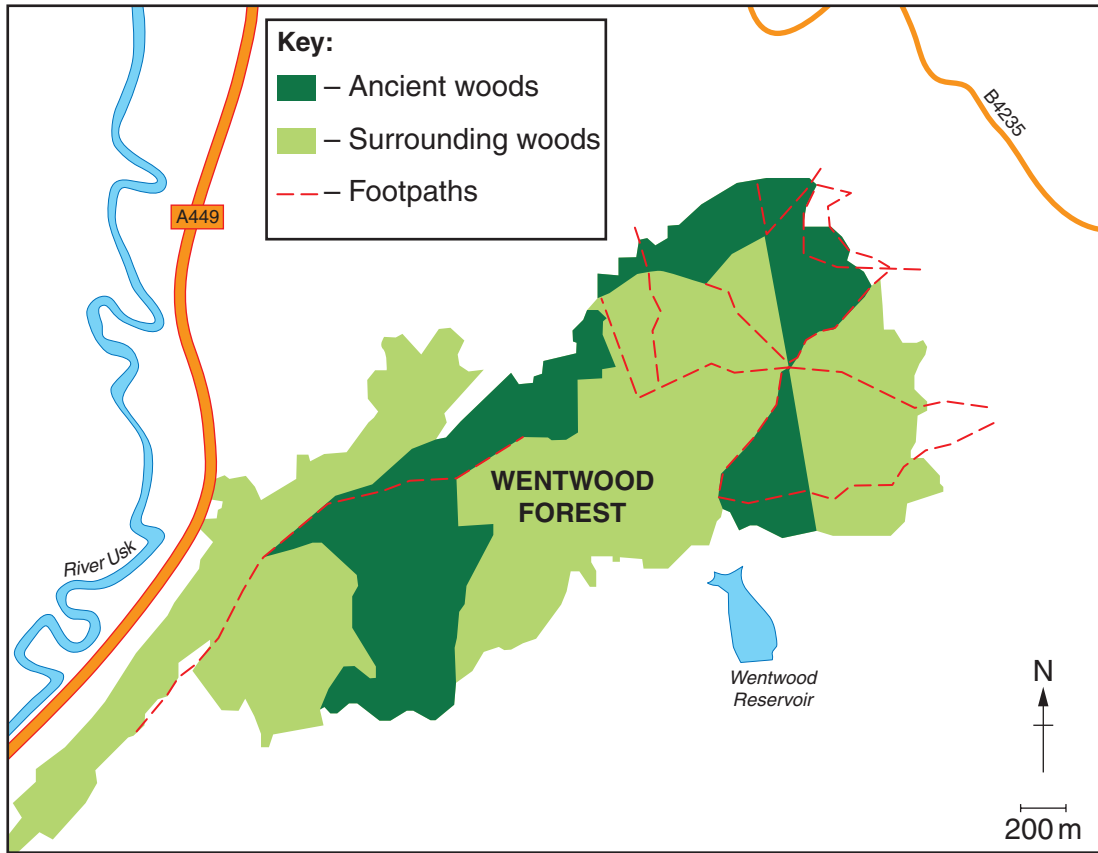
However, all hope is not lost. Ancient woodland plants and wildlife have hung on, fighting for survival in the inhospitable darkness below the conifer canopy. The Woodland Trust completed the purchase of nearly 352 hectares (nearly 900 acres) of Wentwood Forest in 2006 and now has the chance to restore this ancient woodland to its former glory.

‘Saving Wentwood for the nation is a remarkable achievement. The overwhelming public response to this appeal shows how ancient forests hold an enduring place in people’s hearts. Restoring this ancient site will help secure the future of many threatened wildlife species and provide a wonderful place for people to visit. It is a marvellous example of what could be achieved for other irreplaceable ancient woodland sites under threat from commercially planted conifers.’

Dame Judi Dench – Academy Award winning actress

RESOURCE 11B

Location of Wentwood Forest



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