



Uses of the water environment

Some 4.6 million people live in the Environment Agency's Southern Region, which covers Kent, Sussex, Hampshire and the Isle of Wight. This is an area of 10,979 square kilometres and has a population density of 419 people per square kilometre, one of the highest in Britain. Not surprisingly this puts enormous pressure on the environment. The character of a river is very dependent upon the type of land-use next to it and how the river has been managed or controlled in the past.

The strain on the environment increases when an area is designated by The Countryside Commission as an Area of Outstanding Natural Beauty (AONB), or by English Nature as a Site of Special Scientific Interest (SSSI). This is because they are likely to be visited by many people. In Southern Region there are 353 SSSIs, of which 258 are dependent on water, including large sections of the Beult, Arun, Test and Itchen rivers. AONBs include the North and South Downs, Chichester Harbour and parts of the Isle of Wight. Within these areas and along these sections of river, certain activities are prohibited and rare plants and animals are specifically protected to conserve and protect the environment. These areas are very attractive, since they are often unspoilt by human activities such as urban sprawl (large areas covered by towns and cities) and industries, and are in great demand from many different groups.

The Role of the Environment Agency



Among its many roles, the Environment Agency is responsible for **flood defence**, protecting people and property from flooding, and the **conservation** of the natural habitat - two duties which are not always completely compatible. The Agency works in partnership with many other agencies and interested groups to ensure that the environment is protected. The guiding principle is always to attempt to prevent problems rather than wait for them to occur.

In order to achieve these aims, the Agency produces **LEAPS (Local Environment Agency Plans)**. A catchment is not only a river and its **tributaries** (the smaller streams that join the main river), but all the land and underground water connected with it. Southern Region is divided into thirteen catchment systems - some of these are based on a single river (eg River Darent) while some group together several rivers and streams (eg Isle of Wight). Copies of completed LEAPS are available from your local Environment Agency office.



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1. Housing

Housing developers want to build new houses, particularly high price 'executive homes' for London **commuters**. These are people who work in London but prefer to live in the countryside, and are prepared to pay a great deal for the privilege. This causes problems as houses and roads prevent **infiltration** (water sinking into the ground). Another problem caused by these types of development is that any nearby rivers may be straightened or deepened to prevent flooding, thus destroying natural habitats and the general character of the landscape. Urban areas also produce much waste (sewage), but in Southern Region, many towns are in the upper reaches of rivers, so sewage cannot be **discharged** (released into the river) into them as there is so little water in them at this point.

2. Farming

Most land is owned by private landowners, many of whom are farmers. Farms are operated as a business and must make a profit or, at least, break even. For this reason, the farmer may want to use chemical **fertilizers** (which help the plants grow) and **pesticides** (which kill weeds and pests) to get the best possible crop from the land. **Run-off** (when rain washes loose materials off the land and into rivers) may cause pollution of rivers and streams if it contains these chemicals. Farmers may also want to use water for **irrigation** (watering crops), which can lead to water shortage problems. Another problem can be **overgrazing** when too many farm animals are kept on a small area, causing damage to the riverbank.

3. Industry

Although there are few very large industries in Southern Region, there are many small factory units and a lot of **mineral extraction**, when rocks such as gravel are dug up. Factories may take water for cooling or cleaning, which, after it has been used, may lead to warm or polluted water being released into the river. This is very carefully monitored by the Agency to prevent any pollution incidents.

4. Recreation

Unspoilt areas such as AONBs are very attractive as places for recreation and leisure pursuits, such as boating and canoeing. It is estimated that 10.6 million people will visit the Region for a holiday, so putting even more pressure on the environment, particularly in popular coastal areas such as Cuckmere Haven



EA - Southern

Local Action

In producing a LEAP, the Agency accepts that every area of great scenic attraction has its own particular problems so it is not possible to produce national, or even regional, plans or sets of rules or guidelines. In consultation with other groups such as English Nature, the Agency produces specific guidelines for each area. This means that the individual needs of what can sometimes be a very small area can be met.

Before they can begin to address the needs of any small area, the Agency carries out detailed assessments. These can relate directly to the quality of the water or be wider reaching to include a "River Corridor Survey", which includes the river together with the land 50 metres on either side, or a

full "River Landscape Assessment" which investigates the rivers and all the surrounding area. These act as a starting point from which a LEAP can be produced explaining how to work to maintain and/or improve the environment.

The aim of a LEAP is to balance all the demands on the environment in a realistic way. In other words, accepting that activities such as water abstraction and waste disposal must take place, but making sure they do not cause any damage to the natural environment or affect recreational activities. Similarly, all the groups involved must make realistic and acceptable demands on the environment. In effect, after weighing up all the arguments, the Agency

makes judgements on the best way to use the environment, causing least damage.



Other education factsheets in the series:

1. River Flooding
2. Coastal Flooding
3. The Water Cycle
4. Pollution
- 5. Uses of the Water Environment**
6. Environmental Management
7. Conservation
8. Life in the Rivers
9. Taking Care of Waste from Industry
10. Managing Your Waste
11. Drought in the South

Environment



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in Sussex. As well as the problem of dropping litter, large numbers of people can cause damage to the water environment by walking or cycling along towpaths or on footpaths next to rivers, since they can increase erosion, wearing away the riverbank.

5. Fishing

In one year the Environment Agency issued 78,586 fishing licences in Southern Region. But because the area is so close to London many more people may be using lakes, ponds and rivers within the Region, increasing the pressure on the environment.

6. Navigation

Boats can also cause riverbank erosion if they travel too fast, so the Agency enforces strict speed limits on some navigable waterways, such as the Medway in Kent. There are

89.1 km of inland waterway in Southern Region, mostly in Kent, of which 54.8 km is monitored by the Agency. Approximately 2,000 boat licences are issued each year, though the number is growing, leading to an increased risk of pollution.



7. Water Abstraction

In Southern Region 2,660 licences have been issued giving people/companies permission to extract up to 7,626 million litres of water per day. As the population of the area continues to grow,

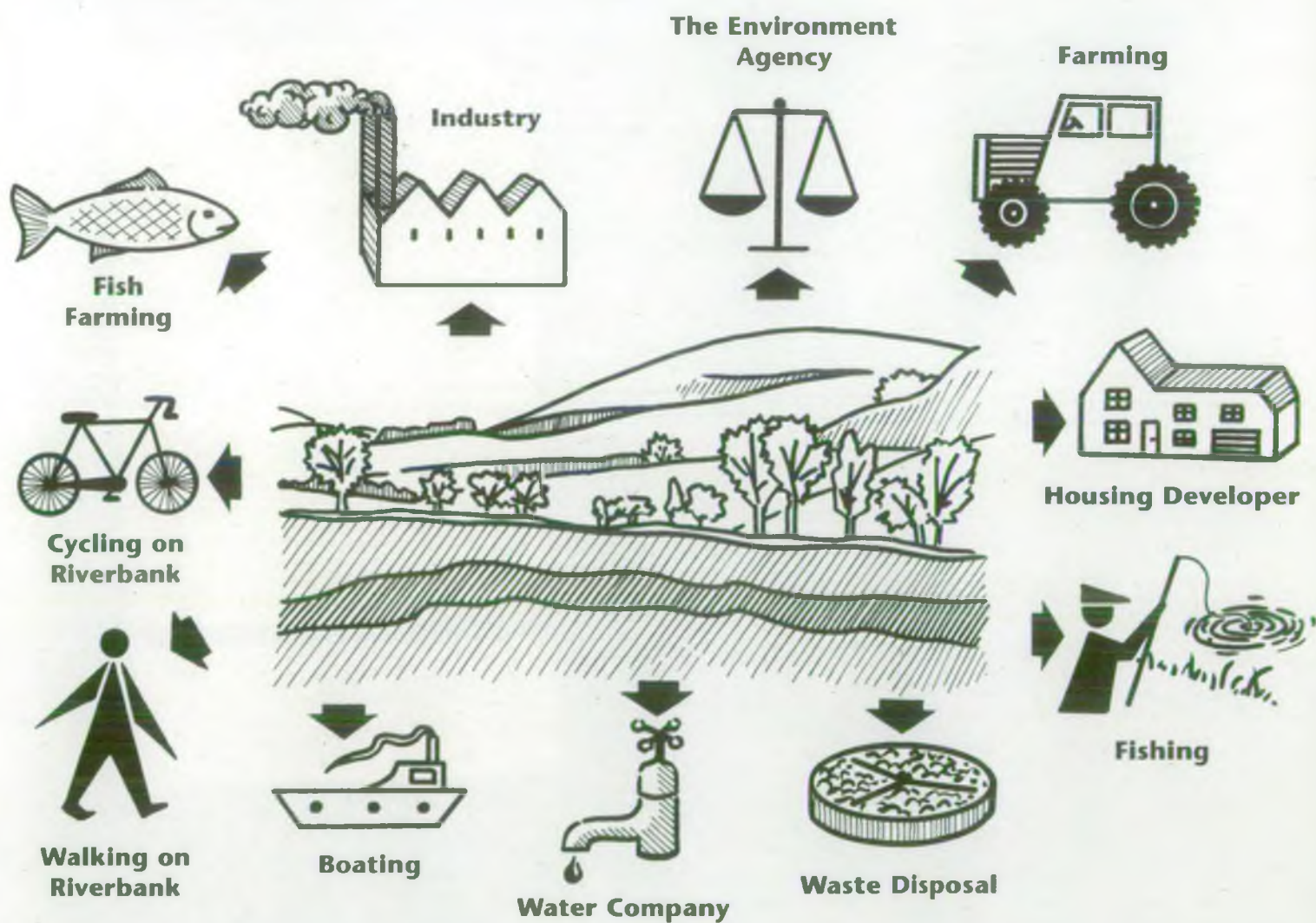
more water is demanded. However, if too much water is taken from a river, it can lead to destruction of riverbank habitat or even dry up the river completely. As there is less water in the river there is also a greater risk of pollution, either from permitted discharge of waste water or run-off.

8. Waste Disposal

Hundreds of discharge consents are issued by the Agency in Hampshire, Isle of Wight, Sussex and Kent every year. These give people permission to release waste into the water environment. Although the amount and quality of this waste is very carefully monitored by the Agency it places serious pressure on rivers and coastal areas. Disposal of sewage into the sea is a special concern for many people, particularly if it is near to a popular beach.

The water environment

The conflicting demands on the water environment



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