Rivers and riverside land in the Kent Downs landscape

Rivers, streams, springs and ditches include a great variety of habitat and landscape types and are important features of the Kent Downs.

The Kent Downs is crossed by three major rivers, the Darent, Medway and Stour. All originate away from the Kent Downs but in creating deep, and in places, steep sided valleys that bisect the scarp and hinterland of the Kent Downs, they add greatly to its landscape quality as well as creating valuable wildlife habitats.

The river Darent in west Kent flows through a narrow flood plain of rich soil which has some significant sites dating back to the Romans who settled and farmed in the valley. Much of the riverside land is still farmed, although residential and commercial uses have become very important. The river itself has been manipulated, channelled and diverted many times; records show a mill settlement near Otford as early as 822. Channel modifications, gravel extraction and urbanisation are among factors that affect the quality of the Darent, although stretches are still good chalk river habitat.

The river Medway is a major tidal river and an important east-west divide in mid Kent. It is said to have been crossed by the invading Roman army in AD43 and Roman settlements include a villa at Eccles. However, 19th-century industrial activity such as quarrying for chalk and the development of the cement industry has left more of an industrial than a rural landscape heritage. Even so the valley has valuable habitats such as ancient semi-natural woodland, unimproved chalk downland and extensive tidal marshes. These habitats support many important species including arable wildflowers, orchids, dormouse, water vole, adder, great crested newt, breeding waders and other bird species.

The river Stour in east Kent changes in character as it flows through the Kent Downs from the south west. At the same time it improves in water – and landscape – quality thanks to the many chalk springs that feed it,

as well as the change in land use from mainly arable to mainly permanent pasture. From Wye to Chilham it is an excellent chalk river habitat, valuable for invertebrates, fish and other wildlife. The course and flow of the Stour have been influenced over centuries by structures such as weirs, water mills, sewage works and diversion for the construction of the railway. The greatest modern threat to the river is from over abstraction leading to low water flows.

The Kent Downs are also known for the large number of springs which arise where the base of the chalk meets impermeable clay soils, giving a reliable and pure flow of water. As well as feeding the three main rivers these springs also supply their smaller tributaries and other rivers, such as the East and West Stour, the Len, the Seabrook Stream and the Little Stour. The lower reaches of these rivers are also often heavily modified, even before they reach such urban areas as Maidstone or Ashford, by intensive agriculture or canalisation to reduce flooding.

That part of the Low Weald which is within the Kent Downs AONB has no major rivers but its heavier soils are drained by ditches, some seasonal. The network of ditches creates a varied landscape, and often a valuable wetland flora, especially where permanent pasture has survived and the ditches are not deep and steep sided.

Finally, seasonal streams or 'winterbournes' are a distinctive feature of areas such as the Elham Valley and the upper reaches of the Little Stour. Though they may only flow once every few years, their courses and the valleys they occupy add much to the character of the Kent Downs.

Water crowfoot

Important features on rivers

Rivers and surrounding grassland, ditches and trees are important for a variety of wildlife and require sympathetic management.

Aquatic vegetation
Chalk rivers can hold up to 50 aquatic plant species per kilometre. Species such as water-crowfoot add diversity to the river channel, create an attractive river feature, and are particularly important for fly larvae and overwintering brown trout and salmon.

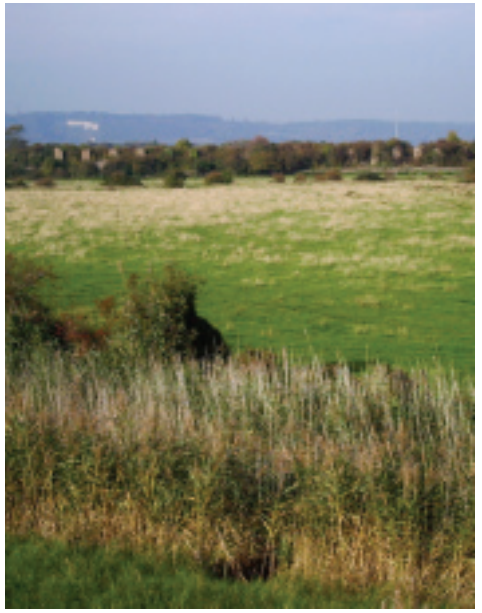
Ditches
Often a forgotten riverside feature, and also found as a feature of fields further away from rivers. Can hold both standing and running water and support valuable plant communities and aquatic insects. Ditch clearance works can be very damaging if carried out unsympathetically.

Marginal vegetation
This describes the plants that prefer the damp and marshy conditions found on the edge of the river channel. Species such as reeds encroach into the river as summer progresses, narrowing the channel and providing cover for a range of wildlife.

Riverside grassland
Both an important landscape feature and wildlife habitat. Grassland adjacent to rivers is prone to occasional flooding. This results in fertile and productive soils ideal for grazing. Historically some riverside grassland was managed as water meadow to encourage this process of regular flooding.


Marginal reedbeds


Ditch network


Grazing marsh


Giant hogweed

Riverbanks

Riverbanks may be subject to considerable change with both erosion and deposition occurring due to the natural forces of the river and should be left alone where possible. However, they may be subject to unnatural pressures such as cattle causing collapse and resulting in the loss of important habitats.

Riverside trees

These form an important historic and wildlife feature. Many different species either naturally grow or are planted along rivers. Native species of alder and willow are found either as individual pollarded specimens or as lines or blocks of wet woodland.

Riverside habitat

Riverside trees

Water vole

Rivers and riverside land management

Management of aquatic vegetation

What is aquatic vegetation?
For the purposes of this section, aquatic vegetation relates to submergent plants (those found completely within the water) and marginal plants (those plants that live at the edge of the river and prefer to have their feet in the water or wet soil, with leaves above the water surface). The tidal River Medway and its estuarine features dominate the riparian habitats within the Medway LCA. The water will at times be relatively salty which will have an impact on the potential mix of species found in the grazing marsh with the Medway LCA. There are no sections of salt marsh within the AONB, but they exist very close to its boundaries, indicating the maritime influence. These riverside grazing marshes, may have more similarities in their ecology, therefore, to those found along the Kent coast, than to the typical alkaline tolerant species found within chalk streams.

When should I consider management of aquatic vegetation?
Generally speaking, control of aquatic vegetation should not be required particularly. Don't forget that aquatic vegetation is a positive feature for rivers, and so the general presumption is to keep it. It provides an important wildlife habitat, is visually attractive even on a landscape level and provides shelter for fish fry to develop. However there may be localised circumstances where management of aquatic and/or marginal vegetation is desirable due to its urban environment, proximity to sensitive structures or close to a culvert.

Often, when there is excessive weed growth, it may be controlled by the Environment Agency during Flood Risk Management maintenance work. However, this is not always the case. If you feel that aquatic weed growth is becoming detrimental to the river, first seek professional advice. Contact your local Countryside Management Partnership (CMP) or the Environment Agency, either of which should be able to advise you further.

How should I control aquatic vegetation?
The recommended method of control is simply by cutting. Other control methods such as chemical and biological control are available, but are specialist procedures and best left to the experts. Many species can be easily removed using either a garden rake or a muck rake (crome). Alternatively, in shallow waters, simple pulling by hand is possible. More substantial plant growth may require cutting tools. The most effective is the chain scythe, although this requires two people to operate it. This is a fairly specialist tool, which may be difficult to source, and has the disadvantage is that it can remove vast swathes of plant growth.

It is best to cut in an upstream direction, as this allows any wildlife that may be present in the weed to float downstream and recolonise other parts of the river.

Small stands of marginal vegetation such as reedmace, reed or yellow flag iris can be pulled. However, this can be hard work on more extensive stands.

Advice should be sort from the Environment Agency about whether to or how much vegetation to cut from the river.

What should I do with the cut vegetation?
All cut vegetation must be removed from the river. If it is left and allowed to float down river, there is a danger that it could block culverts and bridges and ultimately cause flooding. Small amounts can be left on the banks of the river, but is not really recommended as it can smother important bankside communities. Ideally, all cut vegetation should be left to drain on the bank for no more than a day and should then be taken well away from the river and composted where it will not harm other vegetation. Bear in mind that as it breaks down, it is likely to produce nutrient-rich run-off that could be damaging if it reaches the river.


Vegetation removed and left by pond to allow animals to escape

Management of riverbanks

The riverbanks are the link between the river and the surrounding land. Their management is key to the appearance of the river, along with its ability to support valuable wildlife.

There are three factors to consider when undertaking management of riverbanks:

- Physical erosion
- Bank vegetation
- Invasive plant species.

Physical erosion of the banks

Riverbanks may become eroded for a number of reasons. These may include through the physical action of the river scouring and undercutting; overuse or abuse of banks by human action or by livestock; or through events such as a fallen tree.

What should I do if the riverbanks are becoming badly eroded?
It should be remembered that rivers are dynamic and that forces within them are constantly changing. Erosion and deposition are both parts of these natural systems and will always exist within rivers. Where any erosion of the bank does not pose a danger, consideration should be given to allowing this natural action to take place. Where there is a need to repair this erosion or prevent any further deterioration of the bank, there are a number of options: wooden revetments, willow spiling, brushwood fill, vegetated mattresses or gabions. Soft engineering methods are often preferable providing greater biodiversity benefits.

It should be noted that the repair to any major erosion is often a specialist operation and your first action should be to contact the Environment Agency (the works will probably need consent). Often repairs to riverbanks can change the flow of water within the river with repercussions further downstream. This may result in new bank erosion or substantial silt deposition. Therefore only small works should be carried out yourself.


Eroded bank

What are wooden revetments?
Wooden revetments are installed to create a solid retaining wall for the bank and prevent further collapse. Wooden stakes are driven into the riverbed in front of the bank, and retaining lengths of wood placed behind. This wood can be either sawn timber (untreated), or for a more natural appearance, rough-cut logs. Oak and sweet chestnut is the ideal material as it is less prone to rotting and will last several years. Soil is then placed behind this and compacted. For detailed specifications, please contact your local CMP.

What is willow spiling?
Willow spiling is a traditional method of bank stabilisation and involves weaving willow around stakes driven into the riverbed. This creates a solid structure behind which soil can be placed and compacted in the same way as revetments. Willow spiling does not create such a strong retaining wall, but has the advantage of creating a very natural looking bank. If freshly cut willow is used (particularly for the stakes) these are likely to send out fresh shoots and roots that establish a well-vegetated and stabilised bank. In addition, spiling can be undertaken in front of wooden revetments to soften the effect of work undertaken.

What is brushwood fill?
Brushwood fill is the ideal technique for repairing hollows in riverbanks often caused by eddying currents. Brushwood 'faggots' consisting of light branches or brushwood wired together are laid within the hollow in alternating layers and staked in place. These can then be topped with soil and turf if required. The 'faggots' trap silt and allow the bank vegetation to re-establish. For detailed specifications and suppliers, please contact your local CMP.

Management of grassland vegetation on banks

Why manage grassland vegetation on the riverbanks?
Riverside vegetation tends to be very varied in nature. The gradual change from wet to dry conditions creates different habitats and therefore increases species diversity. Appropriate management helps to maintain these species and retain the attractive nature of a rural river. Other benefits include preventing the establishment of scrub (which may detract from the river's appearance), preventing the establishment of problem species such docks and thistles; and increasing the structural stability of the banks.

What options do I have for management?
Grazing This is the ideal method of management as it maintains a suitable habitat throughout the year. A fairly large area of land is required to make grazing appropriate and therefore is normally associated with management of land away from the river. Cattle are considered the most appropriate type of livestock to use, but should not graze before July, as disturbance of ground nesting birds is likely. Low density of livestock is preferred as this will retain an uneven grass height and allow a variety of plant species to benefit. In many parts of the Kent Downs AONB, this would have been the normal form of management of river banks, altough much has been converted to arable production.


Willow spiling

Cutting Often an easier method for controlling bankside vegetation, particularly for small areas of land. However, it can be a much more destructive form of management as it often results in the wholesale removal of the wildlife habitat, and can produce a manicured and over-managed visual effect. If grazing is ruled out then care must be taken with the timing and extent of the cutting. In areas used frequently for angling, rather than cutting large swathes of bank, cut a narrow path to the water to retain as much bankside vegetation as possible.

When to cut Cutting after the end of July is generally considered preferable as it avoids the peak nesting time for birds, maintains a diverse population of plant and herb species, and retains food and shelter for wildlife for a longer period over the summer

How to cut
Never completely cut all of the bankside vegetation. Always leave at least 10% of the bankside vegetation uncut, and preferably as much as 40%. Leave large patches of vegetation uncut that extend all the way from the water to the top of the bank to ensure that cover is retained for riverside mammals such as the water vole, and so that the full range of plant species present are allowed to flower and set seed. Rotate the cutting pattern over the years so that no patch of bank is left uncut for more than three years. This prevents difficult weed species from becoming established. A strimmer can be used for cutting small areas, but over larger lengths, a tractor mounted flail may be more appropriate.

Disposal of cuttings
Ensure that any cuttings are disposed of well away from the river in an area of low conservation interest. If left where cut they can suppress species of value and allow others such as nettles and thistles to take over. Along smaller lengths of banks such as in gardens, the cuttings can be simply raked off and placed on a compost heap. Longer lengths, and particularly where a flail has been used, removal of cuttings can be more problematical but not impossible.


Lapwing

Herbicides
Herbicides should only be considered as a last resort where grazing and cutting have failed. Their general application should not be undertaken without detailed advice from the Environment Agency. In addition, consent is required for their use near a river from the same authority, however minor the application. The only time application may be justified is to deal with persistent problem species, and even then only to spot treat individual plants (see invasive species section).

Do nothing
Can be considered where excessive vegetation growth is not a problem, or in areas where regular maintenance works is carried out by the Environment Agency, Internal Drainage Board or another authority.

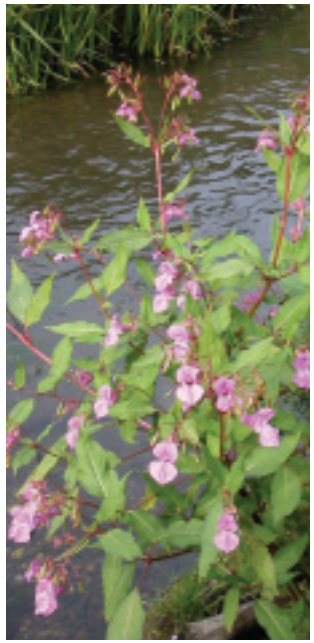
Non-native invasive plant species

These species of plant are becoming an increasing problem along rivers. All originate from beyond the British Isles and have escaped either from garden collections in the past or have inadvertently been released into the wild. Without any natural control, they are able to spread rapidly and smother native vegetation and wildlife. Some are even dangerous to human health.

The bankside plants that are of greatest problem are the giant hogweed, Japanese knotweed and Himalayan balsam. Please report any findings of any of these species to your CMP.


Giant hogweed


Japanese knotweed


Himalyan balsam

Giant hogweed

- **Identification** An impressive looking plant identified by its tall flowering stem reaching up to five metres tall in June and July. Both the leaves and the stem (which can be 10cm in diameter) have small hairs coated in a poisonous sap. Even the slightest touch can cause painful blistering and severe irritation. In addition, each flower head produces over 50,000 seeds a year, and these can be transported downstream to colonise other areas.
- **Control** May be best controlled by spot spraying with an approved herbicide. Contact your CMP for further details. Seed dispersal can be prevented by removing the flower head before the seeds ripened, but should not be attempted without protective clothing and knowledge of what you are doing.

Japanese knotweed

- **Identification** A rampaging species classed as the seventh most invasive plant in the world. Has large heart shaped leaves and creamy clusters of flowers in the late summer. Its dense growth habit smothers out all other vegetation, and it will rapidly spread with an underground stem (rhizome) network.
- **Control** Herbicide control may be the most straight-forward option contact your CMP for further details or the Environment Agency website. Cutting back barely weakens the plant, and even increases the risk of it being spread. This is due to its ability to sprout from small fragments of rhizome (the root of the plant). Any soil contaminated with Japanese Knotweed is considered controlled waste.

Himalayan balsam

- **Identification** An attractive plant that is already flourishing along many of our rivers, and particularly in the upper reaches. It is an annual species reaching up to three metres in height and producing purple-pink flowers from June onwards. The seeds are expelled explosively from spring-loaded pods, and can therefore be transported downstream to populate other areas. This plant may cover such large areas that all other plant-life is suppressed.
- **Control** Can simply be pulled from the ground before they seed. However, clearing heavily colonised areas will be very time consuming. Discuss options with your local CMP.

Managing riverside trees

Riverside trees are an important feature of rivers and for wildlife offer foraging areas or sites of refuge.
Many of the ditches and streams are associated with riverside trees and hedgerows, and their appropriate management is vital to maintain the landscape of the Low Weald.

Pollarded trees

Pollarded trees, particularly willow, alder and oak are a common feature along rivers especially where grazing was the common form of management in the past. The practice of cutting the limbs of trees at about 2m above the ground allowed a crop to be taken from the trees without the danger of new shoots being grazed off by the livestock.

Management options
Young or recently cut pollards (within the last ten years) can be safely repollarded without endangering the tree. All the limbs should be cut at the same time, as (particularly in the case of willow) the tree may become unbalanced and split or even fall. Older trees that have not been cut for at least ten years, need to be carefully assessed, and professional advice should be sought. Some old willow pollards may become top heavy as the limbs become larger, and this may result in their collapse. It is often easier to accept that this will happen and plant a new tree to replace it. If the fallen tree does not pose a problem, it can be left to lie where it is and continue providing an important deadwood habitat for insects and other wildlife. Where several pollards are to be recut, do not cut them all in the same year. The result can have a significant effect on the landscape as well as a catastrophic loss of habitat. A good general rule is to cut only a third of the pollards present in each year, and only cut between October and March to avoid the bird nesting season.


Pollarded trees

Riverside scrub

Generally speaking scrub does not cause a problem unless it is within the river channel. In these cases it may present a flood risk preventing water movement when the flow is high. However, riverside scrub is an important landscape feature.

If there is a flood risk, scrub can be coppiced and removed from the river channel itself, either from a boat or by wading in the shallower reaches of the river. Use the method of cutting as specified in the woodland section of this pack, and dispose of the cut material well away from the river.

Management options
General presumption should be to retain trees unless they cause excessive shading. In many cases you will require professional advice, but consider:

- Coppicing (cutting down to ground level) patches of trees in heavily shaded areas along south bank to allow light to reach the water. Most suitable for species such as alder and willow, that will sprout back rapidly.
- Allowing willow or alder adjacent to the river to take over any neighbouring damp soil (if not used for farming and grazing). Wet woodland is an extremely valuable feature (see below) and its natural creation should be encouraged provided it does not affect any other valuable habitat. Care should be taken not to allow trees to invade marshland of value for wildlife. You can obtain further advice from your local CMP.

Riverside scrub

Wet riverside woodlands

These are a very valuable and declining habitat dominated by alder and willow often with a high proportion of deadwood. These woodlands tend to be very secluded and have limited disturbance, and are therefore important for supporting much wildlife. This may include the otter, which has occasionally been seen in the area, and such woodland may offer suitable sites for them to lay up during the day.

Management options

Generally minimum intervention. Do not be tempted to tidy up and remove fallen trees. Allow deadwood to accumulate and for natural clearings to form as trees fall. In areas where there is public access, health and safety should always take precedence, and coppicing can be considered. However, elsewhere allow nature to take over. Consider allowing wet woodlands to expand where land is available. This can be through natural regeneration (seed movement) or by planting up.

Wet woodland

Planting trees near rivers

First of all, consider if the planting of trees is appropriate. Planting new riverside pollards is seldom intrusive on a landscape scale, but are best suited to open stretches of the riverbank. Choose either alder or willow, ideally locally sourced (cut willow branches can be simply driven into the ground and will sprout). More extensive planting for woodland should be carefully planned (see the Woodlands section of this guide) and appropriate species chosen.

It is strongly recommended that you consult your CMP and the Environment Agency before undertaking any large-scale planting.

Recent planting of native woodland

Managing riverside grassland

Wet riverside grassland

How do I know if I have wet grassland?
As would be expected, wet grassland is often found beside rivers. They are low-lying and often inundated by flood events, normally during the winter. This inundation may occur in an unregulated way, or may have been planned and even relied upon for management of the land. The riverside grasslands within the Medway LCA are characteristic of grazing marsh. Indeed their proximity to the Medway estuary and its maritime influence have an impact on the species mix likely to do well. The grazing marshes still have a complex system of ditches, which along with sluices allowed river water to be diverted and to flood the fields. This ability to control the flow of water across the land allowed landowners to increase the fertility of land in preparation for the summer grazing.

Why is it important?
Floodplains dominated by riverside grassland habitats create one of our most attractive landscapes. Unfortunately, wet grassland is a declining

Riverside trees

habitat, with much in the past being drained resulting in the loss of habitat and landscape value. Wet grassland, particularly those with ditch systems are often rich in plants and insect species. The wet meadows provide breeding sites for waders such as lapwing and sometimes snipe, and in the winter provide feeding and roosting areas for much larger numbers. Barn owls are being observed more frequently, with the associated hedgerows and adjacent ditches providing good hunting.

What should I be aiming to achieve with managing wet grassland?
If you already have wet grassland, then to a degree you are already managing the land correctly. However you are aiming to retain the open grassland habitat, diversity of species and characteristic landscape feel. Much riverside land has been drained, and some small riverside fields are associated with semi-urban dwellings. In these cases re-creating wet grassland may not be feasible, but allowing areas close to the river to revert to this type of habitat may be an option.

What options do I have and how do I decide which is the most appropriate?
Riverside grassland throughout Kent has flourished through grazing, and this should therefore always be considered the most appropriate option. However, other factors may need to be considered which make other options more appropriate.

Three options should be considered:
- Grazing
- Mowing
- Doing nothing

Grazing

The traditional and therefore preferred form of management. However only an option if you have a large area to manage and access to stock. Care also has to be taken to ensure that you have the right stocking density to ensure that there is little damage to ditches and riverbanks.

Stock type
Cattle are often the preferred type of livestock for grazing wet grassland. They are better suited to withstanding waterlogged areas and are less susceptible to foot diseases. Sussex cattle are the ideal breed for this extensive type of grazing, but you are more likely to be guided by local availability. If you don’t have access to livestock then RAMSAK, a local grazing ring may be able to help (details in Contacts).

Stocking density
Wet grassland grazing is best suited to low stocking densities. You may only need one animal per hectare (or less) to maintain the grassland, but the effect on the grassland should be carefully monitored to ensure that the year’s growth is removed.

Poaching
This describes when soil becomes churned up and trampled by livestock, most frequently along riverbanks. It can cause the loss of the soil structure, damage to vegetation, and causes silt to enter the river affecting river gravels. The loss of vegetation will damage the habitat of species such as the Water Vole.

Some poaching is considered positive and contributes towards maintaining the diverse plant populations. As a general guide, if stocking density is low, there is no need to worry. However, if stocking density is high, then it may be preferable to fence off the river. High numbers of cattle may also cause collapse of the bank, resulting in the need for remedial action to be taken.

Mowing

May be a more realistic option for small areas of land. However care should be taken as complete cuts can result in the wholesale removal of the habitat. Regular mowing during the growing season should also be avoided to allow plant communities to flower and seed. Follow the guidance outlined in the Meadows section of this pack, and leave a margin uncut beside the river for longer periods.

Doing nothing

If both of the options above have been discounted, then you may feel that doing nothing is the only remaining option. However, this is likely to result in the area eventually scrubbing up, and any grassland habitat being lost. If you find yourself in this position, call your local CMP office for help and advice.

What about adding fertiliser?
Put simply – avoid the addition of any fertiliser. Species rich plant communities on wet grassland flourish without the addition of artificial fertilisers.

What if I think I have a water meadow?
Former watermeadows can be identified by the system of ditches around riverside fields, and often the remnants of sluices that would have been used to control water levels. If you are interested in restoring a watermeadow system on your land, contact your local CMP in the first instance.

Is there anything else I should consider?
A number of other features can be recreated on your land if you wish to enhance the landscape or the wildlife value. These may include the creation of habitat features within the river, or others beside the channel. Riverside ponds, including those connected to the river itself can be of high value for wildlife, but need careful planning. Contact your CMP for further information.

Ditches

How to manage ditches effectively
Ditches can be some of the most diverse wetland habitats. However, ditches need to be regularly cleared to maintain their drainage function, and modern ditch management can reduce this diversity considerably if not done sympathetically.

What is the best way of clearing vegetation and silt from my ditches?
If you only have a small length of ditch on your land, then consider undertaking clearance by hand. Vegetation is often quicker to re-establish, quickly restoring the natural appearance and capacity to support wildlife. Where clearance is undertaken by machine, try to clear ditches on a five year rotation (clearing 20% each year). On wider ditches, it may be possible to clear only one side of the ditch one year, and the other side two years later. Clearance should concentrate on the centre of the channel, keeping work on the banks to a minimum. Ditch banks provide ideal habitat for water voles, and any damage to it could be an offence under the Wildlife and Countryside Act 1981.

How can I enhance the ditch habitat on my land?
Consider widening and deepening some sections of your ditches. In those that normally dry out during the summer, deeper areas may retain water and create an additional habitat. Pool areas can be created at ditch junctions simply by widening the banks. These will rapidly silt up, but only half should be cleared in any one year.

The capacity of ditches to support wildlife is reduced by shading. Clearing scrub from immediately around the ditch particularly on the southern side and avoiding planting trees along this side will improve the light levels. This will increase the variety of plants along the bank of the ditch.

How do I prevent my ditches becoming green with algae, blanketweed or duckweed?
The excessive appearance of one or more of these species is a sure sign that too much fertiliser or nutrients in some form are reaching your ditch. Their appearance suppresses other plant species and reduces the amount of wildlife present. If the ditch is draining a field that has been improved with fertiliser, then there is little that can be done except change the management of that field. However, if there is indirect run-off, then the creation of a grassland buffer zone at least five metres wide will considerably reduce the nutrient input to the ditch. Contact the your local CMP office for advice on the best ways to create these zones.

Pollution

Reducing pollution and maintaining water quality
The effects of pollution can be greatly reduced by quick action. If you suspect a pollution incident, call the Environment Agency 24 hour hotline on 0800 80 70 60. There are a number of actions that you can undertake to reduce detrimental effects on the water quality of the river and associated streams and ditches:

- Reduce and minimise any forms of nutrient enrichment on the land (from inorganic fertiliser or muck spreading for example)
- Ensure that you prevent silage liquors, manure slurry or any form of polluted liquid from reaching a watercourse.
- Establish buffer zones between areas where fertiliser is applied and watercourses.

Ensure that herbicide use near rivers is minimised, and if unavoidable that you seek consent from the Environment Agency.

Answers to frequently asked questions

What are my rights as a riverside (riparian) landowner?
If you own a property or land beside the river, you are likely to own land to the centre of the water or to the far bank. The details can be checked with your solicitor. Provided you get consent, you are entitled to:

- Protect your property from flooding; and
- Protect your banks from erosion.

However you must give consideration to the rest of the community and the environment. You must show any plans for work to the Environment Agency and/or the local authority to see if consent is required.

What is the Environment Agency's role in river maintenance?
The Environment Agency has certain permissive powers to carry out works to rivers for flood defence purposes. These can include maintenance operations and more strategic Flood Risk Management actions.

Do I need consent for work that I carry out in or near the river?
You will need to apply for consent from the Environment Agency when:

- Building, replacing, altering or repairing anything within 8 metres of the river.
- Diverting or containing (i.e. in a culvert) the river or river flood water.
- Any work to the riverbank.

Be aware that you may also require planning permission from the local authority.

Do I have any special duties as a riparian landowner?
In general, you must accept water from your neighbour upstream, and pass it on to your neighbour downstream, along with drainage from your property or land.

The ultimate responsibility for maintenance of the river (which includes the banks) falls to you. This may include actions such as clearing obstructions, repairing banks, protecting vegetation, maintaining and managing trees, removing debris, and litter clearance.

How do I apply for consent?
The Environment Agency will need to see full details of the proposed work at least two months before you start. To begin the process, call the Environment Agency on 08708 506 506 with an outline of the work required and they will be able to advise you on whether consent is required. If it is, you will be required to fill out an application form that should be returned along with a small fee.

Environmental risks associated with river habitat management
Aquatic weed cutting, riverside scrub and habitat management, bank repairs, re-profiling and tree pollarding pose serious environmental risks if not carried out correctly.


White-clawed crayfish

Protected species and habitats, such as breeding birds, fresh water crayfish, spawning fish, Otters, Bats and Water Voles can all be found within the river valleys of Kent. Killing or disturbing some of these animals or their place of shelter is a criminal offence under the Wildlife and Countryside Act and the Fisheries Act.

Advice must be taken from the Environment Agency before undertaking such activities.