

Good Practice for Watercourse Maintenance

**A guide for landowners showing good practice for
maintaining watercourses on or adjacent to your land**



SURREY
COUNTY COUNCIL

Who is this guide for?

This guidance is an introduction to maintaining your watercourse and is aimed at landowners and their agents. You are known as a 'Riparian Owner' if you have a watercourse, ditch, stream river or culvert running alongside or within your property boundary.

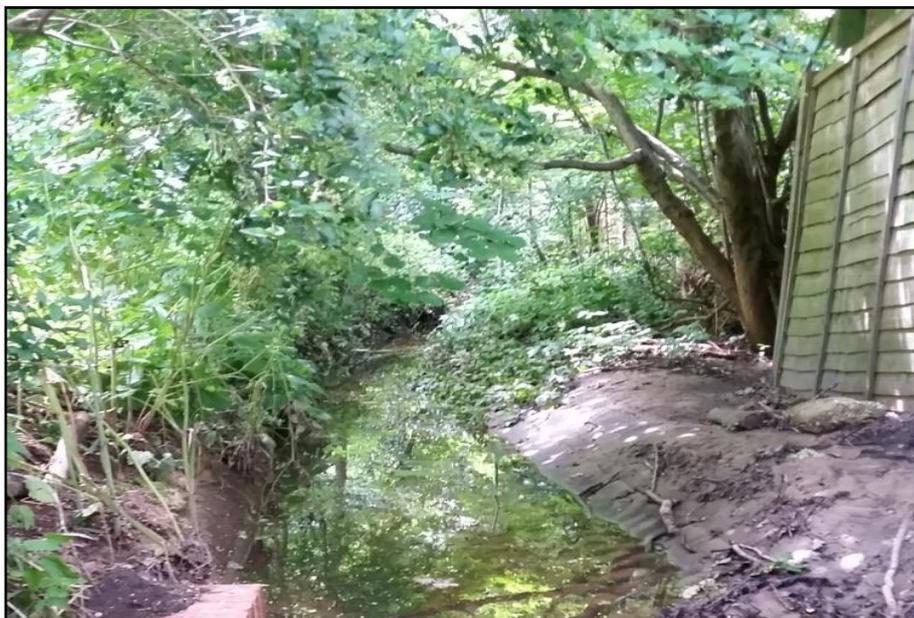


Figure 1-Image of a watercourse located behind next to a fence line.

What does this guidance cover?

- The importance of well-maintained watercourses
- Recognising if you have a watercourse on your land
- Basic Steps in maintaining your watercourse:
 - Open ditches
 - Piped or culverted watercourses
- Staying safe
- Looking after wildlife:
 - Protected species
 - Invasive species
- Timing and frequency of maintenance
- The right tools for the job
- Staying legal: Permissions and Consents
- Where can you get more help and advice

Why am I responsible for watercourse maintenance?

As a riparian owner, you have responsibilities in relation to the watercourse flowing through or adjacent to your property. These are set out in law in the Public Health Act 1936, the Land Drainage Acts of 1991 & 1994, the Water Resources Act 1991 and some local Land Drainage Bylaws.

The Importance of Well-Maintained Watercourses

Keeping your watercourse well maintained benefits the community as a whole. If an area experiences constant flooding, this becomes a nuisance to the community, can restrict access to property, makes everyday living difficult and results in considerable expense and inconvenience for those that have been flooded. Ongoing flooding events highlight the importance of watercourse maintenance in keeping our drainage systems working properly.

The information below provides some helpful 'best practice' to guide you in carrying out maintenance along your watercourse. The simple measures in this guidance, such as working from one bank and not using heavy machinery in the channel (when possible), will help you maintain your watercourses in a way that protects the environment and reduces the risks of flooding.

For flood risk

Watercourses such as ditches and culverts are designed to drain surface water away, before the water levels increase to an extent that puts property, roads, land and infrastructure at risk of flooding. If ditches and culverts are maintained to a good standard, any flooding is likely to only affect areas in the floodplain. Not all watercourses transport water, as some act purely for storage, but maintenance of the capacity of these storage features is important, as they prevent water flooding elsewhere.

The cost of maintaining a watercourse is minor compared to the costs that can arise from flood damage, not to mention the distress and inconvenience caused if your property is flooded.

If a flood has occurred as a direct result of a landowner not carrying out their riparian responsibilities to properly maintain their watercourses, that landowner could be liable for compensating any damage that occurs.

For wildlife

If a watercourse is carefully maintained, it can create an excellent habitat for wildlife. In certain areas, watercourses are home to the Water Vole, a nationally protected species. Careful planning, such as trimming alternate banks of the watercourse each year to remove obstructive vegetation allows landowners to help fulfil their riparian responsibilities, whilst enhancing the environment. This approach allows wildlife to migrate to opposite sides of the watercourse each year, rather than be forced to leave the watercourse totally. The removal of silt and debris from the watercourse bed is also very important and again can enhance the environment, as well as ensure the free flow of water.

Recognising if you have a watercourse on your land

If you own land or property with a river, stream, ditch or culvert next to or within it you are a 'riparian landowner' and this guide is for you. This may be obvious if you are the:



Figure 2-Image of a watercourse with steep banks.

Landowner for both banks of a watercourse:

If you own the land on both sides of a watercourse you are fully responsible for the maintenance of that watercourse.

Landowner on one bank of a watercourse (or nearest to the bank):

If you are the closest landowner to the top bank of a watercourse, you are usually responsible for the maintenance of it, to the central line of the watercourse (even if it does not fall within your property boundary as set out by your Title Deeds).

Landowner on one side of the bank with Highway on opposite bank:

In most cases across Surrey, roadside ditches are the responsibility of the landowner on either side of the ditch, as described above - not Surrey County Council or the Highway Agency who maintain the highways.

However some watercourses may be underground and not be immediately obvious. Culverted watercourses are watercourses

that have been piped, usually under highways, driveways or housing developments. They are generally connected to an open watercourse at some point but may have no visible signs above the ground at all. You are still responsible for the piped watercourse which passes through your land if you are the:

Landowner of the land through which the culvert runs:

If you own the land on both sides of a culverted watercourse you are fully responsible for the maintenance of that section of the watercourse in your land.

Landowner of the land next to where the culvert runs:

Many culverted watercourses follow the line of the old open ditch and may run along the boundary of properties. In that case you are jointly responsible with your neighbour for the maintenance of that section of the piped or culverted watercourse next to your land.

The **Riparian Ownership: Frequently Asked Questions** document (available from Surrey County Council) includes some drawings of example riparian watercourses. Historic Maps may show the location of old watercourses and in some cases the watercourses may be shown on the Title Deeds for your land.

Alternatively see the “*Where can you get more help and advice*” section for contacts who may be able to help with identifying watercourse on your land.

Basic steps in maintaining your watercourse

The principles of keeping a watercourse well maintained are very simple and the basic responsibility is to ensure “the proper flow of water” by preventing any obstructions. You should also ensure that it doesn’t attract vermin or cause a health hazard.

FOR OPEN DITCHES, STREAMS AND RIVERS

Keep growth of vegetation (trees, weeds, reeds, grass etc) under control

- When trimming vegetation it is important to consider any impact on biodiversity. Mowing of banks around ditches should be minimised during the animal spawning season of March to mid-July.
- Some trees may have tree protection orders (TPOs) on them so if in doubt check with your local planning authority.
- It is recommended to cut only up to just above the water level on one side of the watercourse, leaving the fringe of the bank uncut, thereby maintaining some habitat as well as enabling a free flow of water in the ditch.
- Cuttings from any clearance work should be removed from the channel to avoid it causing blockages downstream. Putting removed material too close to the top of the bank can lead to it falling back in during times of flooding



Figure 3-A ditch in need of maintenance which includes removing vegetation, silt and other debris

It’s worth noting that you don’t always have to remove all vegetation to allow water to flow. In fact keeping some vegetation can be beneficial for wildlife and to prevent erosion. Large tree roots and dense vegetation are the main problems.

Keep watercourses free of debris (e.g. litter, grass cuttings, and fallen trees and branches)

- Remove any physical obstructions such as large rocks, rubble, fallen trees and branches and other waste materials (litter, grass cuttings etc) so that water can flow freely.
- All non-organic waste should be completely removed off site and disposed of in an appropriate manner.

- Any green waste resulting from the maintenance of ditches can be left a safe distance from the bank for a few days to allow any organisms to move back into the watercourse, after which the green waste should be removed so it doesn't wash back into the watercourse.
- Ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners.
- Do not store anything alongside the watercourse which may interfere with maintenance, affect the stability of the bank or get washed into the channel.

Remove excess silt

Silt naturally builds up in watercourses as vegetation dies back each year. It can quickly reduce the capacity of a watercourse or block pipes into or out of the watercourse.



Figure 4-A ditch where silt has built up over the opening of a pipe inlet

- Silt should be removed along the length of the ditch to ensure it flows properly in the right direction.
- If there are any pipes into or out of the ditch you should remove silt to the same level or below the bottom of the pipe(s).
- Where possible, try to maintain the original slope and cross section of the ditch when de-silting. If the slope of the ditch is altered it can change the flow pattern, cause erosion or increase flood risk either upstream or downstream.

- As long as the silt is non-hazardous you can put it on the bank of the watercourse. Depositing silt on top of the banks of the watercourse allows for any organisms to move back into the ditch. However;
 - It is essential that this material does not then block any other ditches or nearby roads, or stop water draining into the ditch if it would normally do so (eg from higher ground into the ditch)
 - The silt must be deposited as close as possible to where it was dredged from either: on the bank of the waters from where it was taken or on land directly next to the watercourse
- If you think that the material may be hazardous – for instance if it contains oils or other waste – please see guidance online for [methods of disposal](#) or contact the Environment Agency for advice.

FOR PIPED OR CULVERTED WATERCOURSES

Piped or 'culverted' watercourses are prone to blockage or collapse and will degrade over time. Where they naturally silt up they can be difficult to access and clean. Cleaning the inside of a culvert is likely to cost more than carrying out maintenance of an open watercourse, due to the specialist equipment required to access it.

- Blockages within the pipe or at the pipe entrance can cause flooding problems. These blockages can be reduced by regular inspection and the removal of debris.
- Either you or a qualified drainage company should carry out regular inspections and clear any blockages or silt build up as soon as they occur. There are many drainage companies that can inspect and clear culverts.



Figure 5-A damaged culvert requiring repair



Figure 6-A trashscreen with a build-up of leaf litter and other debris causing an obstruction to the flow of water

- Culvert entrances and exits often have protective grilles to prevent debris entering the pipe and causing blockages. These should be inspected and cleared regularly, especially during the winter or periods of heavy rainfall when debris can accumulate very quickly.
- The design of screens must be agreed with the Lead Local Flood Authority or the Environment Agency and permission given prior to installation, as poorly designed screens can cause an obstruction themselves.
- Health and Safety must be your top priority when carrying out culvert maintenance, and you should never enter any large culvert without seeking advice.

Staying Safe

When undertaking works within or adjacent to a watercourse, landowners must assess their works to ensure that they can be undertaken without putting themselves or others at any kind of risk. Due to the range of risks posed by both open and culverted watercourses, landowners should assess this on a case-by-case basis.

In particular you should consider the risks posed by working:

- in deep silt or mud
- on slippery banks near water
- in/near deep or fast flowing water
- near roads
- with plant or machinery

- around culverts and enclosed spaces
- cutting down or working near trees

If in any doubt you should always seek advice.

You should always make sure you follow these rules to help protect your health:

- Wear protective footwear and clothing such as gloves
- Cover any open wounds such as cuts and scratches with waterproof plasters
- Carefully clean any cuts or scratches obtained during the work near water
- Wash thoroughly and as soon as possible if you have entered the water
- See a doctor if you start to feel unwell after working near water

Looking after Wildlife

Ditches can form very important habitats and may contain important species of flora and fauna that are protected or invasive species which are controlled under the Wildlife and Countryside Act 1981.

Protected Species

Protected species can include native crayfish, water voles, great crested newts, nesting birds and bats. If you think that the area you are considering clearing may contain any protected species please seek further advice before proceeding. To find out if protected species have been recorded on or near your land contact the [Surrey Wildlife Trust](#)

Various methods for reducing the impact of maintenance works on the environment are suggested in the next two sections below, such as using hand tools to clear obstructions to the flow of water, rather than completely removing a ditch of vegetation using machinery. Also, through careful maintenance planning, alternate stretches of a watercourse can be worked on each year, to ensure there is always a healthy vegetated area where wildlife disturbed by maintenance can migrate to. It must be remembered however, that there must always be a clear free flow to water at all times.

A number of organisations have produced information that sets out wildlife friendly weed clearance and vegetation management in watercourses and these are really helpful guides.

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[The Manhood Wildlife and Heritage Group:](#)

Getting to Grips: Wetland Management for People and Wildlife



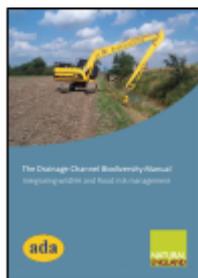
[The Sussex Otters and Rivers Project :](#)

Wildlife Friendly Weed Clearance and Vegetation Management in Watercourses.

If you own a larger watercourse, maintain multiple watercourses or are likely to be using large machinery to clean the watercourse it is recommended you consult the Environment Agency and use the guidance document listed below:



[Environment Agency Guidance](#)



[The Drainage Channel Biodiversity Manual](#)

Natural England and the Association of Drainage Authorities

Many farmers take part in Wildlife Stewardship schemes, which set clear rules for the maintenance of watercourses. If these are not adhered to, landowners risk breaking the rules of such agreements and may be penalised. Contact Natural England or your local Wildlife Trust to find out if you need permission to do work on any watercourse which is on or near to a designated nature conservation site or within a European or nationally protected site. Examples of these are listed below but there may be others:

- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)
- Ramsar Site

Invasive Species

Some vegetation and animal species are non-native and considered invasive. Invasive non-native plants are species which have been brought into the UK and have the ability to spread causing damage to the environment, the economy, our health and the way we live. If you have invasive plants or injurious weeds on your premises you have a responsibility to prevent them spreading into the wild or causing a nuisance. You must not plant or otherwise cause to grow in the wild any plant listed on Schedule 9 of the Wildlife and Countryside Act 1981. Those frequently found alongside watercourses include:



Figure 7-Images of examples of invasive species including Himalayan Balsam (L), Japanese Knotweed (M) and Giant Hogweed (R). All photos ©Crown Copyright 2009

More information on the identification of invasive species and their management can be found on the [GB non-native species secretariat website](#).

Timing and Frequency of Maintenance

For all watercourses it is good practice to develop a program that sets out how often you will carry out maintenance works. Most watercourses require annual maintenance to some degree and the best time to undertake works is in mid-Autumn in preparation for increased winter flows.

- Ensure that you undertake the majority of your clearance works after the vegetation has begun to die back in late September/October. At this time of year, there is also less likely to be wildlife nesting or breeding in or near ditches.
- You should try and carry out the works when the water level is at its lowest i.e. following low tide in tide locked areas or when there has been little rainfall.
- Plan your maintenance to ensure that stretches of habitat are left intact, for example by trimming alternate banks or lengths of ditch each year. This ensures that there is always a healthily vegetated area where wildlife disturbed by maintenance can move to without being forced to leave the ditches.
- If protected species have been recorded in your ditches you must ensure their habitats are not adversely affected.
- Trash / weed screens and grilles should regularly be checked all year round, but, especially at times of anticipated high flow.
- Debris in ditches should be removed as soon as it starts to build up.
- In culverted watercourses, your program should inspect the culvert for blockages or signs of collapse. If such problems are identified before a total obstruction to the watercourse occurs, it reduces the likelihood of flooding incidents. Many drainage companies will undertake jet cleaning or camera surveys within culverts at a cost, or you can rod the culverts to check for blockages.

The right tools for the job

This depends on the scale of your watercourse and the extent of works required. For smaller landowners, maintenance of watercourses is generally best achieved using hand tools, such as saws, spades and shovels, as this is less destructive to habitats, vegetation and the bed of the watercourse. It is far better to undertake minor works more regularly that remove clear obstructions to flow, than completely remove all vegetation and silt from the bed and banks of a watercourse in one go. Regular, minor works will leave healthy vegetation along the bed and banks of the watercourse. This is of importance to the water quality and the wildlife that lives in the watercourse. Of course, if the watercourse has not been maintained for a long time then there may be no option but to undertake major works.

Machinery can clear large stretches of open ditch quickly. If using such machinery, the sensitivity of the watercourse must be considered and maintenance should be planned to ensure stretches of habitat are left intact (potentially by strimming alternate banks or lengths of a watercourse each year).

For culverted watercourses, specialist tools may be needed to jet clean or rod the culvert to clear blockages or to carry out inspections using camera surveys. For culverts or open watercourses many landowners will appoint drainage companies/contractors to carry out maintenance, and it is recommended that landowners who choose to do this always obtain a range of quotes in attempt to achieve best value.

Staying Legal

Whenever carrying out maintenance to watercourses and ditches, you must ensure that the works that you undertake are legal. General maintenance as set out in this guidance is unlikely to break the law, however some activities do require permissions or consent: Remember, any works undertaken without consent could result in enforcement action.

Altering the watercourse

If you wish to alter the route, shape or capacity of the watercourse (whether open or piped) so as to change the flow or you wish to build near a watercourse, you are likely to require permission from the regulating body and/or the relevant landowners.

- For works on or near **MAIN RIVERS** you must submit your plans to the **Environment Agency** and apply for Flood Defence Consent if you want to:
 - Carry out work on, over, under or near a Main River, flood or sea defence
 - make changes to any structure that helps control floods

See [the Environment Agency website](#) for consent information and to find out if your watercourse is a main river.

- For works on, over, under or near **NON-MAIN RIVERS** (Ordinary Watercourses) contact Surrey County Council (flooding.enquiries@surreycc.gov.uk) or visit the SCC [ordinary watercourse consent page](#).

Waste Management

In some cases ditch spoil or removed invasive species can be categorised as Hazardous Waste. Environment Agency Licenses or Exemptions may be required, so if in doubt please check with your relevant Environment Agency Office before progressing or look at on the [gov.uk website](#).

Safety

Personal and volunteer safety is crucial, it is essential that potential risks are assessed prior to work beginning.

Private property

Get permission from the landowner/s before going onto private property.

Preventing problems downstream

Whilst increasing channel capacity and improving flow can lead to land upstream draining faster, it can cause flooding downstream. Increased flows can also lead to bank erosion and more silt entering the watercourse and this is why consents for these works are often required.

Whenever undertaking maintenance works to watercourses, landowners should ensure that any vegetation, debris or silt that has been removed from the watercourse does not end up back in the flow of the watercourse. Care should also be taken to ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners.

Countryside Stewardship

Landowners who are covered by countryside stewardship schemes must ensure that any maintenance works are in line with their agreements. If protected species have been recorded in your watercourse you must also ensure their habitats are not destroyed, bearing in mind that you must also ensure the free flow of water in the watercourse that you are responsible for.

Tree Protection

You must check with your local planning authority to ensure there are no Tree Preservation Orders (TPOs) on the trees you are planning to carry out works on.

Wildlife

As mentioned above, some species, including all nesting birds, have strict protection under the law. If you are in any doubt at all as to the presence of species which are protected please seek advice before carrying out any works.



Figure 8-Image of a water vole. © Copyright [Peter Trimming](#)

Where you can get more help and advice

For advice on riparian watercourse ownership or maintenance



[Surrey Wildlife Trust](#)

General enquiries

Surrey Wildlife Trust, School Lane, Pirbright, Woking, Surrey GU24 0JN

Tel: 01483 795440

Email: info@surreywt.org.uk



[Environment Agency](http://www.environment-agency.gov.uk)

Email: enquiries@environment-agency.gov.uk

General Enquiries

(Weekdays 8am to 6pm)

Telephone: 03708 506 506

Environment incident (24 hr)

Telephone: 0800 80 70 60

Floodline(24hr)

Telephone: 0345 988 1188



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[Surrey County Council](http://www.surreycc.gov.uk)

Email: flooding.enquiries@surreycc.gov.uk

Tel: 0300 200 1003

For other problems related to other surface water
For problems on the Highways and Roads (except private roads):



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[Surrey County Council](http://www.surreycc.gov.uk)

[Report it online](http://www.surreycc.gov.uk)

Email: highways@surreycc.gov.uk

Tel: 0300 200 1003

For problems with Foul Water sewers or Main Water supply pipes



Thames Water

[Report it online](http://www.thameswater.co.uk)

24-hour freephone leakline: 0800 714 614.