Upper Thames Catchment
Ditch Management Guidelines

Note: Guidance and not to be used as a legal document.
Who is it for: Farmers, landowners (public, private and third sector), Parish Councils and home owners.

Introduction

The Upper Thames Catchment Partnership (www.catchmentbasedapproach .org) is actively encouraging every community to understand how the water moves across each parish through ditches, culverts, rivers and streams. The partnership hopes to encourage groups of parishes that are part of the same water body or water shed to work together to improve water quality, reduce flooding and improve biodiversity. This is because as we experience increased levels of development and more intense and heavy rainfall events, but also are required to meet tightening standards on the ecological quality of the water environment, the importance of maintaining and improving the quality and capacity of the catchment's water course system has never been greater, for the following reasons:

Water Quality: Ensuring that ditch networks are appropriately managed and maintained can help protect water quality through ensuring that run off from fields or roads is channelled so as to not negatively impact the wider water environment. Natural vegetation and the aerobic bacteria in the ditch can help break down pollutants in the environment, particularly for ditches that retain water all year round, and a balance needs to be struck between vegetation management to improve capacity and the need to maintain a healthy ditch environment. Therefore the correct use of and condition of ditches can reduce the damaging effects of road run-off, including silt, surges of water and some chemicals and prevent it getting in to rivers and wetlands further down the system.
Example situation: In heavy rain, a derelict ditch system can cause field run off to flow across a farm yard, therefore picking up farm yard pollution which subsequently directly enters the river. Through the management of one ditch the run off from the fields can be collected in the ditch and directed to the river without picking up pollution from the farm yard.

Reduced flooding: Road drainage systems such as ditches and associated culverts aim to drain surface water away from the roads into larger ditches and rivers, in order to prevent or reduce localised flooding of the highway. The system needs to be maintained to a good standard in order to function as it was designed and therefore reduce flood risk. Surface water drainage systems may also incorporate storage in addition to allowing the flow of water, so it is vital to ensure this storage capacity is maintained to the required standard.

Enhanced biodiversity and environment: If ditches are sensitively maintained, they can create an excellent habitat for wildlife, including protected species such as the water vole. Ditches that hold water throughout the year are more valuable to wildlife than those which are seasonal.

A better community: Everyone needs to keep ditches well maintained to benefits the community as a whole, but many ditches have been lost through village expansion.
When an area experiences frequent flooding, this becomes a nuisance to the community, restricting access and increasing risk to property. Everyone in the community should investigate if they own an important part of the network and manage it accordingly. Finding and restoring redundant ditches may have a beneficial impact in reducing local flood risk and you may be respected by your community for your efforts to reduce these impacts.

Ditches Adjacent to Highways

Ditches that run within the limits of the highway do not usually form part of the highway (since they do not assist the free passage of people or vehicles along the highway) and remain the responsibility of the adjacent landowner or occupier. However, where the ditches have been designated as forming part of the highway on land owned by the Highway Authority, or where the ditch was constructed for the sole purpose of draining the highway, then the ditch will form part of the highway and will be the responsibility of the Highway Authority.
The Highway Authority is responsible for the passage of water via culverts under roads and road junctions and for the 'grips' leading from the road to the roadside ditch. See figure below.

Most open ditch drainage systems are the responsibility of the adjoining landowner for maintenance, but the Highway Authority has permissive powers to drain into them. The adjacent landowner is not permitted to discharge water onto the highway. Where runoff could occur after cultivation, arrangements should be made outside highway limits to prevent effluent, mud or silty water reaching the highway, highway drainage systems or watercourses. If necessary, the Highway Authority can cleanse and restore the profile of these ditches as appropriate and charge the landowner where necessary.

Determine a Maintenance Programme

For all ditches for which you are responsible, it is good practice to develop a programme that sets out how often and at what time of the year you will carry out maintenance works. Most ditches require some maintenance but this will vary from farm to farm and village to village, and with the size and characteristics of the ditch system. The best time of year to undertake major clearance works is in late September/October, in preparation for increased winter flows, when the bird breeding season is over and once vegetation has already begun to naturally die back.

For **open watercourses**, your programme should state how much vegetation you plan to cut back to ensure a free flowing watercourse. It should also identify at what intervals you will remove silt from the bed of the watercourse to maintain the capacity of the ditch.

For **culverted watercourses**, your programme should state how often you would inspect the culvert for blockages or signs of collapse.

For **structures** along your watercourse, such as weed screens, grilles, or sluices, your programme should include a routine for inspection and clearance of structures, especially including times of high flow.

Before Starting Maintenance

- You must ensure that your work will not harm or kill protected species. You should refer to Natural England 's protected species guidance if you are uncertain as to whether a protected species may be affected by your works. You can also check with your Local Records Centre or other local wildlife groups about which species may be present along your watercourse. Contact details for Local Records Centres can be found on the National Federation for Biological Recording web page. You may have to pay for this information. Your local Environment Agency Biodiversity staff will also be able to advise on watercourse maintenance and protected species issues.
- You must ensure your works do not cause invasive non-native species such as Himalayan Balsam and Japanese Knotweed to spread into the wild or to neighbouring land. Check if your watercourse, or the surrounding land, has any invasive non-native species present. If there are you need to plan how you will manage them and dispose of any waste containing them. If you use equipment in an area where

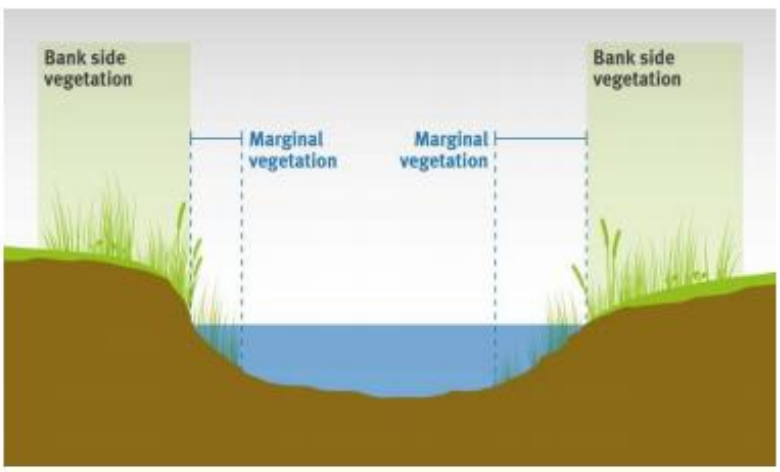
invasive non-native plants are present then ensure you check all clothing and equipment for live organisms and plant fragments, clean and dry before using elsewhere. For more information on identification and control methods please see the Environment Agency's booklet 'Managing invasive non-native plants' which is available online.

- For landowners who are in an Environmental Stewardship scheme and have ditch management options, landowners will need to follow the specific requirements as set out in their agreement handbook. Where a ditch is on SSSI land, Natural England should be contacted prior to any works to ensure that any required permissions are in place.
- You should consider how your work will change the flow and water level of the watercourse. Works at one point of a watercourse can affect flows both upstream and 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 resulting in more silt entering the watercourse. It is a good idea to work out how and where water from your farm flows in order to assess these considerations.
- You must not disturb nesting birds or prevent them from returning to their nests. If you need to carry out works within the bird breeding season, which is generally from the beginning of March to the end of July, you must check that there are no nests which are going to be disturbed. If you find a nest, you must delay works until the eggs have hatched and the chicks have left the nest.

Mowing and Trimming Vegetation

When trimming bank side vegetation it is necessary to consider any impact on biodiversity. Mowing of banks around ditches should be minimised during March to mid-July which is the breeding period for many species. When trimming the banks, it is recommended to leave a fringe of vegetation near the water's edge and to cut only one bank at once, thereby maintaining some bankside habitat. This will complement the approach to channel vegetation management outlined below to maintain a clear flow in the ditch. You should not leave watercourse banks bare or exposed, as this will remove all habitat and they will be more prone to erosion.

Any cuttings should be removed to prevent contamination of the watercourse or causing blockages downstream. The alternate side can then be cut the following year. For further guidance see 'Considering Biodiversity' below.



De-Silting and Waterweed Cutting

When de-silting ditches or removing waterweeds or other vegetation from them, it is important to consider any impact on biodiversity. Such operations are best done in sections and a little each year but even if an extensive area is managed then this should be done so that some silt and ditch vegetation is left in some places but not excessively impeding flow. The need for de-silting will vary, but as a guide from Natural England's Environmental Stewardship guidance, this allows for ditches to be de-silted once per five year period.

You should plan where to put the silt you remove before you start work to make sure that it won't cause an environmental issue and that it won't wash or fall into the channel again. You must also ensure that you have the relevant waste exemptions registered to allow you to dispose of silt adjacent to a watercourse. Temporarily depositing silt on top of the banks of the watercourse allows for organisms to migrate back into the ditch. After

a day or so you should spread the silt thinly away from the bank. It is however essential that this material does not then block the highway grips or that the material is carried on to the road. Where possible, try to maintain the original profile and cross section of the ditch when de-silting. If the gradient is altered it can change the flow pattern and increase flood risk either upstream or downstream. The same depth of silt should be removed along the length of the ditch. Banks with a gradient of 1-in-4 allow for easy maintenance as well as being suitable for wildlife.

You should not leave watercourse banks bare or exposed, as they will be more prone to erosion.

Considering Biodiversity

Ditches can form very important habitats and may contain species of flora and fauna that are protected under the Wildlife and Countryside Act, Habitats Regulations or other statutory legislation. To find out if protected species have been recorded on or near your land or village, contact your local environmental records centre. Additional information is also available from Natural England Wildlife Management and Licensing department (see contact details in Further Reading and Advice section below). Some species are especially vulnerable to watercourse management activity and their requirements should be considered in every instance; these include nesting birds as already noted, but also water voles. Water vole burrows are protected by law from damage and disturbance, but avoiding any damage to the banks of ditches and tracking machinery away from banktop should reduce the risk of harm.

The impacts of maintenance can be minimised by using hand tools to regularly remove obstructions to the flow of water, rather than using heavy machinery to denude a ditch of all vegetation. Plan your maintenance to ensure that stretches of habitat are left intact, for example by trimming or de-silting alternate sections of ditch each year. This ensures that there is always a healthily vegetated area and some areas of silt where fauna and flora can survive and re-colonise from. It is recommended that any silt and vegetation resulting from the maintenance of ditches is left on top of the bank for a few days to allow any organisms within the removed material to return back to the ditches, after which the waste should be removed or left. Moving waste or depositing it on site will be subject to waste regulation exemption- contact the Environment Agency for more details.

Use the Right Tools for the Job

The tools for the job depend on the scale of your ditch drainage system and the extent of works required. For owners of small areas of land, the maintenance of ditches is generally best achieved using hand tools, as this is less damaging to habitats. It is better to undertake minor works regularly, such as trimming vegetation and clearance of small blockages and restrictions as they occur, rather than infrequent major destructive works, such as complete removal of vegetation and silt from all the ditches every few years.

Farmers generally have machinery on site that can clear large stretches of open ditches quickly. If using such machinery, the sensitivity of the ditches must be considered and maintenance should be planned to minimise the impact on the habitats and species.

For culverts, specialist tools may be needed to carry out inspections using camera surveys or to jet through or rod the culvert to clear blockages. Landowners may choose to appoint drainage companies to carry out inspections and/or maintenance.

Health and Safety

When undertaking works within or adjacent to a watercourse, landowners must ensure that they can be undertaken without exposing themselves or others to excessive risk. Due to the range of hazards posed, landowners should assess this on a case-by-case basis. When undertaking ditch clearance works within the highway, adequate notice must be given to the travelling public warning of the works, particularly if the operation is working from the live carriageway. Only authorised signs should be used, and the specific requirements will depend on the location. Seek advice from the Highway Authority to determine what is needed.

Staying Legal

Whenever carrying out maintenance to ditches, the landowner must ensure that the works they undertake are legal. It is important to establish whether the ditch is classified as a 'main river' watercourse, as use of an excavator to remove vegetation on a main river will require consent from the Environment Agency. To avoid harm to wildlife, a general rule of thumb is to avoid undertaking heavy works during the period from March to September inclusive. If protected species are present in your ditches, you must ensure appropriate precautions are taken to avoid harm to them. Natural England's website offers advice for a range of protected species.

General maintenance of a ditch is unlikely to break the law, provided the recommendations above are followed, but if you wish to alter the ditch in any way, or build near it, you may require permission from the Environment Agency, lead local flood authority (e.g Gloucestershire County Council, Wiltshire Council or Swindon Borough Council) and/or the relevant landowners. Many farmers take part in Environmental Stewardship Schemes, which set clear rules for the maintenance of watercourses, including ditches. If these rules are not adhered to landowners risk breaking the rules of such agreements and may be penalised. For urgent work, exceptions can be made in the form of a 'derogation'. Seek advice from your land agent, FWAG or Natural England officer.

Further Reading and Advice

Gloucestershire Centre for Environmental Records, Conservation Centre, Robinswood Hill Country Park, Reservoir Road, Gloucester, GL4 6SX
Tel: 01452 389950 (general enquiries) or 01452 389963 (data request enquiries)
Email: gcer@gloucestershirewildlifetrust.co.uk
Wiltshire and Swindon Biological Records Centre, Elm Tree Court, Long Street, Devizes, Wiltshire, SN10 1NJ
Tel: 01380 829050
Email: brc@wiltshirewildlife.org
England Wildlife Management and Licensing Issues
Tel: 0845 601 4523
Email address: wildlife@naturalengland.org.uk
Gloucestershire Farming and Wildlife Advisory Group (FWAG)
Tel: 01285 700830
Email: jenny.phelps@gloucestershirefwag.org.uk or sarah.wells@fwagsw.org.uk
Guidance from The Environment Agency's booklet "Owning a watercourse" webpage contains information for riparian watercourse owners: Owning a watercourse - GOV.UK (www.gov.uk)
The Environment Agency 'Managing invasive non native plants' booklet
http://webarchive.nationalarchives.gov.uk/20140328084622/http:/cdn.environment-agency.gov.uk/LIT_5001_d24b8c.PDF
The Environment Agency has a suite of documents relating to maintenance of watercourses and flood defences:
Flood and sea defences: when maintenance stops - GOV.UK (www.gov.uk)
Gloucestershire County Council
Flood risk management - Gloucestershire County Council
Natural England and Association of Drainage Authorities' report "The Drainage Channel Biodiversity Manual" provides detailed advice on protecting wildlife during maintenance: [ARCHIVED CONTENT] The Drainage Channel Biodiversity Manual - NE121 (nationalarchives.gov.uk)

The Upper Themes Catchment Partnership would like to thank Northamptonshire County Council Environment and Flood Departments, and the Environment Agency for some of the content of this guidance.
For further information on integrated water management please contact Jenny Phelps www.fwagsw.org.uk or Chris Short www.ccri.ac.uk