

Ditch management for people and wildlife



Avoid flooding and support the wildlife that live in your ditches



Why are ditches important?

Well-managed ditches contain and carry surplus water away from flood risk areas and attract a diversity of wildlife, such as frogs, newts, grass snakes, wading birds, pollinating insects and the UK's most rapidly declining mammal, the water vole.

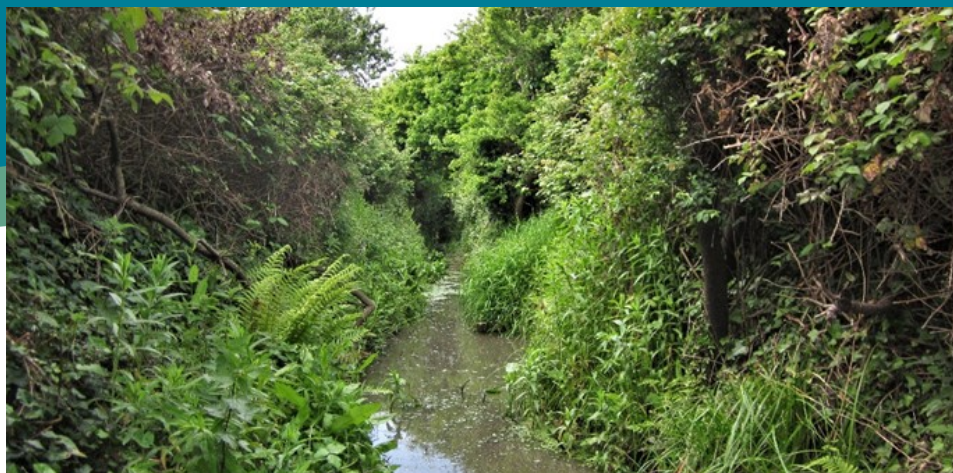
Ditches are most effective when they are connected to the wider network of waterways. This means that flood water can be carried out to sea, and wildlife can travel safely between them, without coming across barriers of debris, silt, blockages, roads and buildings.



Water vole

What is a riparian owner and what are their responsibilities?

You are a riparian owner if you have a watercourse within, under or on the boundary of your land. Riparian owners are legally responsible for maintaining the watercourses on their land such as a river, brook, stream, ditch or culvert.



As a riparian owner you must:

- Let water flow freely across your land and not obstruct or divert its course without the permission of the Environment Agency
- Maintain the waterway's banks, bed and vegetation and any approved structures such as culverts
- Protect the quality of the water by not disposing of garden waste or rubbish
- Not build new structures like a culvert, bridge or boardwalk that encroach or alter the flow of water or obstruct passage of fish without permission from the Environment Agency or Local Authority

Why are ditches better than culverts?

Culverts are prone to blockage, breakage or collapse and they can be difficult to access and clear. Cleaning a blocked culvert of silt and other debris may cost more than carrying out maintenance of an open waterway, due to the specialist equipment required.



Unlike culverts, ditches can:

- Be easily checked for blockages, debris and litter
- Hold large amounts of water after heavy rainfall
- Allow water to be absorbed into the surrounding soil and to evaporate
- Provide habitat for wildlife such as water voles

If you have a culvert, it's better to have one that is tall, wide and inspected regularly to ensure water can flow through it easily, like in the photo above.

Monthly ditch management tasks

Task	Description	Timing
Removing rubbish and debris	Ditches and culverts should be checked regularly for blockages that may affect water flow, especially during times when flooding is more likely. Remove litter from banks to prevent polluting the water and discourage rats.	Year-round
Inspect the ditch and ensure water can flow	Ditches are more useful for wildlife when they have a constant supply of water. A bund can be used to hold back water when it reaches a certain low level, and it will not cause flooding. However, bunds should not be used in areas that could impede the passage of fish.	Year-round



A bund installed at Birdham Village Pond by WSCC Flood and Sustainable Drainage team as identified as important habitat

Annual ditch management tasks

Task	Description	Timing
Vegetation cutting	<p>Vegetation like brambles are valuable for wildlife, but can become overgrown and cast shade over a ditch.</p> <p>Follow a three-year rotation by cutting vegetation on either side of the banks on alternate years, then give both sides one year off. Some areas may require annual cutting to ensure the ditch receives plenty of sunlight.</p> <p>Cutting should never include low strimming or removal of ground cover.</p> <p>A large margin of vegetation left at the top of the bank is great for wildlife and reduces chemical run-off into the ditch from agricultural fields.</p> <p>If possible, leave piles of cut vegetation at intervals to provide egg laying areas for grass snakes and nesting habitat for small mammals.</p>	November to February
Light silt removal	<p>In areas where silt is deposited as water flow is slower, e.g. at junctions, light silt removal may be necessary. Carry silt out from one side carefully so heavy machinery does not destroy the bank.</p>	October to March
Large debris removal	<p>As necessary to prevent flooding and improve habitat quality of the ditch for wildlife.</p>	October to March especially if heavy machinery needed

Periodic ditch management tasks

Task	Description	Timing
Deep silt removal	Sometimes silt removal is required to maintain the channel capacity, especially in ditches with slow water flow. The spoil should be placed at least three metres away from the banks to prevent nitrates from enriching the soil which discourages native wildflowers and invites nettles.	October to March , every 3-4 years
Bank profile and stabilisation	Newly-dug ditches need to have their banks stabilized. Well-vegetated banks bind the soil to stop the banks collapsing. Pre-planted coir rolls can speed up the process. Water voles prefer a bank angle of 45 to 90 degrees to build their burrows. Ideally, a high, gently sloping bank allows for a wider diversity of wetland plants, animals and invertebrates to thrive. Bank re-profiling can be necessary when they are too steep or have been washed out or undercut by flooding. Take care with machinery to ensure you do not crush water vole burrows!	October to March , every 3-4 years
Cutting back trees and hedges	The lower branches or height of some shading trees can be removed to allow more light onto the ditch. Most trees will bounce back with new growth. Check mature trees for potential bat roost features such as woodpecker holes, and seek ecological advice before works.	October to March , every 3-4 years
Ensure all necessary permissions gained if in a conservation area or a Tree Preservation Order in place	Cut hedges as late as possible to provide nuts and fruit for winter wildlife. Cut one side at a time every other year, or on a three year rotation with one year off. Do leave some dead wood on site to provide shelter for wildlife, such as stag beetle larvae and hedgehogs.	

Fixing and Linking Our Wetlands (FLOW)

Project Case Study

Cakeham Manor Estate and West Wittering Estate

A ditch in West Wittering passes through a small wetland copse that used to be dark and overgrown and would flood easily. With careful management, the ditch has been improved for wildlife and has a greater capacity to hold water.



How this ditch was recovered:

- Large tree branches were cut to allow more sunlight onto the water, preventing it becoming stagnant
- Some bramble was removed to make space for a diversity of wetland plants to improve water quality and wildlife habitat
- Native fruiting trees were planted nearby
- The banks were raked and a mix of native, pollinator-friendly wildflowers were sown
- The ditch was dug deeper and the spoil left on site.
- Pre-planted coir rolls were installed, partially submerged, along the ditch edges to increase wetland plant diversity



This ditch now holds water year-round and receives plenty of sunlight. It is home to a diversity of wildlife including frogs, newts, birds, bats, butterflies and water voles.

The risk of flooding in the village has also reduced as rainwater is collected in the ditch and carried out to sea.



Fixing and Linking Our Wetlands (FLOW)

Project Case Study

Tile Barn Lane, Bracklesham

This ditch was dark and overgrown with little ability to hold water in a high flood risk area, and offering little value to wildlife.



How this ditch was recovered:

- Trees shading the waterway were cut back
- Willow trees were thinned out, particularly on the southern bank, to let more sunlight onto the ditch
- The ditch was dug out to widen and deepen it
- The banks were sown with native wildflowers and wetland plants

Now the ditch can carry run-off and rainwater safely away from the road and provides shelter, forage and nesting opportunities for wildlife.



Where can I get more advice?

Manhood Wildlife and Heritage Group (MWHG)

The MWHG engages people, of all ages and abilities to preserve the diversity of nature and unique character of the Manhood Peninsula.

Email hello@mwhg.org.uk or visit www.mwhg.org.uk

West Sussex County Council

The lead flood authority for West Sussex.

www.westsussex.gov.uk/ditchtheproblem

Chichester Harbour Conservancy

An independent body responsible for the management of the harbour and the surrounding Area of Outstanding Natural Beauty.

www.conservancy.co.uk

Sussex Biodiversity Records Centre

The Sussex Biodiversity Record Centre is one of the many environmental record centres situated around the UK.

www.sxbrc.org.uk



Pre-work checks

Wildlife legislation

Wildlife and Countryside Act 1981 (as amended)

- Scrub clearance, tree and hedge cutting, and use of noisy machinery can affect **wild birds** and their **nests**. Works should not be carried out during the breeding season between March and September inclusive
- Mature trees should be checked for signs of **roosting bats** by an experienced ecologist before works begin
- Ditches can be checked by an ecologist for other notable species such as **water voles**, which are **fully protected** by law so take care not to damage or destroy a burrow or feeding place



Trees

Any works affecting a tree with a Tree Preservation Order or trees in Conservation Areas must be granted permission by the Local Planning Authority.

Invasive non-native species

Identify invasive non-native plants and seek professional help to treat appropriately and prevent them spreading. See page 15 for more details.

Poisonous plants

Identify any poisonous plants such as hemlock water dropwort, deadly nightshade and giant hogweed before carrying out works.

Tools you may need

- **Silky saw** for cutting bramble, tree saplings and tree branches
- **Loppers** for cutting bramble, tree saplings and thin branches (no thicker than a thumb)
- **Shears** or cutting grass and leafy vegetation
- **Long-handled pole saw** for trimming back overhanging tree branches
- **Long-handled drag fork** for pulling out litter and debris from the base of ditches
- **Rake** for removing cut vegetation from the banks



Further guidance for ditch management:

- Carry out physical work when the water level is at its lowest
- If you have a long waterway, ensure that some stretches of bank are left intact each year by only trimming it in sections, to provide shelter for wildlife on both sides
- Do not dispose of garden waste in the ditch
- Encourage others in your community to manage local ditches together as a group

Common native riparian plants



Fool's water cress



Soft rush



Greater reedmace



Starwort



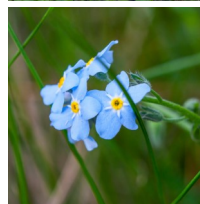
Great willowherb



Water cress



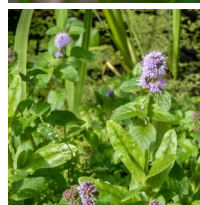
Hemlock water dropwort



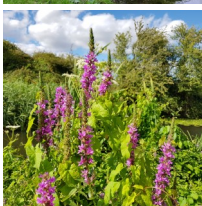
Water forget-me-not



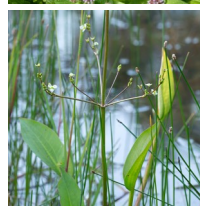
Marsh marigold



Water mint



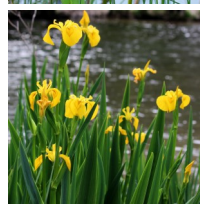
Purple loosestrife



Water plantain

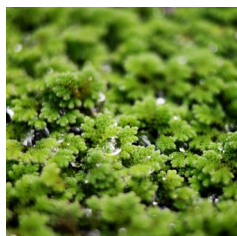


Pendulous sedge



Yellow flag iris

Invasive non-native plants



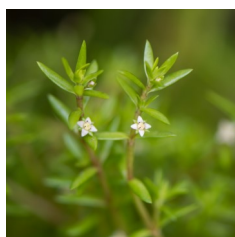
Azolla fern



Monkey flower



Floating pennywort



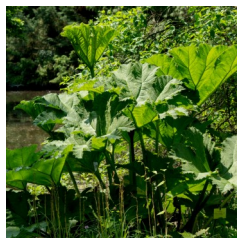
New Zealand pygmyweed



Giant hogweed



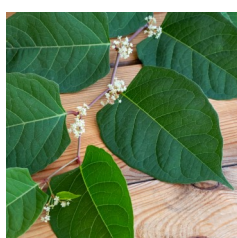
Parrot's feather



Gunnera



Himalayan balsam



Japanese knotweed

Invasive non-native plant removal

If you suspect that you have an invasive non-native plant species, you must seek advice. Each species will have a recognised method of removal. If this is not followed, the species may spread.

Invasive non-native species can negatively impact biodiversity, homeowners and increase flood risk.

For advice, visit: www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants, or contact the **Environment Agency**.

Email: enquiries@environment-agency.gov.uk
Phone: 03708 506 506



Could you be a ditch warden?

If you would like to volunteer to monitor the ditches in your area, raise awareness of wildlife in your community, and encourage ongoing ditch maintenance, we'd love to hear from you!

Please visit www.mwhg.org.uk
Or email hello@mwhg.org.uk



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