

Managing and monitoring beaver dams

Beaver dams

Beavers build dams in streams and small rivers to increase water depth, protecting themselves from predation and ensuring the entrance to their burrows remain submerged. Beaver dams and wetlands can deliver significant reductions to downstream flood risk and alleviate impacts of drought. In certain scenarios, however, beaver dams can also cause localised flooding, with potential impacts on infrastructure, property and agricultural or forestry land.

Methods for dam management



Dam notching/removal

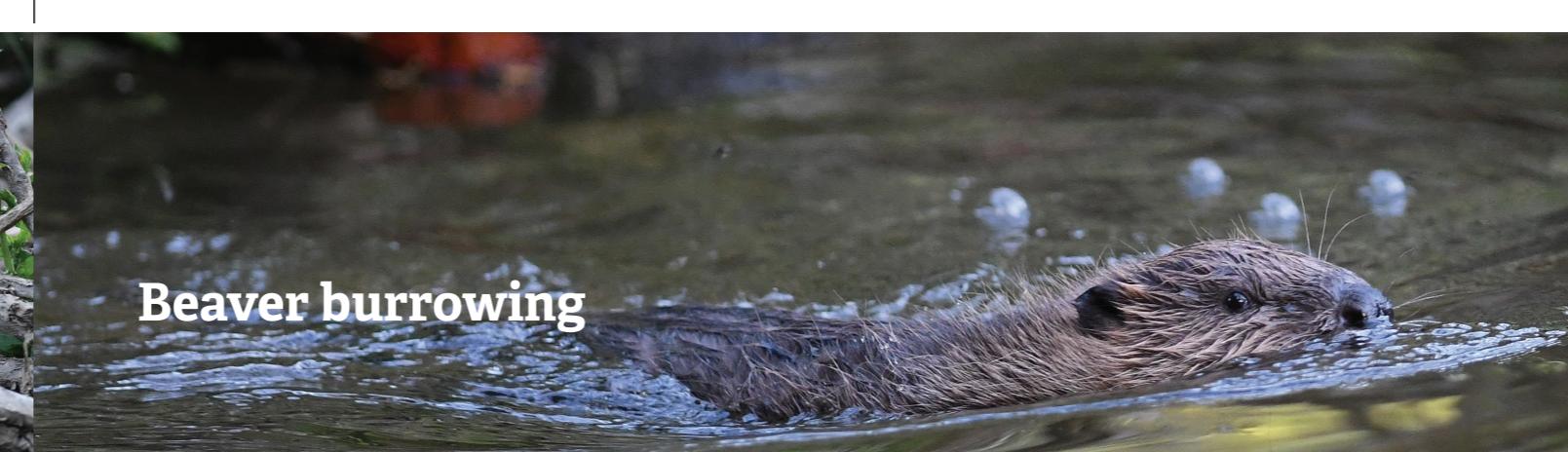
- Notching or removing a dam can be an effective, immediate method to reduce water levels to a desired level.
- Beavers will typically respond to modifications with regular repairs/re-building.
- Effort to repair a dam will depend on its importance in the beaver territory. If the dam protects a lodge or allows access to important food resources beavers will often put determined effort into repairs.
- Reacting quickly and frequently (e.g. removing a dam daily) is most effective.
- In some cases, dams may need long-term attention, and other options can be considered.

Tips and licence considerations

- Dam modification can increase tree felling, so consider if important trees nearby need protection.
- Flow devices should be carefully considered and require a permit from the local flow authority.
- They are not recommended in streams where there are important migratory fish.



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Beaver burrowing

How to manage beaver burrowing activity

Beavers are strong burrowing animals that can excavate burrows and canals and create lodges for shelter and to evade predation. Entrances to burrows are mostly under water and can be difficult to detect. Burrows and chambers adjacent to ponds, rivers and ditches can weaken banks and occasionally contribute to collapse. Burrows can impact infrastructure, public access, grazing livestock and machinery. Most burrowing issues occur within 20m of the watercourse.



Further guidance and support

There are several Beaver Management and Advisory Groups across England to help people coexist with beavers.



Find your local Beaver Management Group
www.beavermanagement.org/groups



Practical advice for managing beaver impacts
www.beavermanagement.org/get-advice

Learn more about the Trust's vision for a wild population of beavers on the Isle of Wight
hiwwt.org.uk/beaver-recovery-network

Please get in touch if you have any questions, concerns or would like a site meeting
Email: beaver@hiwwt.org.uk
Phone: 07879 908040



Beaver ecology and management

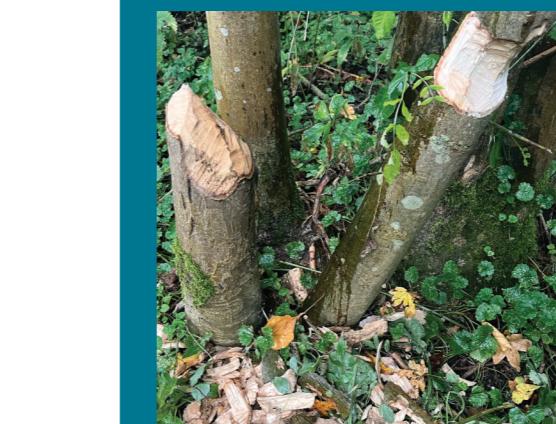
Beaver basics

The Eurasian beaver is a large rodent native to Britain. It lives in and around freshwater and feeds on plants and trees. Beavers are a protected species. They can have many benefits for humans and the environment – such as improving water quality, drought resilience and flood prevention. Beaver activity, such as tree felling, damming, and canal digging, can create dynamic wetlands which provide habitats for many other species. In some circumstances these behaviours can cause conflict with human activities. Management of beaver activity may be required near significant infrastructure, riverside properties, and valuable agricultural land and trees.

This leaflet will guide you through management options and signpost to further information regarding licencing and support. There are well established methods for managing and mitigating beaver impacts, which have been trialled across Europe, North America and during the River Otter Beaver Trial, in Devon. Low impact management techniques do not require a licence. Higher impact management methods are likely to require a license from Natural England. License training is free for landowners, farmers, fisheries and forestry managers.

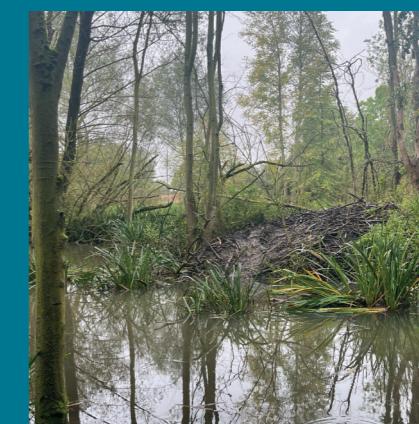


Common signs of beaver activity



Feeding

Beavers feed on woody and green vegetation, leaving a 45-degree angle on the stem. Large incisor teeth leave ridges in wood.



Lodge

Beavers live in lodges and burrows. Chambers and tunnels are unseen underground. If a chamber is exposed beavers are likely to cover the hole with sticks and sediment, creating a lodge.



Dams

Beavers build dams in small streams and watercourses using sticks, large stones and sediment. Sticks with a distinct 45 degree cut on the end (as for feeding signs) will be deliberately placed and lightly packed.

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Legal protection and beaver management licences

On 1st October 2022, beavers were designated as European Protected Species in England and listed in Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

This means it is now an offence to deliberately capture, injure, kill or disturb beavers, or damage or destroy their breeding sites or resting places without a wildlife management licence from Natural England. Eurasian beavers are afforded similar protection in Scotland and across parts of Europe.

Three class licences can be obtained from Natural England to manage beaver activities.

Natural England Class Licences:

CL52: To modify or remove beaver dams >two weeks old or damaged burrows outside breeding season.

CL51: To modify or remove dams >two weeks old, burrows or lodges at any time.

CL50: Only available for beaver specialists. To capture, transport and re-release beavers and modify or remove dams, burrows or lodges at any time.

For more information on legal protection and licences:

www.gov.uk/government/publications/beavers-protection-and-management/protection-and-management-of-beavers-in-england



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Making space for beavers

Beavers on farm and forestry land

Studies in Bavaria shows 95% of issues associated with beaver activity arise within 20m of the water's edge. Planting these areas with native riverside trees and shrubs, or allowing natural regeneration to occur, will reinstate missing riverside habitats. This will increase bank resilience and limit the impacts of beaver foraging, burrowing and damming. Creating buffers along rivers can establish habitat for other wildlife, capture farm run-off, and assist with natural flood management.

Hampshire & Isle of Wight Wildlife Trust will be working with landowners to secure financial support to create buffers and make space for beaver activity along water courses.

Funding for beaver management options

Countryside Stewardship revenue payments are available to create buffer strips and help maintain and restore riverside habitats on land. Contact us for advice on the best available funding options or visit www.gov.uk/countryside-stewardship-grants



Capital payments are available for managing specific beaver impacts. These are open to anyone with an SBI (Single Business Identifier) number. For the latest information visit www.gov.uk/publications/protection-and-infrastructure-grants-2024



Beavers in gardens and ponds

Beavers are known to visit gardens next to rivers and streams, particularly gardens with ponds or favoured tree species. In these locations, depending on the size of the garden and proximity to property, it can be difficult to make space for beaver activity.



Garden ponds

Beavers prefer still or slow flowing water and will occasionally look to make use of large garden ponds as a temporary or permanent home. If you have a large pond in your garden (and it is near a river or stream) we advise monitoring for beaver activity and considering potential impacts of beaver burrowing or foraging. Management options for gardens can include exclusion fencing (temporary or permanent), bank protection and visual and/or audible scarers (though beavers can become accustomed to these).

If your pond is perched above property or important land, beaver activity could impact impounding banks. Burrowing can cause erosion and/or weaken the bank. See 'Beaver burrowing' page.

Foraging in gardens and orchards

Beavers eat a variety of woody and plant species. They can efficiently fell small garden shrubs and medium size trees. If you own a garden or orchard near a watercourse you might want to consider protecting important trees from beaver foraging. See 'Managing impacts of beaver foraging' page.

Protect trees and vegetation from beaver browsing

Protect trees and vegetation from beaver browsing

Beavers will cut tree branches and fell trees to obtain food and material for dam building. In winter beavers predominantly feed on tree bark and in summer they consume a more varied diet including herbaceous plants.

Beavers are known as 'choosy generalists' and have a strong preference towards willow, hazel, aspen, and poplar. Most native tree species and shrubs will regrow (coppice) after beavers have fed on them. They will also forage on a variety of other species such as apple, alder, beech, oak,

sycamore, leylandii, ash, cherry, holly, laurel, rhododendron and wisteria.

Favoured tree species that are considered 'important trees' and are near watercourses where beavers are present are likely to need protection to prevent future impacts. This might include veteran trees, crop trees, or trees that have a high amenity/biodiversity value or may cause damage if felled. If trees need protection this can be undertaken individually or as stands.

A brief guide to methods of tree protection



Tree wrapping

- Wrap 0.9 to 1.2m weldmesh around base of tree.
- Wire weld mesh can be bought in rolls or panels and should be at least a 1.2 – 2mm thick, with a mesh size of 5cm x 5cm.
- Fold cut end of mesh back on the wire to secure the wrap.

Tree painting

- Use a sand and paint/SBR mix or commercial game paint.
- Apply to base of tree with paint brush to at least 0.9m.
- Most mixes dry clear.
- Re-apply every one to two years.
- Does not provide physical barrier but effective in trials.

Exclusion fencing

- Cost-effective when protecting larger strands of trees (e.g. plantations or large orchards).
- Erect 1.2m post and wire fencing around the stand of trees, with a 90cm mesh skirt directed towards the water.
- Use a maximum mesh size of 10x10cm to prevent beaver kits entering.

General tips and considerations

- Consider distance of the tree from a watercourse. Protecting important trees close to the water is recommended. Trees >20m from the water can be monitored and are less likely to be impacted.
- Protecting trees can shift beaver foraging to other unprotected trees. Consider whether the species is likely to be impacted and which trees could be left for beavers to feed on.
- An alternative/complementary protection method can be to establish an unfenced sacrificial planted buffer strip of native willow to draw attention away from more important trees.
- In an emergency chicken wire will provide temporary tree protection. Leave 15cm between tree and any wire wrap.
- Tree protection does not require a licence but fencing by water courses may require other permits from your local flood permitting authority.

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