

Reinforcing banks for water voles



Where banks of watercourses have eroded or become unstable they may require artificial support. 'Soft' engineering options can stop erosion and create new habitat that benefits water voles too.

SOFT ENGINEERING OPTIONS FOR BANK REINFORCEMENT

Natural, steep sided banks made of a soft substrate are ideal for water vole burrows. Use of 'hard' bank reinforcement, such as sheet piling, rock gabions or masonry prevents burrowing opportunities and can seriously impact the survival of water vole colonies.

However, 'soft' engineering options exist that will reinforce banks whilst maintaining or even providing new habitat for water voles and other wetland wildlife.

Faggots



Faggots are made of sticks (usually of osier willow, poplar or hazel), that are tied together into a bundle of 200-400mm diameter. Faggots are secured to the bank below the minimum water line with wooden stakes. Silt and debris

build up in and around them, forming a bank structure that vegetation can colonise, further stabilising the bank. Silt from dredging or soil can also be placed behind and on top of the faggots to create additional bank structure.

Faggots can be used to redirect water flow by securing them to the river bed. This can reduce bank erosion where water flow is strong or increase water flow to scour silt from the river bed by narrowing the channel. Slack areas of water flow behind the faggots make good refuges for fish and invertebrates.

Faggots can also be used in conjunction with the two options on the right.

Coir Rolls



Coir rolls are made of processed coconut fibres, which are hydraulically pressed into a polypropylene or coir mesh bag. They can come unplanted or pre-planted with wetland plants. The pre-planted rolls offer

greater tolerance to fluctuating water levels, heavy water flow and grazing by water fowl.

Coir rolls are staked along the edge of a bank with half the roll above and half below the normal water level. They should not be used where the roll will be out of the water for significant periods of time. The rolls are tied to the stakes to ensure that they remain firmly in place. As vegetation grows on the coir roll, roots of the plants extend into the bank behind, creating a stable structure. Water voles will use the vegetation on established coir rolls and have even been known to use the coconut fibre as nesting material!

Faggots can also be used to support the coir roll where the water is deep. Dredged silt or soil can be placed behind rolls to re-establish eroded banks.

Hazel wattle hurdles

Hurdles are fencing panels, usually 1.8m x 1.8m, made from weaving hazel sticks together. When staked to an eroding bank hurdles can reduce loss of bank structure whilst allowing vegetation to grow through the gaps in the panels, particularly as they rot away.

Hurdles can be interlocked in a frame and backfilled with dredged silt or soil to create blocks of new bank. This provides burrowing opportunities as well as cover and food for water voles.

WHAT SORT OF REINFORCEMENT SHOULD I USE?

As a general rule, coir fibre rolls work best for shallow banks while faggots and hurdles are good for deeper banks. However, these options can be combined to build up banks, or if 'hard' engineering is essential, can be used in conjunction with them to create some habitat.

Hazel wattle hurdles are particularly useful in areas with high boat activity, wave or flow action. They have a longer life span than using faggots on their own and are much more robust.

Work is best carried out between November and February. This will avoid the water vole breeding season and encourage good establishment of vegetation.



WHY CARRY OUT NATURAL ENGINEERING

Using natural engineering options may help water voles to re-colonise or remain on a site and will also provide habitat for other wetland wildlife. It will also create a more natural and aesthetically pleasing appearance of the watercourse.



BEFORE YOU START

- NEVER damage or block water vole burrow entrances – it will adversely affect water voles and you will be breaking the law! If in doubt as to whether water voles are present at your site and for advice on best practice contact the Wildlife Trust.
- Works that are likely to impact water voles and their burrows can only be carried out under a Protected Species Licence from Natural England. www.naturalengland.org.uk
- Nearly all works in, over, under or adjacent to main rivers require consent from the Environment Agency. Contact them at the earliest opportunity if you are interested in using any of these bank reinforcement techniques. www.environment-agency.gov.uk

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For more information contact:
Wetlands for Water Voles and People Project
Tel: 01727 858901
Email: water.vole@hmwt.org
Website: www.hertswildlifetrust.org.uk

FURTHER INFORMATION

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