

# factsheet

April 2007

## Work aims to reduce flood risk

**As well as improving Boscastle's flood defences, the Environment Agency is working with the National Trust and other landowners to reduce the risk of trees being washed down the River Valency in a flood. We have produced this factsheet to tell the public about the work.**

The flooding that devastated Boscastle on 16 August 2004 was caused by the huge volume of water flowing down the rivers Valency and Jordan into the village centre after a prolonged thunderstorm.

More than 40 homes and business were flooded and many people had to be rescued by helicopter. Fortunately no lives were lost. The floodwaters washed away trees in the Valency Valley and carried them downstream. The trees, other debris and cars were swept down from the car park, blocking both bridges.

As the massive clean-up operation went on in Boscastle, the Environment Agency worked with the National Trust – which owns much of the Valency Valley – and other landowners to remove trees, fallen branches and vegetation that posed an immediate risk in flood flows.

It is not practical to prevent another extreme flood like the one in 2004. Instead, we are improving Boscastle's flood defences to protect lives, homes and businesses against smaller-scale floods and reduce the impact of larger ones.

It was widely recognised that a long-term management plan was needed for trees in the Valency Valley. This had to allow for the removal or reduction in size of those trees that could add to future flooding problems, while identifying and keeping those which would help by trapping and holding back sediment and debris and preventing it from reaching the village.

We identified areas where trees could be washed away by floodwaters and carried into Boscastle. Specialists in trees, floods and the environment worked together in looking at different options for managing trees.

Our consultants produced a detailed report which recommended a programme of managing trees and woody debris from Newmills down to Boscastle. The work includes coppicing riverside trees to stabilise growth and felling or coppicing unstable trees in the immediate floodplain.

An outline of the work is given in this factsheet.



*Above: The problem – trees washed down the River Valency on 16 August 2004 worsened the flooding*



*Left: Coppicing riverside trees such as this in the Valency Valley will reduce the risk of them being washed downstream*

# Our search for the right approach

We are taking a ‘whole catchment’ approach to managing flood risk in Boscastle. This involves not just improving flood defences in the village but also managing trees in the Valency Valley.

In the months immediately after the flood we built a flood relief culvert for the River Jordan around Marine Terrace. As part of the £800,000 scheme, a ‘trash screen’ was installed to stop large debris such as boulders, stones, trees and branches being washed into the culvert and blocking it.

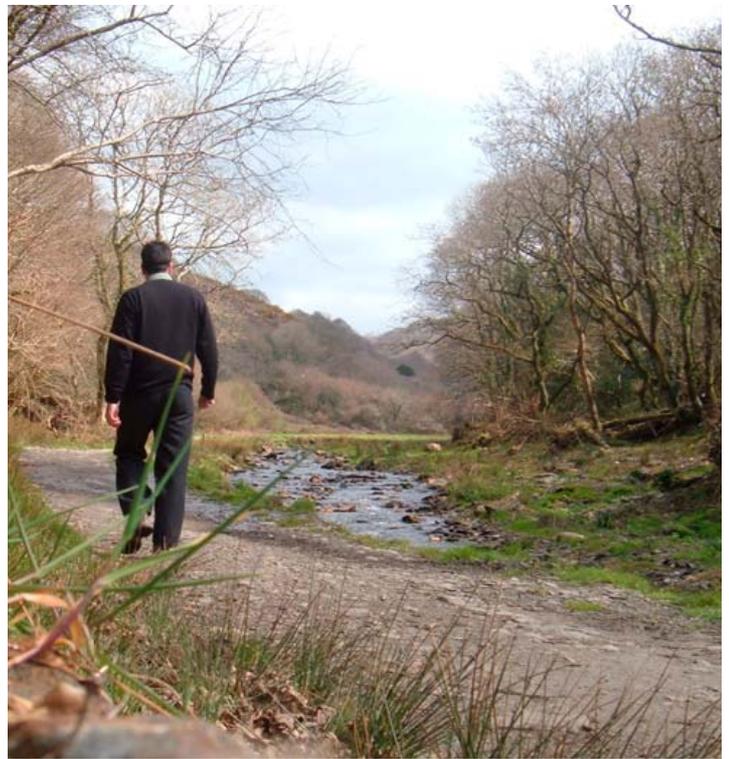
In 2006 the Environment Agency began a £4.6 million project to reduce the risk of flooding from the River Valency. We are working in partnership with the National Trust, North Cornwall District Council, Cornwall County Council, Forrabury and Minster Parish Council and South West Water.

The work involves lowering and widening the river channel so it can carry more water, and raising the height of the car park so vehicles are less at risk of being washed away by another flood. The car park is being moved further from the Valency to make more space for the river and create an area for sediment to be deposited.

But improving flood defences is not enough on its own: we also have to ensure that trees are less likely to be washed down into the village in another flood when they could contribute to the blocking of bridges.



Work on improving flood defences in Boscastle



*Walking by the river in the Valency Valley between Newmills and Boscastle: Trees on the river bank will be coppiced, while unstable trees on the floodplain may be felled or coppiced*

Since the 2004 flood we have worked closely with specialists in tree management and flood processes, landowners such as the National Trust and environmental experts to find the best way to manage trees in the Valency Valley.

This work involved:

- Investigating the impact of trees in the August 2004 flood and what could happen in future floods.
- Collecting views on tree management from landowners and the local community.
- Identifying trees vulnerable to collapse from floodwater and how far they could be carried in a flood.
- Assessing potential tree management methods.
- Choosing the appropriate method to balance flood risk with the environment.

We looked at several different tree management options. These included:

- Leaving the valley to re-vegetate with no maintenance.
- Varying degrees of tree management in the Valency Valley (low, medium and high intervention).
- Installing a debris fence across the river upstream of Boscastle to catch trees.
- Combinations of the above.



*Jeff Cherrington of the National Trust with coppice regrowth in the Valency Valley*

# Our chosen method for managing trees

**Our consultants have produced a detailed report. We are working with landowners to put its recommendations into practice.**

The key features of the work will be:

- Woody debris over two metres long will be cleared from the river.
- Cutting woody debris in the immediate floodplain to less than two metres or moving it outside the floodplain.
- Coppicing\* all trees growing on the riverbanks.
- Regular inspections of all trees in the immediate floodplain for signs of instability. These may be felled or coppiced.
- Maintaining tree cover in the immediate floodplain at current levels by limiting the height of sapling regrowth through coppicing or felling. Selected saplings will be allowed to grow into mature trees to replace those which are felled.

Upstream of Newmills and on the Valency's tributaries, a lower level of tree management is acceptable. Here the trees and debris tend to slow water flows and trap material, helping reduce the flood risk to Boscastle. The following are examples of good practice that riverside landowners can

adopt in these areas:

- ❑ Reduce risk of blockages by routinely clearing tree debris from the river for at least 100 metres upstream of culverts, bridges, fences and hedges.
- ❑ Maintain field boundary fences and hedges crossing, or next to, the river. These tend to stop debris that would otherwise continue downstream.
- ❑ Cut tree debris on the riverbank to lengths below two metres. This will reduce risk of blockages if debris is washed downstream.

## **Why coppice the bankside trees?**

Full-height trees growing from the riverbank between Newmills and Boscastle are at risk of being washed into the village during floods. This is what happened in August 2004. Coppicing these trees reduces their height and weight while retaining a wide root base, which means their stability is greatly increased.

**Our tree management study is available on request from Andrew Houghton at the Environment Agency on 01208 265154 or email [andrew.houghton@environment-agency.gov.uk](mailto:andrew.houghton@environment-agency.gov.uk)**

\* Coppicing is the cutting of trees near ground level to encourage a large number of new shoots. These shoots grow into a number of smaller trunks which can then be harvested to use in traditional woodland practices such as making charcoal.



*Map of the Boscastle area: Highlighted in green is the section of the Valency Valley to be actively managed*

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# Working with nature to manage trees

## Environmental benefits

Tree management will re-introduce coppicing of alder, oak and sycamore in the floodplain. This will allow more warmth and light onto the woodland floor and stimulate a wider diversity of flora and fauna. Woody debris will also be left on the valley floor to encourage insects, reptiles and mammals such as slow worms and otters.

Rotating the coppicing will produce a range of vegetation sizes which will help promote a diverse valley landscape, avoiding a uniform appearance.

## Managing flood risk naturally

The 2004 flood showed that there are naturally-occurring areas on the upper Valency and its tributaries which catch debris and reduce the amount reaching Boscastle. We aim to use these natural processes: we will ask landowners to retain bankside trees on the upper Valency and tributaries.

Through sensible tree management in the Valency Valley we can avoid the need for a debris fence above the village.

## Tree management in practice

The 2004 flood cleared the valley to a reasonable level of tree cover which should be maintained into the future.

After completing a tree management study and deciding on a balanced approach to managing trees, we will now work with landowners to ensure that the study's recommendations are carried out.

This is what we will be doing:

- We plan initial bankside coppicing for the winter 2007/08, outside the bird-nesting season.
- We will work with landowners in making regular tree inspections and ensure continued maintenance into the future.
- We will regularly review the tree management practice we have chosen to see how effective it is.

This important work must continue into the future to help keep the flood risk to Boscastle at an acceptable level.

**This factsheet has been produced by the Environment Agency  
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**For information about tree management in the Valency Valley, please contact Andrew Houghton on 01208 265154 or email [andrew.houghton@environment-agency.gov.uk](mailto:andrew.houghton@environment-agency.gov.uk)**

**For information about the Boscastle flood defence scheme, please contact Phil Barlow on 01392 352307 or email [philip.barlow@environment-agency.gov.uk](mailto:philip.barlow@environment-agency.gov.uk)**