

Plant trees... for a thousand good reasons

With climate change predicted to cause damaging flood events, Hugh Chalmers believes that planting trees to restore natural defences is our safest bet. It also has a myriad other interconnected benefits.



'Hand and acorn', woodcut by Michael McCurdy in *The Man Who Planted Trees*, 20th anniversary edition, ©2005, used with permission from Chelsea Green Publishing.

In 1989, *Tree Planter's Guide to the Galaxy* (TPGTTG), the forerunner of this journal, appeared as a beacon of light. It is true that this beacon was being held aloft (as I thought then) by some quite eccentric individuals, but I was struck by the honesty of the articles, and how fundamental principles of human ecology were being expounded with a call to action. Looking back at my old copies of TPGTTG, I am amazed at how relevant they are today.

Some of today's Scottish policies on land use surely reflect the influence of the TPGTTG generation, realising that there is so much interconnection in natural systems. As John Muir said: "When one tugs at a single thing in nature, he finds it attached to the rest of the world". Encouraging sustainable flood management in the River Tweed catchment is one such policy (and which I am working on with Tweed Forum), but what has this got to do with reforesting our land and how can it be used as an influence for good?

Examining how damaging flood peaks on tributaries of the Tweed might be reduced, you find the rest of nature, climate and land use connected to the issue, and not just in a simple way, but in a complex web. Fred Pearce, writing in the first issue of TPGTTG back in 1989, gave an early warning of the drastic consequences of global warming and advised us to plant trees. Now, 21 years on, we have a Scottish policy which

aspires to plant 10,000ha of trees per year (up from 5,000ha per year at present).

If we can get this right by planting the right trees in the right places, we may be able to make a difference to global warming by locking up carbon. But planting trees also helps flood reduction, provides connected native woodland habitat, increases flood resilience, cleans up rivers, protects endangered species, increases native freshwater fish stocks, recharges aquifers, provides livestock shelter, enhances the landscape and in short, brings to life an integrated vision for Scotland's forests which has always been at the heart of Reforesting Scotland.

One key bit of science which I first heard Professor Chris Baines, the independent environmentalist, talk about is rainfall percolation rates and how they depend on land use. Sheep pasture is perhaps the worst for having short grass with a capped layer of almost impermeable soil which then causes rainfall to run off rapidly (almost as fast as rain falling on the old-fashioned up and down forest plough furrows).

In fact, compared to the experimental strips at Pont Bren, mid-Wales, where native trees have been planted along the contour, rain falling on sheep pasture takes between 50 and 100 times longer to percolate into the ground. The farmers at Pont Bren worked this out for themselves in order to save massive erosion of their precious soil.

If we can now roll out this idea to all the catchments where we need to slow down the flow and reduce the flood peaks (which are becoming more extreme due to changing weather patterns and historic loss of tree cover), then

this is an idea which farmers can appreciate. Now the Reforesting Scotland vision of a well-wooded and well-farmed landscape starts to get clearer, a landscape where water is held on to for as long as possible with a network of restored peat bogs, montane scrub, gully woodlands, hill slope woodlands, riparian woodlands, wide hedges and floodplain woodlands.

This is getting to sound uncomfortably like Jean Giono's *The Man Who Planted Trees*. Today a Scottish Government equivalent would be 'restoring ecosystem services – community watershed initiatives'.

Ecological restoration is not cheap (it would be better not to spoil things in the first place) and we are due to repay the debt which our ancestors left us when they destroyed the original forest of Scotland, as Ulrich Loening said in TPGTTG issue 4 in 1991. However, let us use the fact that sustainable flood management (with all its wonderful restoration abilities) can be much cheaper than the traditional hard engineering flood management. The effects will not be immediate, but does anyone have a better idea? Restoring natural processes is our only hope.

Elezeard Bouffier, Giono's man who planted trees, persevered with his hazel stick and buckets of acorns. Now we have to persevere just as doggedly with Scottish Rural Development Programme (SRDP) applications online. Pity us.

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