

Forest resources and management

I'd like to explain that my professional responsibilities are for UK forestry that is the full range of stakeholders/beneficiaries – to a) see that the sector delivers what it has the potential to deliver and b) to see that the forestry sector gets a fair deal in the light of its potential to deliver and when confronted with the pressures that there are on land and other resources.

Secondly as a forest scientist my interests are at the supply end of the discussion today and I'm particularly concerned with the science/policy /practice linkages.

In this introductory 10 mins I want to say a brief work on three areas:

1. **Global resource supply** and some of the associated issues, pressure points and governance.
2. **A quick word about the UK specifically** – we are an interesting case
3. And Rosamunde asked me specifically to consider **next generation research questions** – by far the hardest bit.

Global resources are covered in the paper which was e mailed round – this is a quick preview of the FAE Global Forest resource assessment which will be released in September this year at the World Forestry Congress in South Africa.

Forest cover globally has been declining since the iron age at a rate which accelerated during the industrial revolution and – in terms of the loss of primary forest – is still increasing. This loss of forest cover has had a number of effects including making a contribution to atmospheric CO₂ content and some equally dramatic effects on the environment and biodiversity locally. We are very fortunate to have the FAO GFRA and all the numbers I'm about to quote are from it. The Assessment was started in 1980 and so we have good quantitative data since then.

The net loss of forest area globally is the combined outcome from deforestation and woodland creation. It shows that the area of forest cover globally has decreased from 4.13 Billion ha in 1980 to 3.99 Billion ha in 2015.

Rates of overall loss have been:

- 1990 – 2000 8 Million ha/year
- 2000 – 2005 5 M ha/year
- 2005 – 2010 6 M ha /year
- 2010 – 2015 8 M ha /year (UK is c 24 Million ha)

Since the world land area is c.11.623 Billion ha globally forest cover has now decreased to 34.28%.

There is not an International Convention on Forestry or a European Legally binding agreement on Forests although over the years there has been much talk of it. The FCCC and Biodiversity Convention all impose forestry instruments.

The UN has run a Forestry Forum and important UN initiative has been the REDD and REDD + . That is funding to schemes to Reduce the Emissions of Green House gases from Deforestation and Forest Degradation. Essentially a UN funding scheme to protect forests in developing countries.

Other key international instruments have been on Illegal logging, EU Timber Trade Regulation and Forest Law Enforcement Governance and Trade (and VPAs) and Forest Certification to achieve sustainable forest management although this still covers on 4 % of global forest area. CITES – global; agreement on endangered spp.

Since the area of planted forests has been increasing the net forest area data hide a continuing decline in primary and natural forest area.

Of course it's bad that primary/natural forests with all their biodiversity, conservation and environmental benefits are declining.

However it is good news that plantation forestry is increasing – it becomes possible that planted forests will supply a bulk of wood requirements and act to protect the remaining natural forests. Currently planted forests make up 7 % of the total global forest area but provide 45 % of industrial roundwood consumption.

There is considerable scope for planted forests to contribute to biodiversity, landscape and other ecosystem services as well as to meet the bulk of global wood needs. Tree breeding can substantially increase production – In Eucalyptus tree breeders have more than doubled productivity and even the UK SS breeding programme has increased yield by 23% without loss of wood quality.

Planted forests may be very acceptable as a land use on degraded land and thus as long as we continue to create planted forests and to manage them sustainably we are likely to be able to meet global timber needs.

Just want to mention two more points on the international side. Firstly IUFRO have just established a Task force on Planted forests for which I am the UK contact point. This is an important initiative which aims to move forward the potential of planted forests

Secondly illegal logging, governance, international trade and controls. Remain very important.

A very brief word about the UK then as on industrialization – we led the world on deforestation and by the end of the second war had decreased our forest cover to c. 4% - its now 12 % so we feel that we are experts on reforestation – woodland creation.

One reason it's worth mentioning the UK is to illustrate how national policies operate – it was a national programme to re- establish forest cover and it was achieved by a combination of a Government programme which included land acquisition and grant aid to private forestry. Not more than 20 years ago the domestic market only provided c. 10% of softwood roundwood needs and the processing industry was on its knees. Today its 40% as a result of the new forests coming to production. This is influenced strongly by the price of roundwood on the world market and the use of wood as a biomass fuel has helped to hold up prices.

Softwood production in the UK is about 8 – 10 Million m³ per year, and does support a processing industry. Including my multinational like UPM Tillhill.

Hardwood production is much lower at 0.5 to 1.0 Million m³ per year and is potentially much greater. There is talk of a potential as high as 5 million m³ per year. Only about 58% England's woodlands are managed and there is a target to raise this

to 66 % by 2018. Recently policy has moved away from woodland creation to woodland management and protection. Grown in Britain – new initiative.

On future research needs I', going to keep my initial comments quite general and perhaps we'll get into more detail during the evening.

I'd say that within the UK we have moved from a past focus on woodland creation and to some extent biodiversity which has been a major focus in recent years to an agenda driven by climate change adaptation and protection from pests and pathogens, (both crouched in terms of resilience). Climate adaptation work focuses on different species their silviculture and wood properties. And in upland forestry in particular this means a serious look at species mixtures to achieve resilience. These policies have implications for wood processing and utilization.

Carbon management and other ecosystem services are important. We still have a National Capital committee I think!

In Europe there is a stronger interest in novel uses for wood – the bioeconomy as it's often called. And internationally – as I've already indicated conservation, social and governance issues will remain important. Forest pests and pathogens will remain important since the threat they pose will continue to be present as long as we have timber, plants and wood packaging moving internationally.

Biography

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Chief Scientist, Forest Research and Forestry Commission

As Chief Scientist for Forest Research and Forestry Commission, Peter ensures that Forest Research provides the scientific knowledge and expertise required to achieve sustainable forest management. He ensures that advice to policy makers and practitioners is based on good scientific understanding and sound research and contributes to the formulation and implementation of the Forestry Commission's policies and objectives. Additional responsibilities include Head of Station at Alice Holt Forest near Farnham in Surrey (where he is based) and representing Forest Research on the Forestry Commission Research Management Board.



Peter studied for his first degree at Stirling University gaining a first class degree in Biological Sciences. His PhD was on the Impacts of Air Pollutants on Trees. Both his PhD and DSc are awarded by the University of Lancaster. Peter did two periods of post-doctoral research at Lancaster before moving to a lecturer's post at the University of Ulster. He joined the Forestry Commission in 1987. In June 2005 Peter was appointed Honorary Visiting Professor in the School of Biological Sciences, University of Southampton. He was appointed Forestry Commission Chief Scientist in 2009.