

EA - WATER QUALITY Box 10
File copy

DO NOT REMOVE



ENVIRONMENT
AGENCY

Briefing Note

Forestry and the Water Framework Directive

The Water Framework Directive (WFD) will have implications for land use management as well as water management. This Brief gives the Environment Agency's current understanding and position on some of the key issues relating to forestry.

Key issues

- Forest and woodland account for about 13 per cent of the land area in Wales and 8 per cent in England.
- Water-related pressures associated with forested catchments include acidification, nutrient enrichment, siltation and increased flood flows.
- Forest management can result in positive as well as negative impacts on the water environment.
- The Forestry Commission is responsible for regulating forestry activities in England and Wales and will continue to be engaged to enable their powers to be incorporated into the WFD 'programmes of measures'.

Background

Forest and woodland are a major component of land cover in certain parts of England and Wales. In some upland areas the large extent of forest together with current and past forestry management practices has resulted in significant impacts on the water environment. Control of these impacts will be required to achieve the WFD's environmental objectives.

Roles and responsibilities

Forest policy is a devolved responsibility, resting with the Secretary of State for Environment, Food and Rural Affairs in England and with the National Assembly in Wales. Policy development is undertaken by the Forestry Commission of Great Britain, the government department responsible for the protection and expansion of forests and woodlands throughout the UK. The Forestry Commission has recently been restructured to take account of devolution, and Forestry Commission England and Forestry Commission Wales now report to the respective ministers.

The Forestry Commission is responsible for the planting and management of public forested land. It also helps and controls the planting and management of privately owned woodlands through grant payments and felling licences. The Forestry Commission has created two executive agencies to carry out its duties. Forest Enterprise is responsible for the sustainable management of public forest and woodland, and Forest Research is a UK-wide body responsible for scientific research and surveys.

Forest management and planning falls outside the boundaries of development planning regulation and the Environment Agency is not a statutory consultee on forestry issues. A key element for successful implementation of the WFD will therefore be the establishment of appropriate links between the WFD and the forest planning and regulation systems in England and Wales. The Agency is currently able to comment on a non-statutory basis on licence applications submitted to the Forestry Commission. The Agency also serves on steering groups involved with the Regional Forestry Frameworks and can exert influence via this route too.

Operational issues

Forest planting can have a number of positive impacts on the water environment for example using strategically placed woodlands to act as riparian buffer zones helping to reduce soil loss from arable cropping sites. However, forestry management practices can also cause significant pressures on water quality and water resources. These pressures will need to be considered as part of the pressures and impacts assessment required by the WFD to identify water bodies 'at risk' of not achieving the Directive's objectives. The main aquatic impacts associated with forested catchments are acidification, nutrient enrichment and siltation.

- **Acidification** - Where the loading of nitrogen and/or sulphur compounds exceeds the buffering (neutralising) capacity of soils, acidification of freshwater bodies can occur. Acidification affects water quality in many upland catchments, where increased loading due to high rainfall and the 'scavenging' effects of forest canopies combine with thin, base-poor soils to create an excessive loading of nitrogen and/or sulphur.
- **Nutrient enrichment** - Nutrient enrichment can result from aerial application of fertilisers, large-scale felling operations, and erosion of soils where nitrogen is bound to the soil particles. It is a particular problem in nutrient-poor upland streams. Increased concentrations of nitrogen in groundwater can also occur in conifer forests, especially where low rainfall results in disproportionately high evaporation.
- **Siltation** - Poor felling and cultivation practices can lead to large quantities of sediment being washed into surface waters during heavy rainfall. This fine sediment can cause considerable degradation of fish populations by covering gravel spawning areas and by interfering with fish feeding.
- **Flood Flows** - forestry can have a range of effects depending on the type and scale of operation with ploughing and poor drainage leading to an increase in peak flows. However, floodplain forests may also have an important role to play in attenuating flood peaks. Therefore the effect of forestry on flooding is dependant on planning at a catchment scale.

The way forward

The Forestry Commission is a key stakeholder in the implementation of the WFD. Forestry management practices will need to be influenced through 'programmes of measures' to ensure that WFD objectives can be achieved. For instance, movement away from clear-felling practices would help prevent soil erosion and reduce nitrogen uptake by soils; forests of mixed age and structural diversity would reduce the scavenging of atmospheric pollutants; and strategic placement of woodlands to provide buffer zones in riverside areas would restrict the transport of nutrients, pesticides and sediments.

Much research is still needed to understand the causes and effects of aquatic environmental impacts in forested catchments. This work is necessary to provide information for the appraisal process in the 'programmes of measures' required by the WFD.

Ongoing discussion between the Agency and Forestry Commission has resulted in the production of the 'Forests and Water Guidelines'. These guidelines provide a basis for sustainable management of the water environment by forest planners and managers. The fourth edition, published in the autumn of 2003, includes a chapter on catchment planning issues in anticipation of the WFD.

For further information, please contact:

Isobel Austin, Environment Agency, Water Framework Directive Communications
Tel: 01491 828520 Email: isobel.austin@environment-agency.gov.uk

Version 1 – February 2004

ENVIRONMENT AGENCY



022820

CONTACTS:

ENVIRONMENT AGENCY HEAD OFFICE

Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD
Tel: 01454 624 400 Fax: 01454 624 409

www.environment-agency.gov.uk
www.environment-agency.wales.gov.uk

ENVIRONMENT AGENCY REGIONAL OFFICES

ANGLIAN

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: 01733 371 811
Fax: 01733 231 840

SOUTHERN

Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 01903 832 000
Fax: 01903 821 832

MIDLANDS

Sapphire East
550 Streetsbrook Road
Solihull B91 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

SOUTH WEST

Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: 01392 444 000
Fax: 01392 444 238

NORTH EAST

Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: 0113 244 0191
Fax: 0113 246 1889

THAMES

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: 0118 953 5000
Fax: 0118 950 0388

NORTH WEST

PO Box 12
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

WALES

Ty Cambria/Cambria House
29 Newport Road
Cardiff CF24 0TP
Tel: 029 2077 0088
Fax: 029 2079 8555



ENVIRONMENT AGENCY
GENERAL ENQUIRY LINE

0845 9 333 111

ENVIRONMENT AGENCY
FLOODLINE

0845 988 1188

ENVIRONMENT AGENCY
EMERGENCY HOTLINE

0800 80 70 60



ENVIRONMENT
AGENCY