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Forestry and Wood Update

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# Managing our broadleaf resource to produce quality hardwood timber

In October 2002 COFORD organised the first in a series of two-day events on growing and managing broadleaves and utilising hardwood timber. This very successful event was part of COFORD’s ongoing commitment to the development of all aspects of the forest industry in Ireland, particularly the hardwood sector. Since this time the event has been developed and held at several places throughout the country. The overall objectives of these events are to:

* bring together growers, and potential growers, of broadleaves, processors and users of hardwoods to increase the level of understanding of each others enterprises, practices, procedures and problems,
* demonstrate effective management techniques especially for recently established plantations to ensure the production of best quality logs from these woodlands,
* showcase the range of products that can be made from home-grown hardwoods,
* encourage the re-establishment of a wood culture in Ireland.

The next in this series of events will take place at the Marriot Johnstown House Hotel in Enfield, Co Meath on 23 and 24 June 2005.

This event is aimed at owners and managers of broadleaved woodland as well as consultant foresters and all those working in the management of broadleaved trees. It is a recognised event under the Society of Irish Foresters’ Programme of Continuous Professional Development (CPD), equivalent to 16 points.

The programme for 23 June will be chaired by Donal Whelan, Technical Director, Irish Timber Growers’ Association, and will include the following presentations:

* The growing broadleaf resource – what is out there? - *Seamus Dunne, Forest Service*
* Growing broadleaves – as the grower sees it - *Joe Barry, Grower and Journalist*
* Production of quality broadleaves – the need for good management including shaping, tending and thinning - *Michael Bulfin, Teagasc*
* Threats to the broadleaf resource – the impact of the grey squirrel - *Dr Michael Carey, Forestry Consultant*

After lunch delegates will depart for a field visit to Joe Barry’s plantation at Larch Hill Stud, Kilcock, Co Kildare, where the management of pure ash and sycamore stands will be discussed as well as the treatment of a plantation of sycamore damaged by the grey squirrel.

The programme for 24 June will be chaired by Tony Mannion, Technical Director, Society of Irish Foresters, and will include the following presentations:

* Introduction to hardwood timber sales
	+ Preparation and presentation of woodlots
	+ Valuing and grading of hardwoods -*Gavin Munroe, Hardwood Consultant*
* Options for sale of hardwoods – standing sales or felled and on roadside - *Gavin Munroe, Hardwood Consultant*
* Sourcing and processing the hardwood resource – what are the main issues? - *Seamus Heaney, Coillte*

After lunch delegates will depart for a visit to Donadea Forest Park where practical applications of all aspects of preparation and sale of hardwoods will be examined.

For more information on this event, visit [www.coford.ie](http://www.coford.ie) or contact John Fennessy (tel 01-2130725 or email john.fennessy@coford.ie).

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# Irish Sitka spruce dynamic yield model

COFORD began the roll-out of its long awaited dynamic yield models for Irish Sitka spruce at the Tipperary Institute, Thurles, on 13 May 2005. This initiative is of vital importance to the Irish forest industry as it is the first time that Irish-specific yield models have been made available to the private sector. The fact that they are dynamic is even more important as roundwood production can now be more accurately predicted based on real-time stand parameters rather than having to opt for a static management regime as with the current yield tables.

The very successful workshop will be repeated on 30 June at WIT. The event will begin with a mensuration 'refresher' course in a nearby forest followed by a short classroom session and then working through some examples.

Please contact COFORD if you wish to attend the workshop. Be advised that numbers of participants will be restricted to a maximum of 30 and that bookings will be made on a first come first served basis. Details will be made available on the COFORD website as soon as they are finalised.

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# Hardwood Matters

In recent years COFORD has managed a process aimed at increasing the knowledge of foresters and landowners who work in the production of quality hardwood timber. This has involved hosting a number of seminars and workshops on the establishment and management of broadleaved plantations and the preparation for sale of hardwood lots.

Varying estimates put the annual harvest of hardwood timber at between 10 and 50 thousand cubic metres. Anecdotal evidence points to frustration among growers at not being able to find buyers for their hardwoods and among buyers at not being able to source enough home-grown hardwoods! The need for a sales system arises from the current unsatisfied market demand for home-grown hardwoods, difficulties expressed by timber owners in finding buyers, inconsistent quality in terms of product, presentation, access, lot size and price expectation, loss of key skills in the areas of felling, valuing and processing; and the high employment multiplier of hardwoods, relative to softwoods.

To address these issues COFORD took the initiative and launched “***Hardwood Matters***” in early 2005. This sales catalogue for hardwoods featured both for sale and wanted sections and aims to bring the buyers and producers together in a more coherent manner. The first catalogue in this series was published earlier this year and was well received. The second is due for publication in July 2005 and COFORD is now inviting input from growers and purchasers for inclusion in this upcoming catalogue. The catalogue features both ‘for sale’ and ‘wanted’ sections. Should you have any material for inclusion please forward it to COFORD on a standard form, which can be downloaded from the [COFORD website](http://www.coford.ie/hardwoodmatters/default.html) or can be obtained from the COFORD office be calling 01-2130725. All material for inclusion should arrive at COFORD by 30 June 2005.

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# Working party on alder

Common alder (*Alnus glutinosa*) is one of our native broadleaf species. It is easy to establish and not as vulnerable to deer and grey squirrel damage as other broadleaf species. However, it does suffer from a serious root rot known as ‘alder phytophthora’. Over the past six years, demand for transplants has risen at an exponential rate from 870,000 in 1998 to almost 3.5 million in 2003. Similar increases have been recorded in demand for seed from just over 62 kg in 1998 to almost 260 kg in 2003.

In 2004 a working party was established to examine the availability of seed sources for common alder in Ireland. The group is made up of various interest groups including the Forest Service, the nursery sector, private forestry sector and is co-ordinated by COFORD. Its objective is to examine the current supply and demand for seed and plants of the species and to advise on the development of suitable seed sources to meet projected increases in future demand on a sustainable basis. The group decided to undertake a national survey of common alder stands throughout the country. Presently, a member of the working group is visiting each of these sites and will carry out a detailed evaluation of the stands. It is hoped that as soon as this work is completed the best areas will be identified for seed collection and with the co-operation of the owners will be registered as future seed sources (seed stands). COFORD wishes to express its sincere thanks to all those who responded to the survey.

While the national survey of stands of alder is now almost complete, it is not too late to include new stands. If you know of a stand of alder or individual trees of reasonable quality, please send the information with a map (if possible) to John Fennessy at COFORD (email: john.fennessy@coford.ie)

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# COFORD evaluation of recently established broadleaves

COFORD has been actively monitoring the performance of the main broadleaved species planted since the mid to late 1980s on a number of sites throughout the country. In 2004 a number of plantations, both pure and mixtures, were examined in the southern part of the country. Similarly, in late spring 2005, a number of comparable plantations were visited in the northern part of the country. Despite early concern about the performance of some species, particularly oak, overall the performance of the plantations is satisfactory and the current spacing and mixtures have the potential to produce a final crop of commercial timber. Indications are that the crops planted post 1997, when the stocking density was increased, will offer the grower a wider choice and a better prospect of producing high quality hardwood timber.

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# COFORD Connects notes

The COFORD Connects series of practical information notes is prepared on an ongoing basis to address issues of current interest and relevance to practitioners in the Irish forest and related industries.

The notes are designed to be added to a purpose-made folder, available from COFORD. Previous notes can be obtained from COFORD or downloaded from the COFORD website at www.coford.ie/bookshop/cofordconnects.html. The next set of notes is being prepared at present. If you would like to suggest any topics to be addressed in this series please contact Lauren MacLennan (email lauren.maclennan@coford.ie).

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# CARBON CORNER

## Market price of carbon and compliance costs now more certain

Trading in allowances (each allowance is one tonne of carbon dioxide) under the pilot phase of the EU Emissions Trading Scheme (ETS) is now quite active, with a daily volume of around half a million tonnes/day.

Under the scheme all energy generating and using installations above a certain size (20 MW thermal equivalent, of which there are 106 in Ireland) have been allocated an annual emissions cap. Installations that do not reach their cap can trade the surplus emissions to other installations that may have exceeded their cap. Purchase and trading of emissions takes place not only from installation to installation, but across Member States. For example an emitter in Germany can purchase allowances from an installation in Ireland that has not reached its cap. A trading market is being created that, in theory, should allow for economically efficient compliance with overall emission targets. Failure to make compliance will result in a penalty of €40/tonne carbon dioxide during the pilot phase, and €100/tonne from 2008 - the onset of the first commitment period of the Kyoto Protocol.

At the beginning of the year, carbon was trading at around €7/tonne carbon dioxide. Many energy economists had predicted, however, that this price would rise as installations faced compliance, and would eventually reach close to €20 per tonne. This prediction has proven to be accurate, as the underlying price trend since the beginning of the year has continued upwards, to the extent that the price is now hovering close to €20/tonne carbon dioxide.

Greater certainty is thereby emerging in the market place of what the price of carbon will be for those installations involved in the ETS. Allied to this is the fact that the size of the emissions trading market is now known, as almost all EU Member States have submitted their National Allocation Plan (NAP) under the scheme.

As far as Ireland’s overall national compliance is concerned about one third of the 1990 (plus the 13% allocated under the EU burden-sharing arrangement) emissions have been allocated under the ETS. Keeping emissions under the ceiling of the remaining two thirds, in areas such as transport and agriculture, is the direct responsibility of government. Given the current trend in Ireland’s emissions (25-30% over target), purchase of units will be necessary for compliance. These purchases will be quite separate to ETS allowances, and are likely to be in the form of assigned amount units (from Russia or Ukraine who have surplus emissions resulting from the decline in their energy use since the early 1990s), or units generated under the Clean Development Mechanism in energy or forestry projects. Indications are that the price of these ‘government’ purchases is likely to be in the region of the ETS price, or close to the €20/tonne figure.

COFORD’s consistent argument is that this purchase cost of, say, €60-80 million per year (given the likely emissions overrun) should be one of the prime considerations in overall climate change and energy policy, and either be factored into purchase prices for renewable energy prices, or into other market mechanisms government is considering. For example, an additional 100 MW[[1]](#footnote-1) of heating supplied by wood boilers would displace about 200,000 tonnes of carbon dioxide per year, and result in a saving in emission purchase costs of €4m annually.

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# Workshop on developments in the utilisation of small dimension hardwoods

At a recent meeting of stakeholders involved in the hardwood processing sector, a number of issues were raised relating to the processing and sale of Irish hardwoods. A particular area of concern raised was in the utilisation and sale of small size material. For younger plantations, especially those established over the last twenty years, a need was identified to examine the potential possible uses of the smaller size and low quality logs as they become available. Recognising the need that growers have, particularly those who have established hardwoods which may now be at or near the first thinning stage, and the difficulty of finding markets for these small sizes, urgent remedial measures were considered necessary. COFORD organised a workshop to discuss developments in the utilisation of small dimensional hardwoods. This programme was held in Thurles on 25 May. The following papers were presented on aspects and experiences in the utilisation of small size hardwoods in Ireland, Wales and Scotland:

* *A general overview of the use of small low value hardwoods* by Gordon Knaggs, Consultant Timber Technologist
* *Experiences with the use of low value hardwoods in Ireland* by Michael Bourke, Wood Technology Centre, University of Limerick
* *Products of our landscape – Human resources and natural resources* by Eoin Cox, Woodschool, Scotland
* *Adding value to small diameter hardwood logs* by David Jenkins, Director, Coed Cymru, Wales

These presentations are available on the [COFORD website](http://www.coford.ie/seminrs2005/smalldimension/default.html)

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# COFORD research reaches an international audience

*Congratulations to the Meike Johnson and the rest of the UCC team for having COFORD-funded research on the impact of forest harvesting on streamwater chemistry and biota accepted for publication in the prestigious international journal* ***Freshwater Biology****. Readers of the COFORD publication****Managing the impacts of forest clearfelling on stream environments*** *will be familiar with aspects of this work. An extended summary of the paper follows.*

Natural variation in environmental parameters, as well as practical constraints in study design and sampling methodology, often pose difficulties in treating impact assessments in river catchments as controlled field experiments. It is frequently impossible to develop robust relationships between reference and test stations prior to the onset of an impact and the range of statistical tools which can be adopted in data analysis to detect a change or disturbance is limited.

In an attempt to overcome these problems we introduce a novel disturbance index to assess the impact of landuse activities on river systems. The index identifies differences in hydrochemical parameters and macroinvertebrate community metrics between reference and test stations (at a set level of significance). This approach allows for objective assessment of the occurrence and direction of change as well as the duration of an impact. The disturbance index can be applied at different scales – for a single stream, a catchment or a region.

In this paper we describe the derivation of the index and illustrate its utility through worked examples. We use the index to assess impact of clearfelling on hydrochemical parameters such as hydrogen ion concentration, total hardness, suspended solids, conductivity and nitrate concentration as well as on macroinvertebrate parameters including abundance, richness, reciprocal of Simpson’s diversity index, evenness, 1 EPT richness and percentage of EPT taxa.

The sensitivity of the disturbance index changes with scale of application however, and the clearfelling (CF) index has proven sensitive to the detection of even quite small changes, although in these cases ecological significance should be considered. We show that the CF index, particularly when derived from a regional scale, is a conservative index but is very robust to variation in the number of samples used in its derivation. The application of the index corresponded very well with the application of more standard statistical approaches. We believe that the index can thus be applied to other impact studies with similar project design.

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# IUFRO conference on technology transfer

The IUFRO working group on technology transfer (6.06.02) held a conference on transferring forest science, knowledge and technology, in Oregon USA from 10-13 May. Lauren MacLennan, COFORD’s technology transfer co-ordinator, attended this event and presented a poster on COFORD’s technology transfer programme. Further information on this event can be found at [www.fs.fed.us/pnw/calendar/tech-transfer/index.shtml](http://www.fs.fed.us/pnw/calendar/tech-transfer/index.shtml). Proceedings are due to be made available on the Oregon State University website in the next few weeks.

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# Presentations of Joint COST and IEA Bioenergy Task38 Workshop

The documentation of the joint COST and IEA Bioenergy Task 38 Workshop on *Greenhouse Gas Aspects of Biomass Cascading - Reuse, Recycling and Energy Generation*, held in Dublin on 25 May 2005 is available at the website www.joanneum.at/iea-bioenergy-task38/workshops/
dublin05/. Included in the presentations available to download from this site are: *Wood energy in Ireland - contribution to GHG reduction* by Joe O'Carroll, Operations Manager COFORD; and *Carbon sinks and forest products in the Kyoto Process - current and future developments* by Dr Eugene Hendrick, Director COFORD.

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# Ponsse invests in forest research

Ponsse Oyj invests in increasing the interest in European countries in research and innovations contributing to the role of modern technologies in sustainable development by establishing a special fund. The Ponsse Fund awards mainly scholarships for PhD or post-doctoral studies at the European Forest Institute (EFI).

The donation will annually be up to €25,000 and the fund starts its operation in January 2006. While Ponsse Oyj is the donor, the fund is administrated by the Foundation for European Forest Research, and the work will be conducted at the European Forest Institute (EFI). According to Risto Päivinen, Director of EFI, 'Ponsse is known for its technical innovations and forest research community welcomes the support for research on the role of technologies in sustainable forest management'.

The reason behind the establishment of the fund is that forestry operations and environment related management are under continuous development. New technologies are needed to improve cost-efficiency and sustainability impacts of forest regeneration, silvicultural treatments, wood harvesting, and biomass collection for the generation of bioenergy. Arto Tiitinen, Managing Director of the Ponsse Oyj believes that EFI and its member network will bring a substantial contribution to the innovations in forest management machinery and competitiveness of the European forest sector.

Research areas within the fund are:

* development and transfer of new forest technologies to European and global conditions.
* socio-economic and environmental impacts of applying high-tech in forestry operations.
* contribution of new technologies and logistical solutions to improve sustainability impacts of production of forest products and bio-energy.

Other grants will be given to, e.g., travelling expenses and publishing costs, prizes for achievements to support sustainable development.

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# FP6 Global Change and Ecosystems - Final Call

The final call for proposals for the FP6 Global Change and Ecosystems Programme is expected to be issued on 19 July with a closing date for all instruments on 3 November 2005. The fourth and final call, with a budget of €205 million, will cover 36 specific topics including greenhouse gases, water management, biodiversity, natural hazards, operational forecasting systems.

Draft details are available from the global Change and Ecosystems Programme delegates (gosullivan@marine.ie; bdonlon@epa.ie) and from University and Institute of Technology EU Offices.

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1. At below the ETS threshold. [↑](#footnote-ref-1)