

COFORD Forestry and Wood Update

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# 1. New COFORD Recruit

Following from last month’s recruitment of John Fennessy, COFORD is pleased to announce the addition of Ms Lauren MacLennan to the COFORD team. Lauren’s role will be that of Technology Transfer Coordinator. Her immediate responsibilities will involve the production of COFORD publications and the dissemination of information and project updates to all stakeholders including the compilation and circulation of future issues of this e-newsletter. Lauren is relocating from South Africa where she filled a similar position with the Institute for Commercial Forestry Research.

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# 2. Wood For Energy 2002

This conference is being jointly organised by COFORD and the Renewable Energy Information Office of Sustainable Energy Ireland. The following is a provisional list of papers to be presented and venues to be visited:

**The Landmark Hotel**

**Carrick-on-Shannon**

**July 18-19, 2002**

Day One:

* The potential for wood energy in Ireland
* Market development for wood pellets in Europe
* Forest Residues as a source of wood fuels
* Specialised equipment for bundling bioenergy from forest residues
* Technology for wood fuel chip production in Ireland
* Plant visits to Sawmill and Panelboard mill to view the use of wood biomass for energy purposes

Day Two:

* Accelerating the use of wood residues as a source of fuel in Ireland
* Danish experiences in the use of wood energy and CHP
* Large-scale production of heat from wood residues in the wood processing industry
* Wood fuel heating applications in France
* How do I build a plant for manufacturing wood pellets?
* Field visit to whole tree chipping operation in a thinning operation

The conference will be preceded by a training course on July 17th organised by the Renewable Energy Information Office. Numbers on this course will be limited. Interested parties should contact biomass@reio.ie to register. The course will be built around the *Wood Fuels Basic Information Pack* by the Finnish bioenergy network BENET.

Registration forms will be posted on the COFORD and Irish Energy Centre websites shortly. They will also be posted out to our postal circulation list.

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# 3. COFORD Workshop – Developing effective market-led grower co-operatives

COFORD is funding a desk study (MarCo) to develop market-led grower co-operatives. The Western Forestry Co-op is conducting this study with Galway-Mayo Institute of Technology, University of Ulster and Mr Philip Blackstock.

 The objective of this desk study is to identify the most suitable and cost effective support structures for private forestry in Ireland, with a particular emphasis on providing market-led co-operative support that will ensure that quality farm-grown timber can be produced, brought to, and compete in, the market place.

It is important that the most effective co-operative structure is identified and that the financial implications of providing this form of support are considered.

A stakeholder workshop is being held is present progress to date and to gather comments, suggestions and concerns from all parties.

Invitations to attend the workshop have been circulated to key stakeholders. If you would like to attend please contact Sarah Wall at the Forestry Department in GMIT at 091 742394.

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# 4. VACANCY – Research Programme Manager - Environment

The position of Research Programme Manager – Environment at COFORD will be advertised during the month of June. The ad will appear in The Irish Times appointments’ supplement and will detail closing dates and application procedures. The relevant forms will be available to download at the COFORD website as soon as they become available. In advance of the advertisement we can disclose the following information about the post:

DESCRIPTION

The post arises from the need of the forestry sector in Ireland to be provided with up-to-date, scientifically based information on the interaction of forests and forest operations with the environment. Environmental R&D is one of the primary areas identified in COFORD’s 2000-2006 R&D programme. Major projects on carbon sequestration, biodiversity and water quality are already underway. These projects are managed by COFORD to ensure that project objectives are achieved and that relevant findings are transferred into practice. Further environmental research projects may be initiated during the lifetime of the programme. Areas to be addressed will be identified through close collaboration with industry, state departments and agencies, and NGOs. In addition to managing nationally funded R&D, the position requires that the latest international findings be collated and made available for policy makers and practitioners.

 PRINCIPAL TASKS

1. Management of COFORD funded environment related R&D projects to ensure delivery of agreed objectives.
2. Liaison with other government departments and agencies on forestry/environmental interactions.
3. Identification of information gaps and areas in need of further R&D and the preparation of position papers setting these out.
4. Editing of project final reports and the compilation of information notes and other material based on COFORD-funded projects
5. Other related tasks as directed by the Director/Operations Manager

The research programme manager will work directly to the Operations Manager.

ESSENTIAL REQUIREMENTS:

1. Degree in forestry, environmental science or a related discipline.
2. Five years post-graduate work experience in project management in the forestry or a related environmental area.
3. High-level written and oral communication skills (applicants may append a list of published and/or unpublished reports, including examples); full familiarity with the MS Office suite (Access, Excel, PowerPoint and Word).
4. Full clean driving licence.

Full details will be made available once the position has been advertised.

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# 5. Sixth EUFORGEN Noble Hardwoods Network Meeting

[EUFORGEN](http://www.ipgri.cgiar.org/networks/euforgen/euf_home.htm) is the European Forest Genetic Resources Programme. It is financed by participating countries and operates through a series of networks that carry out agreed work-plans.

The Noble Hardwoods Network was established in 1996 and has held five meetings to date. Noble hardwoods are sometimes called an ‘overlooked’ group of tree species. They consist of the following species:

* alder
* ash
* chestnut
* elm
* lime
* mountain ash
* Norway maple
* sycamore
* walnut
* wild fruit trees

This is because of their common property – the reduced competition capacity in forest stands, especially in older age classes. Noble hardwoods usually grow in mixed-species forests where they make up a small proportion of total forest cover (less than 5% on average in European countries). They require good sites and are characterised by high quality timber.

The last meeting of the EUFORGEN Noble Hardwoods Network was held in Blessington, Co Wicklow in May, 2001. Representatives from 26 countries attended. This year the network is meeting in Alter do Ch**ão in Portugal, from 9 – 11 June. Thirty-one countries have indicated their intention to send a representative. The Irish representative is John Fennessy of COFORD.**

**Many issues related to forest gene conservation will be discussed at the meeting. These will include:**

* Status and progress of gene conservation in each participating country and the presentation of a country report.
* ‘Masterplan’- a concept for the practical implementation of genetic conservation strategies and guidelines for Noble Hardwoods in Europe.
* Research – overview of ongoing research projects and results with discussion on future research needs and priorities.
* New project proposals – Sixth Framework programme of the European Union for research and the development of a ‘network of excellence’ on population and conservation genetics of European forest trees.
* Documentation, information and public awareness issues on gene conservation of Noble Hardwoods.

These are just some of the items listed for discussion at the meeting and a full and more detailed report will be published at a later stage.

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# 6. Carbon Corner

COFORD is currently developing a computer-based national carbon sinks accounting system with the working title CARBWARE. It brings together and formalises over two years work on national carbon stocks and accounting. It will be the vehicle used for annual updating, reporting to the United Nations Framework Convention on Climate Change and the separate requirement for reporting under the Kyoto Protocol. It already includes an inbuilt scenario modelling capability that allows the consequences of different assumptions on planting rates between now and the first commitment period of the Kyoto Protocol (2008-212) on forest carbon stocks to be examined. In addition it will allow for rapid updating of different parameters used in arriving at carbon stock estimates, such as species mix, biomass expansion factors and annual wood harvest. Further scenario modelling to examine, for example, the consequences for net carbon stocks of projected future trends in wood harvest will be capable of being rapidly estimated and modelled, when CARBWARE reaches full functionality.

 The system is based on a number of spreadsheet models that take as their starting point the managed forest land areas in the state. These are mainly private sector plantations (most of which have been established since the mid 1980s) and the Coillte forest estate (which comprises about 61% (about 400,00 ha in round numbers)) of the national forest area. While estimation of carbon stocks in the Article 3.3 eligible forest (afforestation since 1990) is relatively straightforward, the situation in estimating carbon stock increases in the full forest and, in particular, as a result of forest management since 1990 (the Article 3.4 eligible forest) is not as easy. However, recently completed work (see Carbon Corner in the April 2002 newsletter) has put in place a system for computing such stock changes. These will be updated as new information becomes available. A critical factor here is that the proposed national forest inventory gets underway as soon as possible. This will give accurate estimates of wood volumes and their growth, particularly for the private sector, which will allow carbon stocks and increments to be determined. The plan is to have the outputs from the inventory directly interfaced with CARBWARE to allow updating.

A further development that will greatly assist carbon stock accounting, especially under Article 3.3 of the Kyoto Protocol is that the Forest Service plans to have a full, georeferenced database of all areas planted since 1990 available by the end of 2003. This will enable, if necessary, computation of carbon stocks on an individual forest area or owner basis. Should the value of the sink removal units (RMUs) on those areas of land be passed to the owner, and there are strong arguments that they should be, the system would facilitate he or she to trade or be otherwise rewarded, in a transparent manner.

A full version of CARBWARE will be released to the public domain in due course. In the meantime further details of the system under development are available from COFORD.

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# 7. First ever in-depth analysis of genetic variation in native Irish trees

A COFORD-funded research project on the genetic characteristics of oak (*Quercus petraea* (Matt.) Liebl. and *Q. robur* L.) in Ireland has completed the initial phase of investigation. The initial investigations of provenance and estimates of diversity have provided the first such results for a native tree in Ireland. Three methods of molecular markers were employed for ‘DNA fingerprinting’: chloroplast DNA (cpDNA) analysis, Amplified Fragment Length Polymorphisms (AFLP) and Simple Sequence Repeats (SSR). Oak populations were sampled at 26 sites across Ireland, leaves were analysed for morphological variables and DNA was extracted for molecular analysis.

The cpDNA analysis has been completed for many other sites in Europe and has been used to construct maps of different genetic lineages across Europe. These lineages were shown to correspond to postglacial colonization routes of oak from southern glacial refugia. The cpDNA marker was thus shown to be useful for provenance studies. The cpDNA types (haplotypes) found in Ireland are the same as those from the Iberian Peninsula. This compares with haplotypes from both Iberian and Italian refugia found in Britain. The reduced number of haplotypes found in Ireland results in a lower genetic diversity than in Britain or France. The haplotype distribution showed a structured geographic pattern, which is consistent with a natural distribution. Thus we suggest that the woodlands sampled represent fragments of native oak woodland. Due to the limited number of haplotypes and their spatial distribution in Ireland, this molecular marker is useful for identifying aberrant individuals and is helpful in planning planting initiatives, such as those of the Native Woodland Scheme. Further research is ongoing into identifying other genomic regions that would aid in increasing the resolution of the spatial pattern. Using the other molecular marker techniques (AFLP and SSR) a reduced genetic diversity was also found and an increase in the levels of inbreeding in Irish populations in comparison to British and French populations. A reduction in diversity is to be expected for an island flora, although the increased inbreeding is probably also due to the size of and level of fragmentation of Irish oak woods.

Morphological analysis of the leaves showed that many individuals form distinct morphological species in Ireland. While the morphological species can be distinguished, a level of 10% hybridisation was estimated within Ireland based on morphological data. Very few (30%) distinct species were recognised by the hybrid index method of morphological analysis. While populations were not homogenous, one or other species dominated most. Populations dominated by *Q. petraea* were found mainly on upland peripheral regions of the country and those dominated by *Q. robur* on lowland, central regions.

The difference between the results from the morphological and molecular analyses illustrates an interesting duality that exists within Irish oak, as with oak elsewhere in Europe. While the two species (*Q. petraea* and *Q. robur*) can be distinguished morphologically, no molecular marker has been found that is exclusively present in one and not in the other. The results thus far have pointed to other interesting directions of research that are now being followed.

 Participants:

Dr Colin Kelleher, Trinity College Dublin

Dr Dearbhla Walsh, Trinity College Dublin

Dr Trevor Hodkinson, Trinity College Dublin

Dr Daniel Kelly, Trinity College Dublin

Dr Gerry Douglas, Teagasc, Kinsealy

Colin Kelleher may be contacted at kellehct@tcd.ie. COFORD will publish a detailed report on the work later this year.

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# 8. WANTED – Volunteers for new hardwood species’ improvement groups

As the broadleaf element of our afforestation programme expands, the need to improve quality becomes paramount. This need combined with the growth in interest in broadleaves, which is likely to grow even further with the recent launch of the new Native Woodlands scheme requires that broadleaf quality should now receive even greater attention. Over the past ten years, a similar move has taken place in Britain with the establishment of the British Hardwoods Improvement Programme (BHIP) where representatives from various species interest groups have worked together to improve the quality and productivity of their broadleaved woodland. More recently (since 1997) BHIP has established an Irish link and has incorporated Ireland into its activities and also into its name.

[BIHIP](http://www.bihip.com/) is a voluntary association of landowners, research workers and professional foresters, who have an interest and determination to improve the quality and productivity of six broadleaf species with the potential to produce commercial timber – ash, birch, cherry, oak, sweet chestnut and walnut. While sweet chestnut and walnut may not have wide appeal currently, the other four species are very important in Irish broadleaf forestry. Separate programmes are in progress for each of the six species. These groups are expecting to increase the recoverable volume through selection and breeding programmes.

In order to further strengthen the Irish connection we are now inviting Irish participants who have a specific species interest to contact COFORD with a view to establishing species-specific groups for the four main species in Ireland. These species groups would cooperate with the primary species group in Britain and in so doing will strengthen the Irish contribution to BIHIP. Participation in a group may require attending occasional meetings of the species group in the UK. However with greater Irish participation, it will be possible to rotate these meetings between Britain and Ireland. Interested individuals and organisations should contact John Fennessy.

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# 9. New Desk Study launched – Small Scale Harvesting

COFORD has just finalised agreement on a new desk study to review small scale harvesting systems suitable to Irish forestry conditions. The main objectives of the desk study are:

* to compile a comprehensive database of internationally used harvesting systems suitable for small scale forestry;
* to provide an objective assessment of these harvesting systems as to their suitability to Irish conditions and the Irish farm forestry sector;
* through consultation, to heighten the awareness of the study and to actively engage industry members in such a way as to ensure their positions and opinions are fairly reflected in the findings and recommendations;
* to prepare a report presenting the key findings and recommendations of the desk study;
* to facilitate the initiation of new forest harvesting services accessible by farm or other small scale forest owners.

Purser Tarleton Russell Ltd will conduct the study with harvesting experience input being provided by Donal Mortimer of Kiawah Ltd. It will take four months to complete.

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# 10. Seminar – Involving People in Forest Planning

An increasingly important issue for foresters and woodland managers is the requirement to engage with people.  This seminar on the 26 June at the Coylumbridge Hotel, Aviemore jointly run by the Institute of Chartered Foresters and the FC Scotland aims to assist foresters by demonstrating tools and techniques for doing just this.

The seminar aims to:

* Increase understanding of the need for managers to engage in participative approaches
* Increase understanding of the potential benefits and pitfalls of participative approaches and why these are increasingly demanded by agencies and funders
* Illustrate a range of participative techniques available to managers
* Highlight practical examples of best practice

For an application form or further details of the seminar contact Neville Elstone at the Institute of Chartered Foresters, 7A St Colme
Street, Edinburgh, EH3 6AA, phone 0131 225 2705 or e-mail:

neville@charteredforesters.org

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# 11. IFA Farm Forestry Field Day

Date: Thursday 6th June 2002

Time: 10:30 am

Meeting Point: Fogarty’s Tree Farm and Nursery, Drominagh, Ballinderry, Co. Tipperary

The morning session will consist of a visit to Matt Fogarty’s Tree Farm and Nursery. Mr Fogarty won the Farm Forestry category of the RDS Irish Forestry and Wood Awards last year. The field day will also include a visit to a nearby Coillte forest in the afternoon to see thinning and pruning of Sitka spruce being carried out.

All interested parties are welcome to attend. Participants should bring a packed lunch and rain gear.

For further information contact:

Barbara Maguire,

Farm Forestry Development Officer,

The Irish Farmers’ Association,

Irish Farm Centre,

Bluebell,

Dublin 12.

Tel: 01 – 4080058

Mobile: 086 - 6181998

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# 12. New COFORD website now online

Brian O’Sullivan, temporary I.T. co-ordinator at COFORD has completed the redesign of the COFORD and Woodspec websites. Over the coming months Brian will add additional functions to the site including easier access to the contents of COFORD reports. In addition to reports and publications being fully downloadable, the information will also be uploaded onto user-friendly interlinking web pages. This will enable instant access to the relevant information, tables and graphs, in keeping with our commitment to making research findings as readily available as possible.

By the end of the summer the site will be an invaluable source of information on all aspects of Irish forestry. Suggestions and comments are also welcomed and should be sent to brian.osullivan@coford.ie.

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