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## An economic evaluation of the market and non-market functions of forestry

### PROJECT TEAM

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### BACKGROUND

Good policy decision-making in forestry needs to be well informed. This implies, amongst other things, that up to date information on the economic contribution of forestry to the national, regional and to local economies is collated. Furthermore, given that the multi-functional model of forestry, delivering economic, environmental, social and cultural benefits, is the new paradigm, this economic evaluation should include an assessment of the value of the public goods that forestry delivers, including:

- climate change mitigation;
- biodiversity conservation and enhancement;
- water quality protection and enhancement;
- recreation;
- landscape value.

It is likely that different approaches to forest management deliver different public benefits, thus it is important that the economic valuation associated with types of forest be assessed as differentiated on the following criteria: ownership, location, scale, management and species mix. This will yield strategic information by indicating the relative benefits of different types of forest.

### OBJECTIVES

- Provide strategic information by indicating the relative benefits of forest management practice respectively directed at the outputs of recreation, biodiversity, landscape, water quality and carbon sequestration;
- Estimate the relative public benefits of public forestry and private forestry, including farm forestry;
- Determine the direct and indirect contribution of the tradable goods and services of forestry, including timber, game hunting, a small number of marketed leisure activities, cut foliage and forest food (i.e. berries and mushrooms) to the national, regional and local economies;
- Demonstrate the net public benefit of forestry in comparison with other land uses;
- Examine those factors that determine public benefits and determine if benefit transfer estimates from abroad would be applicable to Ireland;
- Place values in a public cost-benefit framework by comparing policy cost with the social benefits and combining this information with the private costs and benefits motivating forestry uptake over time.

### PROGRESS

The current emphasis of the project is on examining the relative benefits of different forest management approaches to non-market forest benefits (NMFB) and in identifying Irish and international studies from which it may be possible to acquire relevant benefit transfer figures. To date an extensive literature review has been carried out, which has included a wide range of environmental valuation methods and case studies related directly to NMFB. This has facilitated the identification of the most suitable valuation methods for use in the project and how they may be applied following best practice. Data from previous studies have been collected and examined; however, NMFB valuation studies directly related to Ireland are limited.

Previous Irish valuation studies have placed emphasis on direct use benefits, such as recreation, and as a result information on indirect benefits, such as biodiversity, is lacking. Biodiversity value is a particularly difficult benefit to capture given that its primary value is often one of existence. Stated preference environmental valuation methods such as

contingent valuation and choice experiments employ surveys to quantify the value of a particular environmental change. As these methods are not reliant on an existing market they have the capacity to capture non-use values such as those related to biodiversity. A choice experiment examining the value of different forest management approaches is expected to be the primary valuation technique employed in the household survey for this project.

Data collected in the household survey will be combined with forest spatial data in a GIS to investigate how existing forests influence people's attitudes to and value for forests and forest management. Spatial data related to Irish forests and households have been identified for use in this analysis.

Design of the household survey and the choice experiment has commenced. The survey design will first be examined in a focus group situation and pre-tested before being carried out as a household survey of a sample of the general population.

#### **ACTIVITIES PLANNED**

- Survey design will continue, following best practice;
- Focus groups will be organised to finalise and analyse the survey questions to ensure they are comprehensible and realistic to the general public;
- A household survey will be carried out to examine the public's use of and attitudes towards forests and forest management;
- A series of in-forest surveys will be undertaken and work has begun to identify relevant forests for inclusion in these studies;
- Work on input-output analysis will commence.

#### **OUTPUTS**

A presentation of the project status was given at the Teagasc Forest Economics workshop held in Athlone on 15 October 2008.