



## PractiSFM: Implementation, communication and optimisation

### PROJECT TEAM

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### BACKGROUND

The Irish National Forest Standard, published in 2000, applies to all forest in Ireland. Since its implementation, private forest owners and managers are required to evaluate forests for economic, social and environmental sustainability through the quantification and qualification of multiple resources. Such requirements place additional demands on data collection methods, beyond the traditional, timber-orientated forest inventory. For private woodland owners in Ireland, the lack of reliable, up to date and affordable forest inventory data providing information related to their own properties represents a considerable obstacle in the assessment, monitoring and implementation of Sustainable Forest Management (SFM). The original PractiSFM project resulted in a prototype multi-resource inventory protocol and decision support system. The PractiSFM2 project will build on this success to operationalise the system and to enhance its usefulness in terms of improved forest management and the provision of a reporting capacity to provide the forestry sector with up to date information on planned outputs from private woodlands.

### OBJECTIVES

- Field testing and validation of the PractiSFM system with the help of management companies.
- Further development of the existing system in co-operation with management companies.
- Development of a communication system, enabling the uploading of PractiSFM management plan information into a central database.
- Introduction of a wider range of management options that move towards flexible, user-defined management strategies.
- Development of an optimisation component to the PractiSFM system.
- Implementation of the completed system in the private forest management sector.

### PROGRESS

The PractiSFM (PSFM) system (Figure 1) was introduced to three management companies Greenbelt, FEL and PTR. Field testing and validation of the system has begun. This involves a forester carrying out data collection based on the current inventory protocol. Office-based personnel will input and process the data and generate management options with the current PSFM programme. The outcome will be a critique of the multi-resource inventory protocol and the PSFM programme.

The project participants have joined the COST Action PF0804 *Forest Management Decision Support Systems*. This will facilitate networking across a range of disciplines in the development of decision support systems (DSS) and will also highlight the methods used to optimise such systems, and the development of appropriate communication platforms.

Frank Barrett submitted his PhD thesis: *PractiSFM – a multi-resource inventory protocol and decision support system for the sustainable management of privately owned forests in Ireland*.



Figure 1. Composite image derived from PractiSFM software.

## ACTIVITIES PLANNED

- Continue and expand field testing of the inventory protocol and the DSS.
- Initial feedback from the professionals using the system will be used to develop a SWOT analysis of the current system and identify changes required to improve it.
- Meetings with FSC and PEFC Irish representatives to define what level and format of information will be necessary to include in the DSS to meet certification requirements.

## OUTPUTS

Barrett, F. and Nieuwenhuis, M. The PractiSFM multi-resource inventory protocol and Decision Support System: a model to address the private forest resource information gap in Ireland. *Irish Forestry* (in press).

Barrett, F. and Nieuwenhuis, M. 2009. *A Decision Support System Linking Forest Policy with Sustainable Forest Management Planning in Private Forest in Ireland*. In: Grossberg, S.P. (Ed). *Forest Management*. Nova Science Publishers, New York. Pp 61-84.

Barrett, F. 2009. *PractiSFM – a multi-resource inventory protocol and Decision Support System for the sustainable management of privately owned forests in Ireland*. PhD thesis (volumes I and II). University college Dublin.

Nieuwenhuis, M. and Barrett, F. An application of PractiSFM - a multi-resource decision support system for the planning and implementation of sustainable forest management. *Journal of Forest Science* (submitted).

Nieuwenhuis, M. 2009. *COFORD's PLANSFM Research Programme: Planning and Implementation of Sustainable Forest Management*. Presentation to the COFORD Council, AFBI Field station, Hillsborough, Co Down, 24 July 2009.

Harper, C. and Nieuwenhuis, M. 2009. *PLANSFM - Planning and implementation of sustainable forest management* [Poster presentation.] UCD School of Agriculture, Food Science and Veterinary Medicine Research Day, 8 December 2009.