



Indicator 6.1: Policy, legislation and support measures

The Strategic Plan outlined in *Growing for the Future* emphasises the importance of the socio-economic and cultural functions of forests. In this context, related legislation, such as the Local Government (Planning and Development) Acts 1963-1996, the Planning and Development Bill 1999 and the Safety, Health and Welfare at Work Act 1989 and associated Regulations, and the National Monuments Acts 1930-1994, are recognised in the CODE OF BEST FOREST PRACTICE and five environmental guidelines associated with the IRISH NATIONAL FOREST STANDARD. The Forest Service currently provides support for public awareness, educational and recreational initiatives.

Measures

- 6.1.1 The existence of policies, review mechanisms and a legal framework which promote the socio-economic and cultural functions of forests.
- 6.1.2 The existence of financial incentives to promote the socio-economic and cultural functions of forests.
- 6.1.3 The existence of adequate research and information systems to support development of the socio-economic and cultural functions of forests.
- 6.1.4 Existence of support mechanisms for forestry education and training at professional and technical level.
- 6.1.5 Support for small scale and traditional forestry enterprises.
- 6.1.6 Support for structures which facilitate effective communication between forestry sector and communities.

Indicator 6.2: The socio-economic and employment contribution of the forestry sector

Direct 'in forest' employment has decreased in recent years due to the mechanisation of many forest operations. At the same time, direct employment, mainly in the private forestry sector and in downstream processing, has continued to increase with the development of private contracting companies, consultancy and the panelboard industries. Substantial investment has taken place in the sawmilling industry. While no comprehensive statistics are available, it has been estimated for one area in Munster that the appropriate multiplier (direct + indirect employment) is 15.4 full time equivalents per 1,000 ha of forest. It has been estimated for the same area that each IR£1,000 (£1,270) in direct expenditure on forest management can result in the generation of IR£4,250 (£5,400) in other direct and indirect expenditure. The indication is that this employment and economic activity is generated close to the forest area. However, few data are available to assign monetary values to community dependence on wood and non-wood forest products. In recent years, State and EU funding for forest development has focused on the conversion of agricultural land to forest and on compensating farmers for loss of income from this land.

Measures

- 6.2.1 At national level, the extent to which the forest industry maintains its socio-economic and cultural functions may be assessed from:
 - the contribution of expenditure in the forestry sector to the development of other direct and indirect economic activity;

- the number of full-time job equivalents in the forestry sector, and their gender balance;
- the extent to which it integrates with the agricultural and tourist industries;
- the contribution of the forest industry to GDP.

6.2.2 At local level, the contribution of individual forest areas to socio-economic and cultural development can be measured by:

- the number of local jobs generated;
- the extent to which local forests feature in local development plans;
- contribution of farm forestry to farm incomes;
- the extent to which forests contribute to rural community development and demographic stability;
- the extent to which effective communications between forest management and local interests are established.

Indicator 6.3: Public awareness and participation

The Forest Service of the Department of the Marine and Natural Resources, the Society of Irish Foresters, Teagasc and other interested organisations provide a wide range of books, videos, information packs and leaflets to the general public and a variety of client groups. The Forest Service also contributes to the public awareness of forest activities by its support of various organisations interested in trees, forestry and/or forest industry. It encourages public participation in forestry by supporting field days, by sponsorship of shows and by providing personnel for conferences and meetings. National fora have been established relating to farm forestry and the development of forestry in general.

Measures

6.3.1 At national level, measures which may be used to assess the extent of public awareness and participation in forestry are:

- the level of promotion of national forestry policy and plans;
- the degree of public knowledge of forestry policy, plans and related issues;
- the degree of public participation in decision-making and in the implementation of decisions;
- the extent and nature of media coverage of forestry and timber issues.

6.3.2 At local level, the extent of public participation and awareness can be gauged from:

- the degree of participation in the development (decision-making) of forest management plans;
- the degree of knowledge and access to management plans about local forests;
- the existence of structures to encourage public participation in forest-related decision making.

Indicator 6.4: Forestry education, research and training

Professional education in forestry is provided at the National University of Ireland, University College Dublin (UCD). This four-year course covers basic and applied science, as well as appropriate professional subject matter. The University of Limerick provides a Bachelor of Technology Degree in Wood Science and Technology, while the Mayo/Galway and Waterford Institutes of Technology offer diploma level courses in forestry. COFORD was established in 1992 as part of the EU Stride Forestry Sub-Programme. Its function is to develop a comprehensive



programme of forest research. Over 50 individuals representing practitioners, industrialists, farmers, administrators and educationalists contributed to the development and publication of a five-year research programme. A new seven-year programme has recently been proposed. The Directory of Forest Research in Ireland 1997/8 lists 167 projects and the names of over 180 researchers involved. COFORD has recommended that the appropriate level of research funding should be in the region of IR£3.0 million (£3.8 million) per annum.

A liaison group representing all stakeholders has been set up by the Forest Service of the Department of the Marine and Natural Resources, to advise on training and educational needs. This group has recommended the development of a comprehensive training and educational programme for the forest industry. The Forest Service, in association with Teagasc, provides advice and training to landowners and operatives in the industry. Courses offered include a 20-hour general forestry course for landowners, plantation management courses and skills courses.

Measures

6.4.1 At national level, measures are:

- the adequacy of the educational, research and training programme;
- the extent of information on trees and forestry in the national educational curricula;
- the extent to which degree and diploma qualifications are recognised at national and international levels;
- the numbers and quality of students in professional education;
- the ratio of forest research funding to turnover in the industry;
- outputs and uptake from research and development activities;
- uptake of certified training by operatives and contractors;
- adequacy of advisory services to landowners;
- the strength of professional organisations;
- extent of training available in sustainable forest management.

6.4.2 At a local level, this indicator may be evaluated by:

- the number of workers and contractors who have undertaken training or skills courses;
- uptake of courses by landowners;
- the application of research results in forest practice by local management staff;
- visits by local advisory staff to landowners;
- attendance at seminars and technical field days;
- evidence of compliance with professional standards.

Indicator 6.5: Recreation and amenity values

All public forests and forest parks have been open to the public since the early 1970s. It has been estimated that 31% of overseas tourists visit forests and that uncaptured benefit is in the region of IR£1.6 million (£2.03 million) annually. The total number of visits to Irish forests is estimated to be in the region of 8.5 million per annum. The Forest Service Urban Woodland Scheme aims to promote and support woodland development for amenity and recreational purposes in and around towns and cities. The Amenity Woodland Scheme is aimed at encouraging landowners to initiate projects concerning a wide range of recreational, sporting and leisure activities. Ireland's first official 'way-marked' trail - the Wicklow Way - was opened in 1982, and there are now 20 such trails covering 1,700 km of walking. These trails depend strongly on forest access for their success. It has been estimated that an additional 20 nature trails are required in order to accommodate the increased number of forest visitors. Amenity woodland establishment and facilities grants are available.

Measures

All public forests and forest parks are open to the public. Facilities include picnic sites, nature trails and sculpture parks such as the arts project Sculpture in Woodland, Devil's Glen, Co. Wicklow.



- 6.5.1 National measures associated with this indicator include:
- national statistics to show demand for recreation and amenity facilities;
 - extent to which recreational facilities are provided and maintained;
 - expenditure on recreation and amenity facilities;
 - integration of forests with regional and national walkways;
 - expenditure on promotion of forest amenities and recreation;
 - extent of information available on recreational areas.
- 6.5.2 At local level, the indicators can be evaluated from assessing:
- the extent to which the public use forests and forest facilities;
 - the availability of leaflets, maps and other information;
 - the extent to which forest facilities feature in local development plans;
 - the extent to which local common rights are respected;
 - levels of maintenance of recreational areas and forest entrances;
 - the extent and quality of signage.

Indicator 6.6: Cultural merit

The status of forests in Irish cultural tradition is evidenced by the recurrence of trees in townland names. Many forest sites still retain important information beneath the surface. This may be as valuable to the archaeological record as the visible monuments. Forest operations may disturb or cause damage to ancient sites. Environmental Impact Statements must therefore include an assessment of the impact of forestry development on the archaeology of an area. FORESTRY AND ARCHAEOLOGY GUIDELINES have been prepared by the Forest Service to assist those involved in forestry development to recognise the existence and importance of archaeological sites and monuments. Archaeological sites are legally protected by the National Monuments Acts 1930-1994.

Measures

- 6.6.1 Measures which may be used to evaluate this indicator are:
- the extent of inventory information concerning cultural artefacts and landscapes;
 - the extent of protective measures and the degree of conservation;
 - the extent of procedures to avoid damage to ancient sites;
 - national affinity with forests in poetry, prose, literature and traditional folklore;
 - use of the Irish language in communication and promoting awareness;
 - national affinity with forests as indicated by the membership of organisations dedicated to the welfare of forests;
 - extent of research on the cultural and heritage value of forests.
- 6.6.2 At a local level, the appropriate measures are:
- the existence of maps, signage and literature relating to cultural artefacts and monuments in the forest area;
 - evidence in forest management plans that appropriate guidelines relating to the protection and conservation of ancient sites and monuments are being followed;
 - extent to which forest-related terminology is used in place naming and local folklore;
 - extent to which the manufacture of traditional forest products is encouraged and maintained;
 - extent to which access to locally valued sites and artefacts is respected.

Indicator 6.7: Safety in the forest

The safety and welfare of forest workers, supervisors, contractors and the public is broadly catered for under the Safety, Health and Welfare at Work Act 1989 and associated Regulations. These in turn are translated into the CODE OF BEST FOREST

NOTES ON FORESTRY PRACTICE

Implicit in the IRISH NATIONAL FOREST STANDARD are the optimal silvicultural practices which support the economic, environmental and social forest functions and in which techniques based on up-to-date knowledge are applied. These are described comprehensively in the CODE OF BEST FOREST PRACTICE and in the various environmental guidelines (FORESTRY AND WATER QUALITY GUIDELINES, FORESTRY AND ARCHAEOLOGY GUIDELINES, FORESTRY AND THE LANDSCAPE GUIDELINES, FOREST HARVESTING AND THE ENVIRONMENT GUIDELINES and FOREST BIODIVERSITY GUIDELINES) which support the IRISH NATIONAL FOREST STANDARD. A short summary of these practices is included below for information.

Forest reproductive material and nursery practice

The collection and purchase of seeds, plants or clones for forestry purposes takes place within the quality requirements of various EU Council Directives. Native and home produced forest reproductive material is a valuable genetic resource and is to be considered for use where possible or appropriate. Effective identification and use of appropriate forest reproductive material throughout the production, nursery and distribution phases is necessary.

Nursery sites should be carefully selected, taking particular account of water and soil quality. Since nursery practice necessitates the use of chemicals, health and safety aspects in relation to their use are particularly important. Plant production systems require the best storage and handling systems to ensure good quality and healthy produce.

The establishment of new forests

Substantial areas of new forest are created each year in Ireland. Sites should be identified on the basis of suitability, economic viability and environmental and social acceptability. Water, landscape, biodiversity and heritage aspects should be taken into account. Sites should be accessible and operations carefully planned in the context of sustainable forestry requirements. Consultation with stakeholders is necessary.

The guiding principle of selection of species is the right tree in the right place. New forests offer the possibility of using a range of species. Therefore, options for species diversity should be considered, depending on site suitability. The availability of better quality land offers increased opportunities for broadleaf planting and the use of native stock. Incorporating existing hedgerow or shrub areas can enhance sites for biodiversity purposes.

Site preparation should ensure the protection of aquatic zones in the context of access roads and cultivation. New cultivation techniques offer the possibility of reducing soil and water disturbances. Drainage systems should aim to reduce peat and sediment flows and excess water. Fertiliser should be applied under strict supervision.

Vegetation management and pest control

Vegetation management and pest control often involve the use of chemicals. Their use should be kept to the minimum needed to ensure tree survival. Chemicals must be carefully handled and stored and kept away from aquatic zones. Operators must be well trained in the knowledge of the hazards associated with the use of chemicals. Safety, health and welfare protocols must be observed. Where effective and economic, manual methods should be used. As Irish forests are recognised by the EU as being among the healthiest in Europe, strict compliance with Directives on plant health is necessary. Adequate protection against trespass and browsing is needed to ensure the survival of young forests.

Maintenance of young forests

Young forests require attention until they are established. Symptoms of nutritional and/or health problems should be noted. Maintenance of fences, entrances, drains and sediment traps will be needed. Replanting following frost or damage by browsing may be necessary. Tree quality can be improved by shaping broadleaves or pruning conifers. The management of new broadleaf forests will present a challenge and a silviculture appropriate to these species must evolve.

Forest production: thinning and final felling

Harvesting operations begin at thinning. This normally commences at 15-20 years, although it may begin as early as year 12-13 in fast growing forests. It involves the removal of poor quality and smaller trees to improve the remaining crop. Removals from the forest usually continue up to the final felling of mature trees.

Harvesting is a highly mechanised operation. A high degree of planning is necessary to take account of environmental and safety issues. At the same time, good quality timber processing and cost-effective working techniques must be ensured. The necessity to use appropriate machinery is critical. At final felling stage, the alternatives to high impact operations such as clearfelling large areas should be considered. Continuous cover systems or smaller and more widely distributed felling coupes are more conducive to landscape and biodiversity. The retention of some older crops and deadwood is also desirable.

Reforestation

Following the removal of the final crop, the successful re-establishment of forests presents the opportunity to review species selection, to increase species and landscape diversity, and to ameliorate cultivation problems. Insect control is necessary for successful reforestation, and the use of environmentally-friendly methods needs urgent investigation.

Woodland improvement and the management of specialised forests

The quality of degraded, mature or over-mature broadleaf or mixed woodlands can be improved by judicious management. The protection and enhancement of existing native and semi-natural woodlands will add to biodiversity and provide a more balanced national estate. Retention of hedgerow corridors, old woodlands and pockets of native species will enhance diversity in production forests. Riparian woodlands have an important role to play in enhancing aquatic zones.

Forests within statutory protected areas may benefit from low level management compatible with environmental requirements. Urban woodlands and short-rotation forests require specific approaches to management.