Irish forestry and the environment – a catchment-based approach

- Government policy on forestry, as set out in '*Growing for the Future*', published in 1996, is to achieve a forest cover of 17% of the land area by 2030. In order to reach this target, it was necessary to afforest 20-25,000 ha per annum. However, in the past decade, annual planting has been well below this level.
- Since the publication of '*Growing for the Future*', our thinking on which areas should be planted and which should be left unplanted, or developed for amenity, rather than commercial purposes, has been greatly refined. It is now accepted that the large-scale planting of blanket peatland in the west is neither aesthetically, nor environmentally acceptable. Forest ecosystem research has significantly improved our understanding of how forests interact with the atmosphere, soils and surface waters.
- The improvement in our knowledge has led to a proliferation of regulation in an attempt to minimise the potential impacts of afforestation. Unfortunately, due to a lack of scientific information, this has resulted in somewhat arbitrary limits on planting often through over-application of the precautionary principle. It has also emphasised, through the trouble-shooting, problem-solving approach we have taken to research, the potential negative effects of forestry, while ignoring the environmental benefits of carefully planned, well-managed forestry enterprises.
- The Forest Service has recently published an '*Indicative Forestry Statement*', which provides a framework for the identification of regions suitable for afforestation for purposes ranging from commercial forestry to amenity. The Indicative Forestry Statement (IFS) is grounded in research carried out over the past fifteen years. It integrates several spatial datasets which take account of forest productivity, aesthetic and conservation values, surface water quality and fisheries and current land use. It recognises four categories, from sites suitable to a range of forest types, through those with limitations, to those classified as unsuitable, unproductive or unplantable.
- The end-product, the IFS category map, identifies the degree to which different areas of the country are suitable for forestry under these four categories. It will be particularly valuable for the implementation of policy by the Forest Service, for local authority planners and for private forestry companies. It is an important step towards a science-based approach to the selection of appropriate sites for afforestation.
- The IFS category map takes an essentially broad-brush approach to suitability. It was published at the scale of 1:1,800,000. The challenge now is to develop a rational system for its application at forest level.
- At present, afforestation proposals in areas classified as suitable for certain types of forest development (Category 2 on the IFS map) are considered on a case-by-case basis. Situations where wildlife might be threatened, or those which might be considered acid-sensitive, or vulnerable to eutrophication fall into this category, or the more stringent Category 3, which covers areas suitable for nature conservation or amenity. Development proposals for areas greater than 50 ha are subject to environmental impact assessment, as are smaller areas where the proposed development is adjudged to have a significant environmental impact. Irrespective of the size of the proposed development, applicants in acid-sensitive areas may be required to carry out tests on the buffering capacity of surface water. The application of this regulation, for small developments can lead to anomalies, where an application is refused despite the presence of a far larger forest area nearby.
- The impact of any forest, or forest operation, is best expressed at the catchment scale. A catchment can be defined as an area where the water which falls on the surface would, if it flowed over the surface, tend to

flow towards a common point, a stream or river. A catchment can be of any size encompassing anything from a single stream to a river with many tributaries. The boundaries of the catchment are user defined, in this case, by the Forest Service.

- Using the catchment as the basis for forest planning not only allows the rational management of afforestation proposals, it also facilitates integrated catchment management. This is true irrespective of the primary environmental service provided by the catchment, whether this be aesthetic, biodiversity, or surface water quality. Put very simply, a 10 ha block of forest in a potentially sensitive 300 ha catchment is unlikely to have any measurable impact on water quality, whereas a 100 ha block in the same catchment may well have a detrimental effect. Similarly, the impact of a forest development in a visually sensitive area is best measured not as an absolute area, but as a proportion of the catchment in which it is located. In the case of wildlife, the hen harrier for instance, protection can best be served by habitat management at the catchment scale, ensuring that, on the one hand, the balance between forested and non-forested land is appropriate and on the other, that the forest itself is planned and managed to provide suitable breeding habitat on an ongoing basis. Afforestation at an appropriate scale in sensitive catchments may often enhance the catchment objectives through achieving an optimal balance, as in the case of the hen harrier, rather than the current practice of often imposing blanket bans on forestry in such areas.
- The implementation of such a catchment approach will require careful planning. The benefits, however, are considerable. It offers the promise of a scientific basis for the implementation of the indicative forest strategy at local level. The amount of forestry and indeed its management will be guided by the environmental services considered worthy of protection at local level and the potential impact of the forest on the provision of these services. It will do away with arbitrary thresholds based on area, such as the 5 ha limit in areas sensitive for fisheries and instead impose limits that a have a sound scientific foundation linked to the environmental service provided by the catchment and the potential impact of the forest.
- The catchment approach offers a rational, scientific-based approach to the implementation of the Forest Service indicative forestry strategy at local level.