

1. INTRODUCTION

'We go now to the Highlands with the gratitude and relief of a wider and calmer existence – to be liberated and revived with a wonder deeper than life...Humanity could find a substitute for factories and power stations and even for regimented blocks of forest, but for this moment of communion there can be no palliative or rostrum' (Quigley 1944:106)

Scotland's mountains offer an array of important environmental benefits: wildlife and biodiversity; unique landscapes and wild land; hydrological services; cultural and rural heritage; and open-air recreational opportunities (Crabtree et al 2002). It is these benefits that draw millions of visitors to the mountains to tour, walk, climb, or just to escape from the stresses of modern life. The environment forms the basis of an important tourism industry, supporting jobs and creating wealth throughout the mountains, but it also provides benefits to people not reflected in tourism or other monetary transactions – silent welfare benefits that enrich and uplift without jangling tills or creating jobs.

Contrary to popular opinion, neoclassical economics *does* recognise these non-monetary benefits, but it also recognises that on a case-by-case basis natural and cultural heritage assets are not priceless. Determining the price is difficult, since there is no market, but this project gives an example of one economic valuation approach – a choice modelling contingent valuation method – and uses it to investigate the economic value of the environmental and cultural non-market benefits associated with Scotland's mountains.

Far from being 'Europe's last great wilderness' (Murphy 2000: 9), the mountain landscapes of Scotland bear a heavy human footprint: large scale deforestation has taken place over thousands of years; a number of species have been persecuted or hunted to extinction (Fraser Darling and Boyd 1969); landscapes and habitats have been changed by agriculture, management for field sports and afforestation; recreational interests have built ski-lifts and carved thousand of miles of footpaths; and sporadic attempts at exploitation for minerals and hydropower have left their imprint on the land (Warren 2002). The recent flurry of interest in wind farm development shows that the process of change is by no means over (Band pers comm. 2002). This means that however intuitively appealing it may be, non-intervention – leaving the land to revert to a 'natural state' – is not an option from an

ecological, a social, or an economic point of view. Environmental management is an imperative, as Warren (2002:15) points out: ‘in its current state, nature needs nurture’.

Environmental management is a multidisciplinary approach: applying natural and social sciences to achieve objectives by manipulating physical and human resources (Warren 2002). It is often concerned with delivering the kind of non-market public benefits outlined above - goods and services valued by the public, but not delivered through conventional markets and not paid for directly. A key observation is that many of these benefits are provided as the by-products of other activities – they are positive externalities produced by agriculture, forestry and other land uses. Within this concept of multifunctionality (Potter and Burney 2002), environmental management is inextricably linked to past, current, and future land uses in Scotland’s mountains - this project will introduce a selection of regional land-use issues and look at how they relate to the provision of environmental benefits. It will also examine the use of public policy instruments to deliver non-market benefits at a strategic national or regional level.

An economic approach to setting environmental management objectives could be particularly useful in Scotland’s mountains because of the barriers that exist: entrenched sectoral interests¹; unusual concentrated patterns of land ownership; and a divisive historical and political ‘baggage’. This project is an example of a public utility approach that may help to overcome these barriers, by starting with the premise that environmental management should be aiming to maximise the net benefit that society gains from the mountain environment, including non-market benefits.

Previous studies have shown that significantly the greatest use of Scotland’s mountains - from the point of view of numbers of participants and money spent – comes from the recreational sector, particularly from hill-walking, skiing, rock-climbing and mountain biking (HIE 1996, Higgins 2000). Mountain recreation is also an important draw for tourists for mainland Europe (Macpherson Research 1998). The aim of this project is to investigate the value that recreational users place on different non-market benefits in the mountain environment. It will then briefly

¹ For example the field sports sector, agricultural sector, conservation sector, economic development sector, and the recreational sector.

discuss what the results mean for public policy instruments impacting on the region, using information gained from thirty-two semi-structured interviews with key policy stakeholders.

The main method is a postal questionnaire of recreational users that uses four different techniques to assess the value placed on broad categories of non-market benefits. One of these techniques is a contingent valuation experiment using a choice modelling approach known as a choice experiment – this is a relatively new approach to economic valuation of the environment (Hanley et al 1998) and this experiment therefore also offers a useful test of its consistency with other more qualitative measures of preference.

The report will be split into five sections:

1. An introduction to land use in Scotland's mountain environment
2. An introduction to valuing non-market benefits
3. An outline of important non-market values provided by the Scottish mountain environment, and current public policy interventions to supply them.
4. A report on the methodology and results of the surveys of recreational users, including an economic valuation using the choice method.
5. A discussion of these results, concluding with an outline of some critical issues for the future of Scotland's mountains.