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Valuing enhancements to forest recreation using choice experiment and contingent behaviour methods

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Abstract

This research utilises two valuation techniques (a frequency-based choice experiment model and a contingent behaviour model) to value a range of improvements to recreational facilities in forest and woodlands in Great Britain. We provide the first comparison in the literature of welfare results from these two approaches. Four groups of forest users are targeted in this research: cyclists, horse riders, nature watchers and general forest visitors, and look also at “sub-groupings” within these classes of forest user. We found that heterogeneity of preferences exists within each of these groups. In particular, more specialist forest user groups attain generally higher values for improvements than general users. For example, downhill mountain bikers were willing to pay more for the provision of dedicated downhill courses than family cyclists for easy cycle trails. It is also argued that the use of a frequency-based choice task in the choice experiment has advantages over the more traditional choice tasks for applications such as forest recreation since a frequency-based task better reflects

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actual behaviour and encourages respondents to pay closer attention to the “distance travelled” attribute.

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Introduction

Forests and woodlands are an important and significant destination for outdoor recreation trips. For example, in Great Britain, there are an estimated 252 million leisure days trips made to forest and woodlands each year: this accounts for 20% of all leisure day trips in the countryside (TNS Travel and Tourism, 2004). People have a wide range of motivations for visiting forests. Some will be attracted by the forest itself and the wildlife it provides a home to, while more local users may simply find it a convenient place to walk their dog. The more adventurous visitor may be attracted by specialist recreation facilities provided within the forest, which might include, for example, dedicated walking or mountain bike trails, or wildlife hides. In Great Britain, numerous visitor surveys have been undertaken (predominantly by the Forestry Commission) to collect information on the levels of participation in forest recreation and the motivations of forest visitors (Forestry Commission, 2004a, 2005a). The management of forests for recreation and in particular the provision of facilities is costly. In 2003–04, the Forestry Commission spent £38 million on ‘recreation, conservation and heritage’¹ within its forests (Forestry Commission, 2005b). Clearly such levels of spend need to be justified in terms of ensuring that investments are best targeted to attain the greatest marginal gains.

In terms of cost-benefit analysis, the Forestry Commission’s income from ‘recreation, conservation and heritage’ in 2003–04 was £13 million (Forestry Commission, 2005b). Thus, in accountancy terms, the Forestry Commission made a deficit of around £25 million on the provision of recreation opportunities. However, market prices generally do not exist for many aspects of forest recreation due to the legal and physical impracticality of excluding users. Economic evaluation techniques have therefore been developed to measure the value (consumers’ surplus) derived from recreational use of environmental resources such as forests. These techniques include stated preference methods, revealed preferences methods, and combined methods. To date, over 30 studies have been undertaken to measure the value of recreation in UK woodland, yielding over 100 separate benefit estimates (see Jones et al., 2003 for a review and meta-analysis of these studies). In these studies, it has been estimated that the annual national aggregate consumers’ surplus associated with recreation in UK woodlands range between £40 million (Bateman, 1996) to over

¹Note that information specifically on the level of expenditure on recreation alone is currently not available from the Forestry Commission.

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