An Assessment of the Economic Effectiveness of Recreation Policy Using Contingent Valuation

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Abstract
Arrangements within the UK to enhance recreation opportunities in the countryside are currently implemented in a somewhat ad hoc manner. This paper analyses the economic effectiveness of such provision in Grampian Region, Scotland. This is achieved by quantifying, using the contingent valuation method, the economic benefits accruing from recreation enhancements and comparing these benefits with the level of expenditure currently being undertaken on these improvements. The subsequent analysis provides a strategic framework for the assessment of recreation needs in the region, thus enabling future priorities for provision to be identified. It is argued that the quantification of public preferences for recreation enhancements provides a powerful tool to aid strategic planning of recreation provision. The issue of using public funds to finance recreation facilities in the countryside is also discussed.

Introduction
Countryside recreation is increasingly being regarded as a major contributor to the economic viability of marginal areas such as rural Scotland (Scottish Development Agency, 1990; Scottish Natural Heritage, 1997). Recreation opportunities in the Scottish countryside are currently delivered through a number of schemes funded by numerous countryside organizations. Various arguments have been put forward relating to the desirability of these arrangements. Some argue that the plethora of schemes is to be welcomed as it maximizes the provision of recreation opportunities, ensuring that all societal needs are catered for (Scottish Natural Heritage, 1994b). Others question the effectiveness of such ad hoc arrangements (Travis, 1979; Curry, 1994) arguing that the lack of a cohesive policy leads to inequitable distribution of benefits. The research reported here aims to provide a strategic assessment of recreation provision in Grampian Region, Scotland, by quantifying the economic benefits associated with improvements to recreation opportunities in the countryside using the contingent valuation (CV) method. Based on this evaluation of public preferences, the effectiveness of present arrangements for improving recreation opportunities in the Grampian countryside are analysed by comparing the value of public preferences with current expenditure on countryside recreation. In addition, the research findings also open the question of whether the use of public funds to provide recreation opportunities in the countryside is justified.
Provision of Recreation Opportunities

Opportunities for informal recreation in the Grampian countryside arise through a number of mechanisms. Legal rights of public access, as defined in the Countryside (Scotland) Act 1967, and amended under the Prescriptions and Limitations (Scotland) Act 1973, Wildlife and Countryside Act 1981 and Natural Heritage (Scotland) Act 1991, provide secure arrangements for linear access to the countryside. However, “only a proportion of the whole network of tracks, paths and other routes have rights of way status, and of these, only a very small number are fully asserted rights of way” (Scottish Natural Heritage, 1992, p. 13). Thus, although public rights of way provide an important recreation resource, the extent of the rights of way network in Scotland is presently limited. Recreation opportunities in the countryside may also be secured through statutory and voluntary access agreements with landowners. These arrangements, which were introduced in the Countryside (Scotland) Act 1967, enable local authorities (and now the Scottish Natural Heritage) to enter into linear and areas access agreements with landowners. Unfortunately, “the use of access agreements has been very limited, with most agreements being linked to the creation of long distance routes” (ibid., p. 15). Recently, access agreements have also been incorporated into various agri-environmental schemes, which aim to enhance access opportunities on farmland. These schemes include access options within the Environmental Sensitive Areas scheme (Scottish Office Agricultural, Environment and Fisheries Department, 1994) and the Countryside Premium Scheme (Scottish Office Agricultural, Environment and Fisheries Department, 1997). Once again, very little use has been made of these access arrangements. The third type of access arrangement relates to de facto access on public, voluntary and privately owned land, including land owned by the Forest Commission, the RSPB and the National Trust. Although such land provides extensive access opportunities to the countryside, these access areas have no legal protection, and therefore could be lost in the future.

In addition to these arrangements, Scottish Natural Heritage (SNH)¹ have, in its review of access arrangements within the Scottish countryside (SNH, 1992, 1994a, 1994b), proposed two initiatives for improving recreational access opportunities to the Scottish countryside: the Paths for All programme; and the Access Forum.

The Paths for All initiative proposes to “improve local access for informal recreation, close to towns and settlements” by “creating networks of community paths” (SNH, 1994b, p. 17). Access opportunities on the open hill are addressed by the Access Forum, which seeks “—to build bridges between recreation users” and landowners’ and managers’ interests, especially to help with better understanding of each others’ needs, and to debate how best to accommodate them” (ibid., p. 43). It is through these two initiatives that SNH hope to improve access opportunities within Scotland.

Not only is there a diverse range of mechanisms associated with recreation provision in Scotland, it is evident that there is also a large number of organizations involved, with each organization having slightly different roles and responsibilities (Curry, 1994). For example, the SNH has a predominantly policy formulation role (SNH, 1994b), whereas local authorities focus more on planning and facilitating access provision (SNH, 1997). In addition, there are also many voluntary organizations and private landowners, which provide access opportu-
nities on their land. Although it is recognized that that “each [organization] has a distinctive and significant role to play” (SNH, 1994b, p. 79), a number of commentators have referred critically to the fragmented nature of public sector responsibilities for leisure and recreation policy (Curry, 1994; Travis, 1979). This has been accompanied with calls for a greater degree of co-ordination among the various organizations through partnership approaches (SNH, 1994b), the formation of a Countryside Recreation Commission (Curry, 1994) or even the establishment of a Ministry of Leisure to give greater coherence to policy (Labour Party manifesto in 1987). The significance of these latter points is that a fragmented and unco-ordinated approach to recreation provision may result in ineffective and inequitable provision. Indeed, SNH recognizes that “there is a need to develop a more comprehensive approach to informal open-air recreation” (SNH, 1994b, p. 79). Using Grampian Region as a case study, this paper assesses the effectiveness of current arrangements by quantifying the economic benefits accrued from recreation enhancement programmes.

Assessment of the Effectiveness of Recreation Provision

The assessment of the effectiveness of recreation provision has traditionally been undertaken in visitor surveys (for example, Copes & Hill, 1997; Roberts, 1997). Although these have provided useful information for improving the management of specific recreation sites, Curry (1994) argues that such surveys contribute little to assist in the analysis of the wider, strategic management of the countryside. In order to effectively undertake a structured assessment of where additional recreational opportunities are required, data need to be collected at a strategic, regional level, rather than on a site-specific level. It is argued that the most appropriate way in which to collect such data is through survey of local residents, as local residents will, in general, be reasonably informed of current provisions for countryside recreation within the region of residence. The incorporation of visitor or tourist preferences into the analysis, on the other hand, is considered to be less useful since visitors tend to be less aware of the full extent of recreational opportunities available within an area, and hence will tend to be less able to make informed judgements on the recreational needs of that area (Veal, 1997). For these reasons, it was proposed that this research concentrated only on the preferences of local residents.

It is also argued that some form of quantification of public preferences would be desirable. Such quantification may be achieved through the determination of the economic benefits associated with the provision of recreation opportunities using environmental economic techniques such as the contingent valuation method or the travel cost method. These benefit values can then be compared to the costs of making the improvements, thus allowing an assessment of the economic effectiveness of current mechanisms for recreation provision to be made.

The Case Study

To ensure that the research findings provide a comprehensive analysis of the effectiveness of provision for countryside recreation opportunities, the area for study chosen is required to embrace the totality of countryside settings.
Grampian Region², situated in Scotland’s northeast shoulder, is one such area. Grampian Region is the third largest of Scotland’s nine former regions in both area (874 191 ha) and population (528 100 residents). Other than the city of Aberdeen (220 000 residents), Grampian Region is predominantly rural by nature. The landscape of the region is diverse, comprising fertile farmland on the coastal fringe, to upland and hill beef and sheep farming further inland, to the Cairngorm mountains at the heart of the region (Figure 1). The Cairngorm massif itself contains some of the finest and most extensive mountain environments in the British Isles, and as such is recognized as being of international importance for both nature conservation and recreation. In addition, Grampian Region hosts large areas of forest and woodland, many rivers and lochs³ and an extensive coastline. This diversity provides an appropriate setting for virtually all types of countryside recreation activities, and as such makes Grampian Region an ideal case study area for this research.

To enable a comprehensive evaluation of the effectiveness of recreation opportunities in Grampian Region to be undertaken, distinct categories of recreation enhancement were developed through focus group discussions. The focus groups, conducted on approximately 60 countryside users, comprised word-association games and semi-structured discussions to determine partici-
Table 1. Description of the countryside improvement scenarios

<table>
<thead>
<tr>
<th>Improvement type</th>
<th>Repair of countryside paths</th>
<th>Creation of new paths</th>
<th>Provision of countryside facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Improvement</td>
<td>Path maintenance</td>
<td>Upgrading of paths</td>
<td>Creation of short paths</td>
</tr>
<tr>
<td>Repair the surface of paths and the soil and plants next to the path</td>
<td>The use of steps, wooden boardwalks, seats and signs to upgrade paths where appropriate</td>
<td>Creation of short distance circular paths in popular recreation areas</td>
<td>Creation of long distance routes which link popular areas together</td>
</tr>
</tbody>
</table>

Measuring the Benefits of Countryside Recreation

Recreational opportunities in the countryside often display the public good attributes of non-excludability and non-rivalry (Hodge, 1991). These attributes mean that it is often difficult and impractical for private markets to commoditize countryside recreation, and thus some form of government intervention is normally required. This market failure also implies that attempts to estimate the benefit value associated with countryside recreation requires the adoption of specialized economic evaluation techniques (Hodge, 1995). These valuation techniques include the travel cost method (TCM), hedonic pricing (HP) and contingent valuation (CV) method.

The TCM seeks to estimate the benefit arising from a recreation experience by treating the cost of travel to the recreation site as if it were an entry fee. A recreation demand curve can then be constructed, based on the travel costs of a number of visitors, which is then used to estimate the value of the recreation resource (Clawson & Knetsch, 1966; Willis & Garrod, 1993). Hedonic pricing also
seeks to determine the value of an environmental good based on observations of a surrogate market. In hedonic pricing, differences in house prices, stemming from different environmental attributes, can be used to indicate the benefit streams associated with that attribute (Rosen, 1974). The contingent valuation (CV) method, alternatively, asks respondents directly to express their maximum willingness to pay (WTP) for a hypothetical scenario of improvements to the environmental good under investigation. These expressed WTP preferences are then aggregated to provide an overall estimate of the value of the good (Mitchell & Carson, 1989). Studies comparing the merits of these approaches have predominantly concluded that the CV method is the most appropriate technique to use for the evaluation of countryside recreation (Young & Allen, 1986; McConnell, 1985; Loomis et al., 1986; Forester, 1989). These conclusions have been endorsed by a number of recent studies which have successfully used the CV method to value recreation goods (Cobbing & Slee, 1993; Benson & Willis, 1991; Bishop & Welsh, 1992; Bennett et al., 1995). The CV technique was therefore adopted in the present research.

The CV approach centres on the valuation of a hypothetical market for a good or service. In the valuation, respondents express their willingness to pay (WTP), or willing to accept in compensation, for the hypothetical good being valued. Respondents may be asked to provide this value (open-ended CV) or they may be asked whether or not they accept a value that is presented to them (referendum CV). The validity of the responses is tested using various techniques, which include a comparison of the WTP responses to the respondents' socio-economic attributes.

It is not the intention here to provide an extensive review of the CV method. However, it is important to indicate that, although the CV method is subject to controversy regarding its reliability, guidelines of good practice are available (Arrow et al., 1993). Also, it is generally agreed that a well-designed and thoroughly piloted CV questionnaire can produce accurate value estimations (ibid.). Detailed accounts on general aspects of the CV method can be found in a number of standard texts (Mitchell & Carson, 1989; Hodge, 1995) and examples of the application of the CV method to the evaluation of countryside recreation found in a number of scientific papers (Hanley, 1991; Hanemann, 1994; Bateman et al., 1994; Bennett et al., 1995).

The CV study aimed to estimate the value of local residents' WTP for a range of countryside improvements within Grampian Region. The improvements, categorized in the focus group discussions, comprised six recreation improvement scenarios (described in Table 1). Respondents were then asked to disaggregate their WTP for the improvement scenarios between six types of countryside locations (described earlier). Figure 2 illustrates the sampling procedure used in the CV study. To ensure meaningful responses, the questionnaire was extensively piloted, initially using a face-to-face format on 80 countryside users and then using a postal format on 300 Grampian residents, to identify and remove potential sources of bias. The final version of the CV questionnaire was mailed to 1400 Grampian residents, selected randomly from the electoral roll. To maximize the survey response rate, the Dillman Total Design Method (TDM) was adopted (Dillman, 1978). The TDM aims to achieve high response rates through careful questionnaire design and also by actively encouraging response through repeated mailings. A sample of non-respondents was also contacted in a follow-up telephone survey to identify reasons for non-response.
The CV questionnaire comprised three sections. The first section aimed to establish respondents’ use of the countryside, the problems that they had encountered and the potential solutions to these problems. Standard checklists were used within this section to ensure that respondents were made aware of the full range of recreational opportunities available in Grampian. The second section dealt with the WTP elicitation question. Here, respondents were split into three sub-samples relating to improvement type. Each sub-sample was presented with details of the two levels of improvement within the respective scenario (Figure 2) and asked, initially, to state whether or not they would be prepared to pay towards such improvements. If the response to this was positive, the respondent was then asked, using an open-ended format, “how much would your household be prepared to pay extra per year as increases in Council Tax” for the improvement scenario. To help ensure that respondents stated their true WTP amount, respondents were asked to consider a number of facts including their annual budgets for environmental goods and the current level of expenditure on recreational improvements in Grampian. Following the scenario elicitation questions, respondents were asked to allocate each £1.00 of their WTP bids between the six countryside locations. The final section of the CV questionnaire established respondents’ socio-economic attributes. This information was used in the analysis of the validity of WTP responses.

Of the 1400 questionnaires sent out, 748 (53%) were returned fully completed. The returned (usable) questionnaires were split into three categories relating to the type of response to the WTP elicitation questions used in the survey: positive bids; zero bids; and protest bids. The positive bids were those in which the respondent stated that they would be prepared to contribute towards countryside improvements. In this survey, 33% of respondents stated positive bids. Zero bids (accounting for 48% of returned questionnaires) included those respondents who stated that they were not prepared to contribute towards countryside improvements. The main reasons for giving zero bids were that respondents either could not afford to pay for improvements (61% of zero bids), did not participate in outdoor recreation (22%) or that they did not consider that countryside improvements were required (12%). Protest bids (18% of
Table 2. Summary of the mean WTPs for countryside improvements (£ per household per year)

<table>
<thead>
<tr>
<th>Countryside improvement scenario</th>
<th>Mean WTP valuea (£ per household)</th>
<th>Min. value</th>
<th>Max. value</th>
<th>S.D.</th>
<th>S.E. of mean</th>
<th>N</th>
<th>Aggregate value for Grampian (£000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path maintenance</td>
<td>4.24</td>
<td>0</td>
<td>50</td>
<td>9.09</td>
<td>0.63</td>
<td>207</td>
<td>858</td>
</tr>
<tr>
<td>Path upgrade</td>
<td>2.38</td>
<td>0</td>
<td>50</td>
<td>6.48</td>
<td>0.44</td>
<td>208</td>
<td>481</td>
</tr>
<tr>
<td>Creation of short paths</td>
<td>2.84</td>
<td>0</td>
<td>50</td>
<td>7.63</td>
<td>0.65</td>
<td>137</td>
<td>575</td>
</tr>
<tr>
<td>Creation of long paths</td>
<td>1.59</td>
<td>0</td>
<td>50</td>
<td>5.21</td>
<td>0.44</td>
<td>137</td>
<td>322</td>
</tr>
<tr>
<td>Provision of basic facilities</td>
<td>3.91</td>
<td>0</td>
<td>150</td>
<td>14.05</td>
<td>1.18</td>
<td>140</td>
<td>791</td>
</tr>
<tr>
<td>Provision of user facilities</td>
<td>1.70</td>
<td>0</td>
<td>20</td>
<td>3.77</td>
<td>0.32</td>
<td>139</td>
<td>344</td>
</tr>
</tbody>
</table>

a Includes both positive and zero bids.

returned questionnaires) included those respondents who rejected the payment vehicle, stating that they did not want to pay more Council Tax. Chi-square analysis of the characteristics of positive bidders indicated that their income was significantly higher ($p = 0.01$) than that of the zero bidders (chi-square = 115.7) and also they were significantly ($p = 0.01$) more active participants of countryside recreation (chi-square = 48.9). Respondents who gave zero WTP bids, and therefore were less likely to benefit from countryside improvements, were often elderly or disabled. The follow-up telephone survey of a sample of the non-respondents indicated that their responses to the elicitation questions were similar to the responses of the returned questionnaires. These findings demonstrate that there are clear differences in the socio-economic characteristics of those respondents who state positive WTP bids and those who are not prepared to contribute towards improvements. These differences in socio-economic characteristics have implications for the equity of benefit distribution associated with recreation policy within society. These equity issues are discussed further later in this paper.

The mean WTP values (positive and zero bids) of the six improvement scenarios are shown in Table 2. It is demonstrated that Grampian residents most highly valued path maintenance (£4.24 per household) and the provision of basic facilities (£3.91 per household). The creation of long paths and the provision of user facilities were shown to generate much lower levels of benefit (£1.59 and £1.70 per household, respectively). The aggregate value of all six improvement scenarios, estimated by multiplying the mean WTP for each improvement scenario with the population of Grampian Region, was estimated to be £3.37 million per annum. The analysis of the distribution of WTP between the six countryside locations indicate that respondents most highly valued improvements in forests (21p/£1.00), next to rivers and lochs (19p) and coastal areas (18p). Much less support was seen for improvements on farmland (10p).

The validity of the CV study was tested following the criteria set out by Mitchell & Carson (1989). Content validity was addressed through discussions with authorities in the fields of economics and countryside recreation. In addition, the fact that there were very few incomplete responses supports the credibility of the survey scenarios. Theoretical validity was investigated
through an examination of the bid function. The preferred model had an $R^2$ value of 0.218 (Table 3). Although this value may seem low, these values are not uncommon in CV studies, especially if an open-ended format has been used. For example, Bateman et al. (1993b) attained an $R^2$ value of 0.059 in his Norfolk Broads Wetland CV study. The explanatory variables given in Table 3 correspond to a priori expectations and therefore support the validity of the WTP responses. Convergence validity was tested by a comparison of mean WTP responses to those found in similar studies (see Bateman et al., 1993a). These tests support the validity of the survey findings.

### Measurement of the Costs of Countryside Recreation

To examine whether investment in recreation opportunities was economically efficient, the benefits elicited above were compared to the cost of undertaking each improvement at each countryside location. Ideally, it would have been preferable to establish the actual cost of implementing each recreation improvement, so that each component cost could be analysed within a cost–benefit framework. Such analysis would enable accurate estimation of the net benefit accrued from each improvement type to be established. Unfortunately, it was almost impossible to identify the exact cost of undertaking recreation improvements due to variability in costs associated with land ownership, remoteness and fragility of natural habitat. An example of the extent of the variability in the costs of improvements can be demonstrated in the following example. The cost of footpath repair on the disused railway track on the outskirts of Aberdeen was £10 per metre, compared to a cost of £500 per metre for the repair of the mountain footpath in the fragile mountain environment on Loch Nagar (pers. comm. SNH, 1995). Clearly, such variability makes the estimation of the cost of recreation improvement extremely difficult. To overcome this problem, the annual expenditure undertaken by local authorities, quangos, voluntary organizations, landowners and farmers on recreation improvements was used as a proxy for the actual costs.

An estimation of the local authority, quango and voluntary organization expenditures on recreation improvements in Grampian Region was established
through interview with a representative of these organizations. The organizations which participated in the expenditure study were: five local authorities (Grampian Regional Council, Moray District Council, Kincardine and Deeside District Council, Gordon District Council, Banff and Buchan District Council); four quangos (Scottish Natural Heritage, Scottish Sports Council, Grampian Enterprise, Forest Enterprise); and two voluntary sector organizations (RSPB and the National Trust for Scotland). The total expenditure of these organizations on the six improvement scenarios within Grampian Region for the financial year 1994/95 was estimated to be £1.89 million (Table 4).\(^8\) This expenditure is equivalent to £9.36 per household within Grampian Region. Of the total expenditure within Grampian Region, 62% came from local authorities, 33% from quangos and 4% from voluntary organizations. The majority of this expenditure (60%) was targeted to the provision of user facilities such as visitor centres and toilets, the remainder being split fairly evenly between the other five improvement scenarios (Table 4).

The location where these organizations allocate expenditures indicates that most expenditure was targeted to improvements in forests (33p/£1.00 spent), coastal areas (24p) and areas next to towns (17p). Farmland areas had lowest expenditures (5p). It should be noted that potential overlap between the types of countryside locations, for example, forests could be situated in locations next to towns or on farmland, often made it difficult to effectively determine where resources were allocated. To overcome this, representatives of the organizations were asked to identify the location type which was of primary importance in the resource allocation decision.

An estimation of the expenditure undertaken by farmers and landowners on countryside recreation improvement was derived from data collected by Crabtree et al. (1992). Using this data, it was estimated that farmer’s and landowner’s expenditure in Grampian was in the region of £960 000 annually.\(^9\) Unfortunately, the Crabtree et al. data did not allow this expenditure to be allocated to the different improvement types or countryside locations. Aggregating the organizational and landowner expenditures, it was estimated that total expenditure on countryside recreation in Grampian Region was £2.80 million per annum.

The Economic Effectiveness of Recreation Policy

An initial, simplistic analysis of the economic efficiency of recreation improvements may be undertaken by comparing the total aggregate benefit of recreation

<table>
<thead>
<tr>
<th>Organization type</th>
<th>Path maintenance</th>
<th>Path upgrade</th>
<th>Creation of short paths</th>
<th>Creation of long paths</th>
<th>Provision of basic facilities</th>
<th>Provision of user facilities</th>
<th>Total expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local authorities</td>
<td>64</td>
<td>38</td>
<td>26</td>
<td>19</td>
<td>239</td>
<td>800</td>
<td>1187</td>
</tr>
<tr>
<td>Quangos</td>
<td>93</td>
<td>40</td>
<td>99</td>
<td>36</td>
<td>55</td>
<td>305</td>
<td>629</td>
</tr>
<tr>
<td>Voluntary</td>
<td>16</td>
<td>1</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>173</td>
<td>79</td>
<td>132</td>
<td>65</td>
<td>306</td>
<td>1136</td>
<td>1892</td>
</tr>
<tr>
<td>% expenditure</td>
<td>9.1</td>
<td>4.1</td>
<td>7.0</td>
<td>3.5</td>
<td>16.2</td>
<td>60.0</td>
<td>100</td>
</tr>
</tbody>
</table>
improvement (£3.37 million per annum) with the annual expenditure (£2.80 million per annum). Although it may be argued that such a comparison is arbitrary, since the benefits and costs may relate to slightly different scope of improvements, the comparison does indicate that there is a public WTP for additional recreation improvements that is valued higher than the current level of expenditures on improvements. This would suggest that further investment in recreation improvement in the countryside is desirable in that it generates positive economic returns from investment. Further, it is argued that the omission of visitors’ preferences from the CV survey and also the tendency of open-ended CV questions to provide lower-bound welfare estimates (Mitchell & Carson, 1989) suggest that the benefit value elicited in the CV study provides a conservative estimation of the overall benefit generated from recreation improvement. This further strengthens the economic case supporting additional investment in recreation.

In addition to examining recreation policy as a whole, an estimation of the level of additional benefit generated by each improvement scenario within each countryside location was also established (Table 5). This was achieved through the comparison of the benefit–cost ratio (BCR) measure, calculated by dividing the benefit by the costs (Field, 1994). A benefit–cost ratio value greater than one indicates that the benefit generated exceeds the costs of provision and therefore suggests that the improvement programme is economically efficient. Although it is recognized that the BCR elicited in this comparison may again be somewhat arbitrary, it is argued that a comparison of the relative size of the BCRs between different improvements and locations provides useful information to aid strategic policy analysis. BCRs of greater than one were obtained for five of the six improvement scenarios, while a ratio of only 0.18 was found for the provision of user facilities (visitor centres and toilets) scenario (last row, Table 5). BCRs of greater than one were also calculated for improvements at all locations investigated (last column, Table 5). In addition to these generalizations, it was also possible to measure the BCR generated from each improvement scenario at each countryside location (Table 5). Reference to this data enables precise identification of where economic gains are obtained from investments in recreation opportunities and hence allows comment to be made regarding the effectiveness of expenditure on recreation policy. Thus, all improvement programmes, other than the provision of user facilities, were shown to provide positive welfare gains.

<table>
<thead>
<tr>
<th>Improvement scenario</th>
<th>Path maintenance improvement</th>
<th>Path upgrade</th>
<th>Creation of short paths</th>
<th>Creation of long paths</th>
<th>Provision of basic facilities</th>
<th>Provision of user facilities</th>
<th>All improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain</td>
<td>6.68</td>
<td>7.55</td>
<td>4.10</td>
<td>6.40</td>
<td>2.87</td>
<td>0.25</td>
<td>2.00</td>
</tr>
<tr>
<td>Forest</td>
<td>3.35</td>
<td>4.05</td>
<td>3.05</td>
<td>3.14</td>
<td>1.56</td>
<td>0.16</td>
<td>1.14</td>
</tr>
<tr>
<td>Coastal</td>
<td>3.78</td>
<td>4.72</td>
<td>3.10</td>
<td>3.22</td>
<td>1.79</td>
<td>0.24</td>
<td>1.34</td>
</tr>
<tr>
<td>Farm</td>
<td>6.20</td>
<td>5.26</td>
<td>5.78</td>
<td>4.16</td>
<td>3.30</td>
<td>0.50</td>
<td>3.94</td>
</tr>
<tr>
<td>Rivers</td>
<td>11.32</td>
<td>14.62</td>
<td>9.17</td>
<td>11.47</td>
<td>7.04</td>
<td>0.84</td>
<td>4.40</td>
</tr>
<tr>
<td>Town</td>
<td>3.62</td>
<td>4.49</td>
<td>4.43</td>
<td>4.36</td>
<td>2.38</td>
<td>0.36</td>
<td>1.64</td>
</tr>
<tr>
<td>All locations</td>
<td>4.96</td>
<td>6.09</td>
<td>4.35</td>
<td>4.95</td>
<td>2.58</td>
<td>0.18</td>
<td></td>
</tr>
</tbody>
</table>
The BCR measure can also be used to assess the priorities for future investment in countryside recreation. This may be undertaken by ranking the improvement programmes according to the level of the BCR (OECD, 1995). Thus, it is recommended that prioritization should be given to path upgrade, the creation of short paths and path maintenance next to rivers where greatest BCRs were obtained (14.62, 11.47 and 11.32, respectively). Path maintenance and path upgrade in mountain areas was also shown to produce high BCR values. Also, it is recommended that, if economic criterion are to be used as the decision rule, further resources should not be targeted to the provision of user facilities programmes at any location where BCR values of less than one were obtained (Table 5). Thus, the comparison of the relative values of the BCR would seem to provide a clear indication of where public preferences, and hence benefit, lie for additional recreation opportunities. This information may then be used to aid the development of strategic, economic-effective policies for recreation provision.

There are, however, limitations associated with the use of these findings, the main one being that the current research only determined the preferences of Grampian residents and not visitors to the area. This may limit the use of these findings in the context of developing a comprehensive recreation policy for the Grampian Region, as such a policy would require all the costs and benefits to be taken into consideration. To demonstrate the possible implication of this, the example of the provision of user facilities (visitor centres and toilets) is used. In the research Grampian residents indicated low BCR’s for the provision of user facilities, whereas it is speculated that visitors to Grampian Region would use, and therefore benefit from, such facilities. Hence the exclusion of visitors may show an incomplete picture of the benefits which arise from the various improvement programmes. However, it should be stressed again that it was considered that visitors to Grampian Region are unlikely to possess sufficient knowledge of the area to make informed decisions on the recreational needs of the area as a whole and therefore the decision to exclude them from the analysis was considered appropriate. It is therefore argued that the research findings do provide meaningful data to feed into a strategic assessment of recreation improvements in Grampian.

New Recreation Policy Initiatives

In addition to the development of an economic framework on which strategic recreation policy decisions may be based, the research findings also enabled the economic effectiveness of current recreation policy to be scrutinized. In particular, two recent policy developments were examined: the Scottish Natural Heritage’s Paths for All initiative and the access provisions within the Countryside Premium Scheme.

The aim of the Paths for All initiative is to develop a network of local paths around towns and settlements. Thus, in terms of the improvements examined in this research, the Paths for All project primarily deals with the creation of countryside paths scenario in locations next to towns (although it may be argued that forests and rivers located next to town would also be relevant). Reference to Table 5 demonstrates that there are high BCRs associated with the creation of both short and long paths. Also, reasonable benefits were shown to be gained from improvements next to towns, and high economic benefits were associated
with the creation of new paths next to rivers (Table 5). These findings thus provide evidence supporting the Paths for All initiative in economic efficiency terms.

The access provisions within the Countryside Premium Scheme aim to provide new or significantly enhanced access opportunities across agricultural land to areas of features of interest (Scottish office Agricultural, Environment and Fisheries Department, 1997, p. 24). Again, this scheme targets the creation of new paths, which was shown to generate significant benefits (Table 5). Although the CV study identified low WTP preferences (10p per £1) for improvements on farmland, current expenditure on such improvement was also found to be low, the result of which meant that any additional investment to improve recreation opportunities on farmland was shown to be associated with reasonably high BCR values (BCR = 3.94). In addition, the access provisions in the Countryside Premium Scheme also target the creation of new access opportunities to features of interest such as rivers and forests. The creation of paths next to rivers was shown to generate a high BCR value (9.17); however, path creation in forests was shown to have a low BCR value (3.05).

The conclusion drawn from this analysis is that, in general, the new policy initiatives aimed at enhancing recreation opportunities in the Grampian countryside do target resources efficiently. However, it should be noted that there is still some potential to improve the efficiency of these schemes by ensuring that funds are targeted to programmes which are associated with the higher BCR values.

**Is Public Sector Expenditure on Countryside Recreation Justified?**

The empirical research reported above provides conflicting evidence supporting the justification of using public funds to provide recreation opportunities in the countryside. On the one hand, the BCRs elicited above provide strong evidence indicating that investment in most types of recreation facility does generate significant gains in economic benefit and therefore such expenditure may be justified on a value for money criteria. However, it was also noted that only one-third of the survey respondents were willing to pay for countryside improvements and, more importantly, that these respondents were predominantly in the higher income groups. Such a relationship between affluence and increased participation in countryside recreation has been well-documented (Elson, 1977; Fitton, 1978; and Curry, 1994) and indicates that public sector expenditure on countryside recreation is regressive in terms of distributional equity and may not be justified. It is therefore unclear from the research whether public financing of recreation improvements can be justified. This question is now examined further.

Perhaps a starting point for this wider discussion of the justification of using public funds to enhance countryside recreation is the examination of how the WTP preferences expressed in the CV study are actually translated into changes in the use (i.e. consumption) of the countryside. It may be hypothesized that additional investment in recreation opportunities could only be justified if it resulted in additional usage/consumption of the countryside. Analysis of the responses to the CV study indicates that the majority of positive WTP bids were made by existing countryside users, as opposed to non-users. It seems unlikely that these existing users would recreate more frequently and therefore it is argued that the WTP preferences expressed in the CV study would not translate
into actual increases in the consumption of countryside recreation. Rather, it is more likely that the WTP preferences would lead to an increased option demand: that is, existing countryside users would benefit from the option of recreating in an improved recreation resource characterized by either an expansion of the quantity, and hence available choice, of recreation resource opportunities or by an improved quality of existing recreation resources. It would therefore appear that additional investment in recreation opportunities is unlikely to attract new participation in countryside recreation. The conclusion drawn from this is that although investment in countryside recreation does have the potential to generate substantial benefit to society as a whole, these benefits will largely be characterized by improving the experiences of existing countryside users, rather than generating opportunities which attract new participation. Thus, in terms of how the benefits of new investment are distributed within society, public sector investment in countryside recreation can not be justified.

Although the research findings cannot be used to provide evidence justifying increased public investment in countryside recreation, there are other criteria that the public sector also need consider in relation to its resource allocation decisions. Curry (1994) identifies four such reasons. He suggests that the first two arguments, which relate to the protection and upholding of citizen’s rights of access, constitute an important and legitimate justification for public provision.

The third argument that Curry identifies states that the public good characteristics often associated with countryside recreation make private provision unrealistic and therefore public provision is necessary to fulfil this gap. Curry, however, suggests that the public good argument may be flawed in that he foresees a potential for, and indeed a move towards, a market orientated approach to the provision of countryside facilities. He argues that such an approach would provide an effective mechanism for the efficient allocation of resources. Although advocating market provision, Curry also suggests that a market orientated approach may be best catered for within the public sector rather than the private sector. Thus, although the public good arguments have been used to justify public provision of recreation opportunities (Hodge, 1991), it is clear that there is potential for market orientated provision, and therefore the public good arguments perhaps do not provide a clear cut case justifying public provision of recreation facilities.

The fourth argument that has been used to support public provision of facilities is based on the desire of public agencies to meet societal needs. Societal needs arguments suggest that the public sector is required to ensure that recreation opportunities are provided for all members of society, and in particular to the less affluent who otherwise may not be able to afford them. Policies which have attempted to address societal needs in the past, for example public recreation transport schemes, have however largely been unsuccessful in encouraging the less affluent to participate in countryside recreation (Groome & Tarrant, 1985). One of the main reasons for this is that the working classes in society have been found to have little desire to participate in an activity which they consider to be boring and uninteresting (Fitton, 1979). Curry (1994) argues that rather than fruitlessly attempting to design policies which cater for unwanted societal needs, it may be more constructive to accept the fact that the less affluent generally have little desire to participate in countryside recreation, and alternatively it may be more effective to focus recreation policy on the needs of
those who actively recreate in the countryside (Curry, 1994). This argument suggests that we need not concern ourselves with the fact that recreation policies are likely to be inequitable in terms of the distribution of benefits.

So where does this leave us in terms of addressing the issue of the justification of using public funds to support recreation provision? It is apparent that public provision would appear to be essential if such facilities were to be provided. Also, it is clear that investment in recreation facilities would generate positive economic benefits within society. Thus, based on these arguments, it is argued that public funding is justified. Where this argument breaks down relates to whether the public sector is willing to fund a programme that is clearly inequitable in terms of benefit distribution. The answer to this question is a political one and thus can not be appropriately answered in this paper.

Conclusions

The research has provided useful information on the level of benefits and costs associated with recreation improvements, highlighting where the greatest gains in social welfare can be made. Although it is recognized that there may be problems in the comparison of the benefits and costs in absolute terms, it is argued that this research has demonstrated that the quantification of the economic value of the benefits and costs associated with recreation provision and the subsequent comparison of their relative values does provide a useful tool for the strategic assessment of market demand for recreation improvement. All too often decisions on resource allocation to recreation improvement are undertaken to satisfy the needs of individual organizations and agencies, or relating to the needs of a specific site (Curry, 1994). Such strategies tend not to address the wider strategic assessment of recreation improvements. Although recreation strategies do exist, for example both local authorities and SNH have developed strategic recreation plans, it is argued that no systematic assessment of public preferences is incorporated into these, and importantly, no assessment of the economic benefits associated with individual improvement projects. It is therefore argued that a survey, which attempts to quantify public preferences for recreation improvements, constitutes an important contribution to our understanding of where resources should be allocated, and hence provides a sound basis for the strategic planning of countryside recreation.

A discussion of the appropriateness of using public sector funds to improve recreational opportunities in the countryside indicated that such expenditure is generally economically efficient in terms of benefit-cost ratios, but not equitable in terms of income distribution. Thus we have conflicting arguments relating to whether public investment is justified. The answer to this question is, arguably, a political one. In other words, do public authorities consider improving the countryside recreation resource as a justifiable aim? Evidence from recent years, in particular the outcomes of the SNH review of access arrangements in Scotland, would indicate that SNH does consider improving recreation opportunities in the countryside as an important goal and they have indicated a clear commitment to this cause (SNH, 1994b). What the findings of the current research can usefully achieve is to provide an economic framework which may be used to ensure that new policy proposals target resources effectively to those improvements which attain high BCR’s, therefore ensuring economically efficient policies.
Notes

1. Scottish Natural Heritage is the government agency with the statutory remit to “facilitate the enjoyment of the natural heritage of Scotland” (SNH, 1994b).

2. Following local government re-organizations in 1994, the area covered by the former Grampian Region is now divided into three local authority areas: City of Aberdeen; Aberdeenshire Council; and Moray Council.

3. Loch is the Scottish word used to describe a lake.

4. It is recognized that a number of other types of recreation improvements may also exist in addition to those adopted in the two-tier classification matrix. However, these other potential improvements did not receive wide support from the focus group participants and therefore it was considered that the exclusion of improvements from the analysis would not unduly influence the research findings.

5. There are, however, instances where countryside recreation has been successfully commoditized. For example, some landowners have established networks of bridleways and sold licences to riders who want to use them. However, Hodge (1991) argues that the extent to which commoditization may be possible will be influenced by custom and attitude as well as transaction costs and the level of demand, and therefore there is a limit to what may be commoditized.

6. The bias experiments undertaken during the piloting of the CV questionnaire examined the influence of embedding, sequencing, WTP elicitation format, information and duration of WTP payments on the survey findings. Following these bias experiments, the CV questionnaire was modified so as to minimize the influence of these biases.

7. Although it is recognized that the open-ended elicitation format is not the method recommended in the NOAA guidelines for good practice in CV (Arrow et al., 1993), the open-ended format was considered to be the most appropriate for the study mainly for reasons relating to an embedding bias experiment (to be reported elsewhere) undertaken as an additional component of this study. Evidence supporting the validity of using the open-ended format came in the pilot studies where respondents were debriefed after the CV questionnaire was administered and asked to comment on how they came to their stated WTP values. In the majority of cases, respondents indicated that they had undertaken a logical thought process to determine their WTP value. Furthermore, a number of CV practitioners have argued that the NOAA recommendations are simply guidelines and that it is more important to choose the most appropriate elicitation strategy for the study in question. For these reasons, it is considered that the use of the open-ended format is justified.

8. The total expenditure given here relates to the total expenditure of the 11 organizations that responded to the survey. Although it was recognized that these 11 organizations may not encompass all organizational expenditures on countryside recreation within Grampian Region, it should be noted that the majority of the organizations which declined to participate in the survey did so because they considered that they were not highly involved in the enhancement of recreation opportunities. Therefore, it is argued that the expenditure figures reported above represent a realistic, if perhaps slightly conservative, estimate of the annual expenditures on improvements to recreation opportunities within Grampian Region.

9. The estimated £960 000 undertaken by farmers on recreation improvements in Grampian was derived by multiplying Crabtree et al.’s (1992) estimated average £143 annual expenditure by the 6721 farm holdings in Grampian region (pers. comm., Scottish Office).

References


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