

- Residents of the Blaise Castle area were significantly less likely than those in the Leigh Woods area to have undertaken an active or passive outdoor pursuit in a wood or forest in the previous twelve months (72% versus 59%).
- 62% of respondents in the Leigh Woods area had visited the wood during the previous year (86 respondents) and 89% of those in the Blaise Castle area had visited this site (124 respondents).
- Local residents who had visited Leigh Woods tended to do so fairly infrequently, with just over two-thirds going there six times a year or less (68%), and an average of 20 visits taken per visitor per year. Those visiting Blaise Castle generally did so more frequently, with just over a third of the users of this site (35%) visiting one to three times per month. The average number of visits taken per visitor per year was 42.
- The most frequently undertaken activities, overall, were short walks of less than two miles (64%), walks of two or more miles (46%) and dog walking (34%).

More detail on specific sites within the PFE is provided by the *Quality of Life* surveys (Morris and Doick 2009), which to date focus on three case study sites, all managed primarily for community and recreational benefits. They are therefore not typical of other parts of the PFE. The first annual report indicates different values and uses on different kinds of FC forest. The main comparison is between Birches Valley (a prime site which attracts visitors from further afield) with two community woodland sites in more deprived urban areas.

Findings from this survey (Morris and Doick 2009) are summarised next considering the actual use, both in general and by specific parts of the population (diversity), people's engagement, and the quality of the experience. It should be noted that this is data from a pioneering study and such data is currently not available for other PFE sites nor for non-FC sites for comparison.

Use: The research results show that the community woodlands (Bentley and Ingrebourne) are visited by a lower proportion of their catchment populations than is the case with Birches Valley. Furthermore, visits to Birches Valley last longer than visits to Bentley and Ingrebourne. However, Bentley and Ingrebourne are visited more frequently:

- 10% of the catchment population have visited Bentley
- 13% of the catchment population have visited Ingrebourne
- 64% of the catchment population have visited Birches Valley
- The mean duration of visits to:
 - o Birches Valley is 2 hours 12 minutes
 - o Bentley is 1 hour 21 minutes
 - o Ingrebourne is 51 minutes minutes.

- Weekly visits during spring/summer are made by 51%, 65% and 22% of visitors to Bentley, Ingrebourne and Birches Valley, respectively.
- In autumn/winter, weekly visits are made by 49%, 62% and 13% of visitors to Bentley, Ingrebourne and Birches Valley, respectively.

Engagement: The research findings show that proportionally more visitors to the community woodlands are engaged than visitors to Birches Valley (17%, 9% and 4% at Bentley, Ingrebourne and Birches Valley, respectively). However, there is a higher level of engagement within Birches Valley's catchment population than is the case for Bentley and Ingrebourne ($9 \pm 3\%$ Birches Valley; $3 \pm 2\%$ Bentley; $4 \pm 2\%$ Ingrebourne).

Diversity: The research findings show that women are slightly underrepresented amongst visitors to two of the three sites. Disabled people are slightly underrepresented amongst visitors to all three sites. On the other hand, people from ethnic minority groups are not underrepresented. Also, one of the community woodland sites was found to attract visitors from the lower than average income groups in the catchment; while low income groups are also relatively well represented at both the other sites.

Quality of Experience: The research demonstrates that quality of experience at all three sites is fairly high, based upon the calculation of net promoter scores⁶. The net promoter scores were calculated as:

- 65% for Bentley
- 71% for Birches Valley
- 69% for Ingrebourne.

4.5 Benefits derived from the PFE

Very few of the surveys, statistics or data sources drawn on for this review had quantitatively investigated public (individual or social) benefits of the PFE. Morris and Doick (2009), however, have started to provide some data on individual and social benefits which are summarised in the following two sub-sections.

4.5.1 Individual benefits

- Higher proportions of actual visitors to each of the sites were likely to derive personal benefits from the site than members of the catchment population
- Personal benefits accrued to a comparatively high proportion of the Birches Valley's catchment population
- Low proportions of each catchment and visitor population derived any economic benefits from the sites. Similarly, relatively low values emerged for benefits relating to local participation and community cohesion

⁶ The net proportion of visitors who would definitely recommend each site to friends or family,

- Consistently high proportions of each catchment and visitor population benefited in terms of health and healthy lifestyles, general well being, and in terms of improvements to the physical environment
- Amongst visitors, relatively low values emerged for education benefits.

4.5.2 Social benefits

- Visitors were more likely than the catchment population to agree with statements about the community benefits of the sites
- A comparatively high proportion of the Birches Valley's catchment population felt that the site benefits the local community
- Consistently high proportions of each catchment and visitor populations felt that the community benefits included health and healthy lifestyles, general wellbeing and improvements to the physical environment.

The *Review of Provision for Woodland Recreation and Access* (P Scott Planning Services 1997) assessed informal and formal provision for recreation and access, sport, environmental awareness and visitor services in forests and woodlands owned both by FC Great Britain (FCGB) and by a range of other public, private and voluntary organisations in Britain. The authors concluded that Britain's woodlands provide important venues for recreation and enjoyment. They noted that the FC provides the most extensive and freely available countryside resource for public recreation. Existing data on the wider benefits the PFE potential provides (specifically in relation to access, recreation and employment) are summarised below.

4.5.3 Access

The PFE provides the most extensive and freely available countryside resource for public recreation. Currently right of access is dedicated on 90% of the freehold area of the PFE in England. A direct comparison with the right of access to forests and woodlands in other ownership was not possible due to lack of such data. However, the authors of the *Review of Provision for Woodland Recreation and Access* (P Scott Planning Services 1997) estimated that access on foot and access by public rights of way and other tracks may be available on at least part of 25-40% of non-FC owned woods and forests in England and Wales (approximately 15-30% of privately owned woods and forests, and 80-95% of those owned by local authorities and public & voluntary organisations).

4.5.4 Recreation

The *Review of Provision for Woodland Recreation and Access* assessed informal and formal provision for recreation and access, sport, environmental awareness and visitor services in forests and woodlands owned both by FCGB and by a range of other public, private and voluntary organisations in Britain. The authors concluded that Britain's woodlands, regardless of ownership, provide important venues for recreation and enjoyment. They stated that the PFE 'provides an extensive and well-developed

recreation resource, which benefits residents, day visitors and tourists' (Scott 1997, p. g). The analysis showed that while the quality of provision is high, some types of recreational facilities are concentrated in a few locations. The authors of the report quantified the range of provisions and facilities on FCE sites; however, since the data was collected in 1998, an updated version (which is broadly comparable and is derived from the FC statistics service summary of the recreation facilities on FCE sites in 2008) is used here (Tables 6 and 7).

Table 6: Facilities on FCE sites (2008)

Facilities	Count of facilities
Parking - free	189
Parking - paid	41
Information	118
Easy access	100
Toilets	73
Refreshments	55
Visitor centers	31
Shops	22

Table 7: Recreational facilities on FCE sites (2008)

Recreational facilities	Count of facilities
Walking trails	185
Picnic sites	122
Cycling	115
Horse riding	81
Wildlife activities	80
Education	61
View point	35
Heritage	29
Fishing	29
Barbeque sites	36
Play area	33
Orienteering	37
Camping	24
Arts	20
Forest drive	15
Arboretum	9
Watersports	4
Ski-ing	0

Both tables use data available on the FC recreation website⁷.

⁷ www.forestry.gov.uk/statistics

The *Review of Provision for Woodland Recreation and Access* (P Scott Planning Services 1997) compared recreation provision on the PFE with that in other ownership (Table 8). Although the data is not directly comparable and is likely to be somewhat out-of-date, it does represent the only identified comparison between recreation provisions of sites in different ownership. The comparison indicates variation in provision between the FC and other owners, including recreation and commercial ventures, but clearly this would also vary between different categories of non-FC woodlands. We include the data simply as a starting point for further research into facilities provided under different ownership.

Table 8. Comparison of recreation facilities between the PFE (1997) and non-FC woods and forests (1996)

Facility	PFE England (1997)	Non-FC woodlands (data obtained from 'Woodlands to Visit' guide 1996)
forest walk	269	152
cycle trial	99	2
riding route	35	69
car park	402	264
picnic area	240	107
toilet	58	92
play area	24	35
visitor center	15	26
shop	13	40
café	13	62

5. Economic analyses of the social benefits of the PFE

A key body of the literature which is of interest to this review focuses on economic analyses of the social benefits of woods and forests, and of Forestry. Over thirty reports or journal articles, relating to England or the UK and dating from the previous fifteen years, were identified during this review – details can be found in the appendix.

The authors of these studies sought to value, typically monetarily, the benefits that woods and forests provide to both society and to the environment. As with much of the literature discussed in this review few sought to understand the value of the PFE or of the PFE in comparison to woods and forests in other ownership. There are exceptions, for instance the '*Economic analysis of the contribution of the forest estate managed by the Forestry Commission in Scotland*' (CJC Consulting, et al. 2004) and the '*Economic analysis of forestry policy in England*' (CJC Consulting, et al. 2003) which has some

discussion of the impacts of ‘interventions’ to forestry policy for both public and private forestry. However, while the body of this research provides interesting evidence of the societal value of woods and forests it has little to tell us about the relative values of woods in different ownership/management and therefore the comparative value of the PFE.

Willis et al.’s (2003 p27) study was a review of both existing and new data. It concluded that woods and forests do provide high levels of social and environmental benefits, and that the approximate capitalised value of the non-market benefits can be placed at around £29.2 billion or £1.2 billion annually (see table 9 for more detail).

Table 9. The annual and capitalised social and environmental benefits of forests in GB (£millions 2002)

Benefit	Annual Value	Capitalised Value
Recreation	392.62	11,218
Landscape	150.22	4,292
Biodiversity	386	11,029
Carbon sequestration	93.66	2,676
Air pollution absorption	0.39	11
Total	1,022.92	29,226

Examples of the marginal values of the benefits of forests and woodlands in GB include:

- Each recreational visit to forests and woods in GB is valued at between £1.66 to £2.75, the annual and capitalised values of forest and wood recreation in England are detailed in table 10.
- The value to urban fringe households with a view of woods or forests is around £269 per year. For the views while traveling to and from work, the value was around £155 to £330 per household per year.
- Each tonne of carbon sequestered is valued at £6.67.
- Each death avoided by one year by forests and woodlands absorption of particulates and sulphur dioxide was valued at £124,998 and each 11 day hospital stay due to respiratory illness avoided was valued at £602. The net reduction in costs (or increase in benefits) was estimated to be around £11 million.

It should be noted, as Willis et al. pointed out, that: firstly, these are indicative values and, secondly, that they are values which are context specific (for instance the value of nearby woods and forests to households in contexts other than urban fringe may be very different). Furthermore in some cases the values are based upon data which maybe questionable in its accuracy; for instance the recreation values are reliant on the rates of self-reported use of woods and forests gathered during the *English Leisure Visits Survey* (Natural England Accessed 2009 -a).

Table 10. Capitalised aggregate value of forest recreation in England (Willis, et al. 2003) (£millions 2002)

Region	Annual Value	Capitalised Value
Eastern	60.31	1723.12
East Midlands	35.28	1008
North East	3.54	101.21
North West	34.43	983.65
South East	91.09	2602.71
South West	39.72	1134.83
West Midlands	42.40	1211.37
Yorkshire and Humberside	47.45	1355.6
England	354.24	10120.51

6. Summary: existing evidence and gaps

Phase 1 of the PFE social study, which is reported on here, drew on existing knowledge to provide a new cross-cutting analysis of evidence about social values, attitudes and expectations of public compared with private woodlands. It was based on a review of academic literature and published reports, a meta-analysis of completed social research held on SERG's project inventory, and a review of datasets available within the Forestry Commission.

The existing research was found to constitute a strong body of evidence for the benefits to society of trees, woods and forests. The reviewed academic literature indicated that the appropriate mixture of woodland tenure (e.g. public, community or individual private) is specific to cultural and political contexts, and cannot easily be inferred from comparison with other countries.

Circumstantial evidence from recent events in Scotland suggests that when public values for the PFE are tested, they are higher than widely assumed. A number of evaluations conducted by SERG show that particular PFE sites and projects are highly regarded and valued. Nineteen datasets were reviewed, of which two provided information on benefits provided by woodlands under different kinds of ownership.

It does suggest the following:

- people often do not know who owns or manages the woodlands they use and enjoy (which will present methodological challenges in researching the perceived implications of ownership);

- providing open access (as is the case for the PFE, and some of the land under private/other ownership) does not necessarily mean that all people feel able to access and use it for their own enjoyment;
- the context within which a woodland site is placed/accessed or the type of project taking place may be more important to people than the dichotomy of coniferous/broadleaved woodland (e.g. pine woods preferred over sand dune restoration; or in areas where there are few trees and woodlands).

However the majority of the data and published research drawn on for this review was not designed or intended to compare and contrast the PFE with other woodlands, and is, therefore, not easily analysed in this way. Within the timeframe of the PFE study, we propose a national survey supported by discussion groups to examine the relationship between social group, woodland type and woodland ownership, with expectations, values and use. This research is reported on in the final report for this study (Carter, et al. 2009).

Beyond the remit of this study, further data analysis which links or builds on existing data sets and studies will add value to this study. The following would provide fruitful areas of further work:

1. There is scope for further analysis of the *Public Opinion of Forestry* data (Forestry Commission Accessed 2009a) to explore differences between social groups, with respect to perceptions, expectations, values and use of PFE and other woodlands. Similarly comparisons of public experience and perceptions of different types of FCE sites could, potentially, be drawn through further analysis of the *Quality of Experience* surveys (Forestry Commission Accessed 2009b).
2. There is scope for more sophisticated analysis of data from the *National Inventory of Woods and Trees* (Forestry Commission 2001) to relate woodland type (both within and beyond the PFE) to particular social catchments. A particular need has been highlighted within FCE, for more consistent monitoring across the full range of woodland types provided through the PFE, differentiating in particular between the honey pot sites and those which are less developed for recreation.
3. The current SERG programme to develop a more systematic framework for planning and analysing social research, as well as current data collection programmes under development by FCGB and FCE, and will contribute to this more thorough evidence base.
4. Further analysis of the results of the economic studies, for instance if they were to be considered in relation to other evidence, such as visitor numbers to or the location of woods or forests in different ownership, one could make some inferences as to the relative value of the PFE.

References

- Agrawal, A., Chhatre, A. and Hardin, R.** 2008 'Changing Governance of the World's Forests', *Science* 320(5882): 1460-1462.
- Alig, R. J.** 2007 'A United States view on changes in land use and land values affecting sustainable forest management', *Journal of Sustainable Forestry* 24(2-3): 209-227.
- Ambrose-Oji, B.** 2009 'Equality and inclusion of social diversity with respect to woods and forests in the UK: an evidence review': Forest Research.
- Ballard, H. L., Sturtevant, V. and Fernandez-Gimenez, M. E.** 2010 'Improving forest management through participatory monitoring: A comparative case study of four community-based forestry organizations in the Western United States', in A. Lawrence (ed) *Taking stock of nature: participatory biodiversity assessment for policy and planning*, Cambridge: Cambridge University Press.
- Bell, S. and Travlou, P.** 2007 'Enhancing the forest sector's contribution to equal access for disabled people to recreation goods, facilities and services in Scottish woodlands', Edinburgh OPENspace report for the Scottish Forestry Commission.
- Burgess, J.** 1995 'Growing in confidence: Understanding people's perceptions of urban fringe woodlands', Cheltenham: Countryside Commission.
- Burns, N., Patterson, K. and Watson, N.** 2008 'Exploring disabled people's perceptions and use of forest recreation goods, facilities and services in Scotland, England and Wales.' Galsgow: Strathclyde Centre for Disability Research, Glasgow University for the Forestry Commission.
- Carter, C., Lawrence, A., Lovell, R. and O'Brien, L.** 2009 'The Forest Commission Public Forest Estate in England: social use, value and expectations'. Final Report, October 2009, Farnham: Forest Research.
- Carter, C. and O'Brien, L.** 2008 'Identity building in the woods: re-connecting with nature for health and well-being', *ECOS* 29: 33-41.
- Carter, C.** 2007 'Offenders and Nature: Helping People - Helping Nature. Farnham: Forest Research.
- Carter, C. and West, D.** 2008 'Policy into Practice - Employment for ex-offenders: an innovative approach.' Farnham: Forest Research.
- Church, A. and Ravenscroft, N.** 2008 'Landowner responses to financial incentive schemes for recreational access to woodlands in South East England', *Land Use Policy* 25(1): 1-16.
- CJC Consulting, Pearce, D. and Willis, K.** 2004 'Economic analysis of the contribution of the Forest Estate managed by Forestry Commission Scotland', Oxford CJC consulting / Forestry Commission.
- CJC Consulting, Willis, K. and Pearce, D.** 2003 'Economic analysis of Forestry Policy in England'. DEFRA.
- Countryside Council for Wales and Forestry Commission Wales** Accessed 2009 'Welsh Outdoor Recreation Survey 2006-2008', available at <http://www.ccw.gov.uk/enjoying-the-country.aspx?lang=en>.

DEFRA undated 'State of Englands Woodlands', London.

Department for the Environment Food and Rural Affairs Accessed 2009 'Survey of Public Attitudes and Behaviours towards the Environment 1986-2009 ', available at <http://www.defra.gov.uk/evidence/statistics/environment/pubatt/>.

Edwards, D. 2006 'Social and Cultural Values Associated with European Forests in Relation to Key Indicators of Sustainability'.

Edwards, D., Elliott, A., Hislop, M., Martin, S., Morris, J., O'Brien, L., Peace, A., Sarajevs, V., Serrand, M. and Valatin, G. 2008a 'A valuation of the economic and social contribution of forestry for people in Scotland. Final Report for Forestry Commission Scotland', Roslin: Forest Research.

Edwards, D., Elliott, A., Hislop, M., Martin, S., Morris, J., O'Brien, L., Peace, A., Sarajevs, V., Serrand, M. and Valatin, G. 2009 'A valuation of the economic and social contribution of forestry for people in Scotland', Edinburgh Forestry Commission.

Edwards, D., Morris, J., O'Brien, L., Sarajevs, V. and Valatin, G. 2008b 'The economic and social contribution of forestry for people in Scotland. Forestry Commission Research Note FCRN102', Edinburgh: Forestry Commission.

Edwards, D. and Weldon, S. 2006 'Race Equality and the Forestry Commission', Edinburgh: Forest Research.

Emery, M., Martin, S. and Dyke, A. 2006 'Wild Harvests from Scottish Woodlands: Social, cultural and economic values of contemporary non-timber forest products', Edinburgh: Forestry Commission.

Emery, M. R., Martin, S. and Dyke, A. undated 'Wild harvests from Scottish woodlands: Technical report on social, cultural and economic values of contemporary non-timber forest products and their implications for policy': USDA Forest Service / Forest Research / Independent.

Forestry Commission 2001 'National Inventory of Woodland and Trees', Edinburgh Forestry Commission, available at <http://www.forestry.gov.uk/forestry/hcou-54pg9u>.

— **Accessed 2009a** 'Public Opinion of Forestry 1999-2009', available at <http://www.forestry.gov.uk/forestry/infd-5zyl9w>.

— **Accessed 2009b** 'Quality of Experience 2003-2008', available at <http://www.forestry.gov.uk/forestry/infd-5wwjpt>.

— **Accessed 2009 -a** 'All Forests Monitoring 2002-2008', available from <http://www.forestry.gov.uk/website/forestry.nsf/byunique/infd-5wcmr4>.

— **Accessed 2009 -b** 'Forest Visitor Surveys 1994-2007', available at <http://www.forestry.gov.uk/forestry/INFD-5PGAZZ>.

Gilbert, J. 2007 'National Inventory of Woodland and Trees: Analysis of management and biodiversity data': Forest Research.

Hand, K. 2007 "Faith Woodlands Dec 2006 – March 2007: The First Phase", Cambridge: Forestry Commission England.

Heggie, B. 2001 'Forest Employment Survey 1998/9', Edinburgh Economics & Statistics Unit, Forestry Commission

- Interface NRM Ltd** 2004 'West Midlands Woodland & Health Pilot Evaluation', Edinburgh Forestry Commission.
- Kitchen, L., Marsden, T. and Milbourne, P.** 2006 'Community forests and regeneration in post-industrial landscapes', *Geoforum* 37(5): 831-843.
- Kitchen, L., Milbourne, P., Marsden, T. and Bishop, K.** 2002 'Forestry and environmental democracy: The problematic case of the South Wales Valleys', *Journal of Environmental Policy and Planning* 4(2): 139-155.
- Lawrence, A.** 2007 'Beyond the second generation: towards adaptiveness in participatory forest management ', *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 2(28): available at www.cababstractsplus.org/cabreviews.
- **2009a** 'Community experiences of the National Forest Land Scheme', Farnham, Surrey: Forest Research.
- **2009b** 'Forestry in transition: Imperial legacy and negotiated expertise in Romania and Poland', *Forest Policy and Economics* 11: 429-436.
- Lawrence, A., Anglezarke, B., Frost, B., Nolan, P. and Owen, R.** 2009 'What does community forestry mean in a devolved Great Britain? ' *International Forestry Review* 11: 281-297.
- Lawrence, A., and Carter, C.** 2009 *The Forestry Commission Public Forest Estate in England: Social use, value and expectations. Summary report.* Forestry Research. 10 pp.
- Lee, T. R.** 2001 'Perceptions, attitudes and preferences in forests and woodlands', Edinburgh: Forestry Commission.
- Martin, S.** 2007 'Leisure landscapes: Exploring the role of forestry in tourism', Farnham Forest Research.
- Matheson, C.** 2000 'Abriachan Forest Trust', in D. Reid (ed) *Social land ownership: eight case studies from the Highlands and Islands of Scotland.*
- McKernan, P.** 2003 'Woodland access and recreation in the SE AONBs: background to methodology for woodland access and recreation GIS analysis.' Flimwell, East Sussex: South East AONBs Woodlands Programme, High Weald AONB.
- McKernan, P. and Grose, M.** 2007 'An analysis of accessible natural greenspace provision in the South East': South East AONBs Woodlands Programme; Forestry Commission; Natural England.
- McMorran, R.** 2008 'Constraints and opportunities for integrated multifunctional forest management in the Cairngorms region of Scotland ' *Centre for Mountain Studies*, Perth: UHI-Perth College.
- Milbourne, P., Marsden, T. and Kitchen, L.** 2008 'Scaling post-industrial forestry: The complex implementation of national forestry regimes in the Southern Valleys of Wales', *Antipode* 40(4): 612-631.
- Morris, J. and Doick, K.** 2009 'Monitoring and evaluating Quality of Life for CSR 07', Farnham: Forest Research.
- Morris, J. and Urry, J.** 2006 'Growing places: A study of social change in The National Forest', Farnham: Forest Research.

- Natural England** Accessed 2009 -a 'England Leisure Visits Surveys 2005-2006', available at <http://p1.countryside.gov.uk/LAR/Recreation/visits/index.asp>.
- **Accessed 2009 -b** 'Monitor of engagement with the natural environment', available at <http://www.naturalengland.org.uk/ourwork/enjoying/research/householdsurveys/monitorengagement/default.aspx>.
- **Accessed 2009 -c** 'United Kingdom Day Visits Survey 1994-2003', available at <http://p1.countryside.gov.uk/LAR/Recreation/visits/background.asp>.
- O'Brien, E. A.** 2005a 'Publics* and woodlands in England: well-being, local identity, social learning, conflict and management', *Forestry* 78(4): 321-336.
- O'Brien, L.** 2004a 'Hill Holt Wood Social Enterprise and Community Woodland', Farnham: Forest Research.
- **2004b** 'A sort of magical place: people's experiences of woodlands in northwest and southeast England', Farnham: Forest Research.
- **2005b** 'Trees and their impact on the emotional well-being of local residents on two inner London social housing estates', Farnham: Forest Research.
- O'Brien, L. and Morris, J.** 2009a 'Active England: Bedgebury National Pinetum and Forest', Farnham: Forest Research.
- **2009b** 'Active England: The Woodland Projects', Farnham Forest Research
- O'Brien, L. and Murray, R.** 2006 'A marvellous opportunity for children to learn: A participatory evaluation of Forest School in England and Wales', Farnham Forest Research
- O'Brien, E. and Murray, R.** 2006 'A marvellous opportunity to learn: evaluating Forest School in Britain', Farnham: Forest Research.
- **2007** 'Forest School and its impacts on young children: case studies in Britain', *Urban Forestry and Urban Greening* 6: 249-265.
- O'Brien, L.** 2004 'A sort of magical place': people's experiences of woodlands in northwest and southeast England', Farnham: Forest Research.
- **2005a** 'Bringing together ideas of social enterprise: education and community woodland, the Hill Holt Wood approach', *Scottish Forestry* 59: 7-14.
- **2005b** 'Tackling youth disaffection through woodland vocational training', *Quarterly Journal of Forestry* 99: 125-130.
- **2006** 'Social housing and greenspace: a case study in inner London', *Forestry* 79: 535-549.
- O'Brien, L., Townsend, M. and Ebdon, M.** 2008 'I like to think when I'm gone I will have left this a better place' Environmental volunteering: motivations, barriers and benefits', Edinburgh The Scottish Forestry Trust, Forestry Commission, Deakin University.
- Owen, R., Powell, J., Reed, M., Kambites, C. and Lewis, N.** 2008 'An evaluation of Cydcoed: the social and economic benefits of using trees and woodlands for community development in Wales', Farnham: Forest Research.
- P Scott Planning Services** 1997 'Review of provision for woodland recreation and access': P Scott Planning Services / Graham Barrow Research and Consulting / Rosalind Pearson / Forestry Commission.

- Rametsteiner, E. and Kraxner, F.** 2003 'Europeans and Their Forests: What Do Europeans Think About Forests and Sustainable Forest Management?' Vienna: FAO/UNECE Forest Communicators Network, United Nations Economic Commission for Europe.
- Rotherham, I. D.** 2007 'The implications of perceptions and cultural knowledge loss for the management of wooded landscapes: A UK case-study', *Forest Ecology and Management* 249(1-2): 100-115.
- Scott, P.** 1997 'Review of Provision for Woodland Recreation and Access. Report for the Forestry Commission', Edinburgh: Peter Scott Planning Services.
- Scottish Executive and Forestry Commission Scotland** Accessed 2009 'Public Attitudes to the Environment in Scotland 2002 ', available at <http://www.scotland.gov.uk/Publications/2002/11/15864/14272>.
- Scottish Natural Heritage, F. C. S.** Accessed 2009 'Scottish Recreation Survey 2003-2008', available at http://www.snh.org.uk/publications/on-line/comm-reports/srs_10.asp#asr.
- Snowdon, H.** 2006 'Evaluation of the Chopwell Wood Health Project', Newcastle: Primary Care Development Centre, Northumbria University.
- Tabbush, P.** 2005 'Consultation and community involvement in forest planning', Farnham: Forest Research.
- **2008a** 'Maulden Faith Woodland: An investigation'.
- **2008b** 'Maulden Faith Woodland: an investigation ', Farnham: Forest Research.
- Tylden-Wright, R.** 2000 'The Laggan Forest Partnership', in D. Reid (ed) *Social land ownership: eight case studies from the Highlands and Islands of Scotland*.
- Urquhart, J.** 2009 'Public benefits from private forests and woodland in England: classifying private woodland owners' *Research Summary*, Farnham Forest Research.
- Weldon, S., Bailey, C. and O'Brien, E.** 2007 'New pathways to health and wellbeing in Scotland: research to understand and overcome barriers to accessing woodlands', Edinburgh Forestry Commission Scotland.
- Welsh Assembly Government** 2009 'Woodlands for Wales': Available at <http://www.forestry.gov.uk/forestry/INFD-7GDE7A>.
- Willis, K., Garrod, G., Scarpa, R., Powe, N., Lovett, A., Bateman, I. J., Hanley, N. and Macmillan, D. C.** 2003 'The social and environmental benefits of forests in Great Britain', Newcastle: CREAM University of Newcastle prepared for the Forestry Commission.
- Woodland Trust** 2004 'Space for People', Lincolnshire.
- **2005** 'Woodland Trust Wales Visitor Survey 2004': TNS, Woodland Trust.

Appendix 1. Reports consulted

Aitchison, C., Burditt, T. and Hill, J. 2007 'Developing a social and economic engagement strategy for the National Arboretum, Westonbirt': The Centre for Leisure, Tourism and Society.

ASH Consulting Group, Birley, T. and Watt, G. 1996 'Balancing forestry with other land uses ': Forestry Commission / Scottish Natural Heritage / Royal Society for the Protection of Birds

Bauer, J., Knuvila, M. and Schmithusen, F. 2004 'Forest legislation: how 23 countries approach the obligation to reforest, public access and use of non-wood forest products', Geneva: United Nations.

Bell, S. and Travlou, P. 2007 'Enhancing the forest sector's contribution to equal access for disabled people to recreation goods, facilities and services in Scottish woodlands', Edinburgh OPENspace report for the Scottish Forestry Commission.

Benson, J. F. and Willis, K. 1992 'Valuing informal recreation on the Forestry Commission Estate' *Forestry Commission Bulletin 104*, Edinburgh Forestry Commission.

Bishop, K., Kitchen, L., Marsden, T. and Milbourne, P. 2002 'Forestry, community and land in the South Wales Valleys ', Cardiff: Department of City and Regional Planning / Forestry Commission.

Burgess, J. 1995 'Growing in confidence: Understanding people's perceptions of urban fringe woodlands ', Cheltenham: Countryside Commission.

Burns, N., Patterson, K. and Watson, N. 2008 'Exploring disabled people's perceptions and use of forest recreation goods, facilities and services in Scotland, England and Wales. ' Glasgow: Strathclyde Centre for Disability Research, Glasgow University for the Forestry Commission.

Carter, C., Lawrence, A., Lovell, R. and O'Brien, L. 2009 'England's public forest estate: Social use, value and expectations', Farnham Forest Research

Carter, C. and Pycroft, A. 2007 'Offenders and Nature schemes: using conservation and forest management in rehabilitation ' *Research Summary* Farnham Forest Research

CCRU and IEEP 2002 'An enhanced role for forestry in sustainable development': LUPG / Forestry Commission

Christie, M., Hanley, N., Garrod, B., Hyde, T., Lyons, N., Bergmann, A. and Hynes, S. 2006 'Valuing Forest Recreation Activities: Phase two report': Prepared for the Forestry Commission.

Church, A., Ravenscroft, N. and Rogers, G. 2005 'Woodland Owners' Attitudes to Public Access Provision in South-East England': Forestry Commission / University of Brighton.

CJC Consulting 2005 'Economic benefits of accessible green spaces for physical and mental health: A scoping study', Oxford: CJC Consulting / Forestry Commission.

CJC Consulting, Catherine Bickmore Associates and Willis, K. 2005 'The value of green space in Wales ': CJC Consulting

- CJC Consulting, Pearce, D. and Willis, K.** 2004 'Economic analysis of the contribution of the Forest Estate managed by Forestry Commission Scotland', Oxford CJC consulting / Forestry Commission.
- CJC Consulting, Willis, K. and Pearce, D.** 2003 'Economic analysis of Forestry Policy in England': DEFRA.
- Collingwood Environmental Planning and Shared Practice** 2007 'New Forest rural pathfinder project: Stakeholder involvement in the New Forest': Collingwood Environmental Planning / Forestry Commission.
- Crabree, B., Chalmers, N., Thorburn, A., Macdonald, D., Eiser, D., Potts, J. and Colman, D.** 2001 'Economic evaluation of the Community Woodland Supplement': MLURI / University of Manchester.
- CRC Consulting** 2003 'Methodology for monitoring new woodland in England', Oxford: Prepared for DEFRA and the Forestry Commission.
- Cresswell, S.** undated 'Embedding woodland industries in the West Midlands within the regional economy: Phase one - Scoping study': Forestry Commission.
- DEFRA** 2006 'Consultation on a review of the England Forestry Strategy - Background information ', London: DEFRA.
- **undated** 'State of England's Woodlands', London.
- Dickie, I. and Rayment, M.** 2001 'Assessing the economic benefits of forestry in England': Prepared for the Forestry Commission.
- Donovan, N. and Halpern, D.** 2002 'Life satisfaction: the state of knowledge and implications for government', London: Strategy Unit.
- Dwyer, J., Eaton, R., Brink, P., Mills, L., Wilkinson, D., IEEP, Bate, R. and Green Balance** 2003 'UK participation in the Council of Europe European Landscape convention', London: DEFRA.
- ECOTEC, Openspace and The Countryside Agency** 2004 'A guide to monitoring and evaluation'.
- Edwards, D., Elliott, A., Hislop, M., Martin, S., Morris, J., O'Brien, L., Peace, A., Sarajevs, V., Serrand, M. and Valatin, G.** 2009 'A valuation of the economic and social contribution of forestry for people in Scotland', Edinburgh Forestry Commission.
- Edwards, D., Morris, J., O'Brien, L., Sarajevs, V. and Valatin, G.** 2008 'The economic and social contribution of forestry for people in Scotland ' *Research Note*: Forest Research
- Emery, M., Martin, S. and Dyke, A.** 2006 'Wild Harvests from Scottish Woodlands: Social, cultural and economic values of contemporary non-timber forest products', Edinburgh Forestry Commission.
- Emery, M. R., Martin, S. and Dyke, A.** undated 'Wild harvests from Scottish woodlands: Technical report on social, cultural and economic values of contemporary non-timber forest products and their implications for policy': USDA Forest Service / Forest Research / Independent.
- Environment Agency** undated 'The economic benefits of environmental improvement'.

- ERM Ltd** 1999 'The value of trees and woodlands: Collated information on quantifying the benefits from trees and woodland apart from those associated with timber production': ERM Ltd / Countryside Commission.
- Fagan, G., Matthews, P., Menzies, S., Azubuike, M. and Smith, B.** 2005 'The value of forestry for people: A review': University of Strathclyde / CAG Consultants.
- Fitzpatrick Associates** 2005 'Economic value of trails and recreation in the Republic of Ireland': Coillte / Irish Sports Council.
- Food and Agriculture Organisation of the United Nations** undated 'Forest tenure assessment'.
- Forestry Commission** 2001 'National Inventory of Woodland and Trees', Edinburgh Forestry Commission, available at <http://www.forestry.gov.uk/forestry/hcou-54pg9u>.
- 2002** 'UK Indicators of sustainable forestry ', Edinburgh, available at <http://www.dardni.gov.uk/uk-indicators-2002.pdf>.
- 2008** 'Forestry Facts and Figures 2008', Edinburgh
- **accessed June 2009** 'Management of the State's forests': DEFRA, available at <https://statistics.defra.gov.uk/esg/evaluation/forestry/9.pdf>.
- Forestry Commission England** 2008 'Corporate Plan 2008-2011', Cambridge: available from <http://www.forestry.gov.uk/website/forestry.nsf/byunique/infd-7rugfx>.
- **2009** 'The Forestry Commission estate in England: the 21st century', Edinburgh
- Future Foundation** 1998 'Forestry Futures: drivers for change in forest recreation': Future Foundation / Forestry Commission.
- Garrod, G. and Macmillan, D. C.** 2003 'Landscape value of Forests and Woodlands', Newcastle: CREEM prepared for the Forestry Commission.
- GHK** 2007 'The environmental economy of Northern Ireland', London: Northern Ireland Green NGOs Group / Environmental and Heritage Service of Northern Ireland.
- Gilbert, J.** 2007 'National Inventory of Woodland and Trees: Analysis of management and biodiversity data': Forest Research.
- Gillespie, G. and Melly, D.** 2002 'Health and economic benefits of increased physical activity in Scotland', Edinburgh Scottish Executive Health Department.
- H M Treasury and Department for Education and Skills** 2007 'Policy review of children and young people: A discussion paper', London: HMSO.
- Heggie, B.** 2001 'Forest Employment Survey 1998/9': Economics & Statistics Unit, Forestry Commission
- HenleyCentreHeadlightVision** 2005 'Report for Natural England's outdoor recreation strategy': Natural England.
- Hill, G., Courtney, P., Burton, R. and Potts, J.** 2003 'Forests' Role in Tourism: Phase 2', Aberdeen: The Macaulay Institute, University of Gloucestershire, BioSS.
- Hine, R., Peacock, J. and Pretty, J.** 2008 'Green Spaces - Measuring the Benefits': University of Essex / National Trust.
- Interface NRM Ltd** 2004 'West Midlands Woodland & Health Pilot Evaluation', Edinburgh Forestry Commission.

- Jones, A., Bateman, I. and Wright, J.** 2002 'Estimating arrival numbers and values for informal recreational use of British woodlands' *CSERGE prepared for the Forestry Commission*, University of East Anglia.
- Lambert, R. A.** 2005 'Trees and People: tracing the early provision of forest and woodland recreation in twentieth century Britain ', Nottingham: Nottingham University Business School
- Land Use Consultants & SQW Ltd** 2005 'Evaluation of the Community Forest Programme'.
- Lee, T. R.** 2001 'Perceptions, attitudes and preferences in forests and woodlands', Edinburgh Forestry Commission
- Leslie, R.** undated 'Charging for forest recreation': Forest Enterprise England.
- Lucas, K., Walker, G., Eames, M., Fey, H. and Poustie, M.** 2004 'Environment and social justice: Rapid research and evidence review': SDRN.
- Macnaughten, P., Grove-White, R., Weldon, S. and Waterton, C.** 1998 'Woodland sensibilities: Recreational uses of woods and forests in contemporary Britain': The Centre for the Study of Environmental Change / Forestry Commission.
- Mantau, U., Merlo, F., Sekot, W. and Wieker, B.** 2002 'Recreational and environmental markets for Forest Enterprises', Wallingford: CAB International
- Manukyants, A.** 2005 'Choice Experiments and the Social Value of Forests': University of Brighton/Forest Research.
- Martin, S.** 2003 'Wildlife tourism and forests in Scotland', Edinburgh Forest Research
- McIntosh, B.** 2006 'The Role of the Public Forest Estate in Scotland ', Edinburgh: Forestry Commission Scotland.
- McKernan, P. and Grose, M.** 2007 'An analysis of accessible natural green space provision in the South East (summary)': SE AONBs Woodlands Programme / Forestry Commission / Natural England.
- Morris, J. and Doick, K.** 2009 'Monitoring and evaluating Quality of Life for CSR 07', Farnham: Forest Research.
- Morris, J. and Urry, J.** 2006 'Growing places: a study of social change in the National Forest', Farnham: Forest Research.
- Morris, N.** 2003 'Black and Minority Ethnic Groups and Public Open Space', Edinburgh: Openspace.
- New Economics Foundation** 2004 'Social return on investment: valuing what matters', London: NEF.
- O'Brien, L.** 2004a 'Hill Holt Wood Social Enterprise and Community Woodland', Farnham: Forest Research.
- **2004b** 'A sort of magical place: people's experiences of woodlands in northwest and southeast England', Farnham: Forest Research.
- **2005** 'Trees and their impact on the emotional well-being of local residents on two inner London social housing estates', Farnham: Forest Research.
- O'Brien, L. and Morris, J.** 2009a 'Active England: Bedgebury National Pinetum and Forest', Farnham: Forest Research.
- **2009b** 'Active England: The Woodland Projects', Farnham: Forest Research.

- O'Brien, L. and Murray, R.** 2006 'A marvellous opportunity for children to learn: A participatory evaluation of Forest School in England and Wales', Farnham: Forest Research.
- O'Brien, L., Townsend, M. and Ebdon, M.** 2008 'I like to think when I'm gone I will have left this a better place' Environmental volunteering: motivations, barriers and benefits', Edinburgh, The Scottish Forestry Trust, Forestry Commission, Deakin University.
- Owen, R., Powell, J., Reed, M., Kambites, C. and Lewis, N.** 2008 'An evaluation of Cydcoed: the social and economic benefits of using trees and woodlands for community development in Wales ', Farnham: Forest Research.
- P Scott Planning Services** 1997 'Review of provision for woodland recreation and access': P Scott Planning Services / Graham Barrow Research and Consulting / Rosalind Pearson / Forestry Commission.
- PCEC** 2000 'English forestry contribution to rural economies', Edinburgh: Forestry Commission.
- Pepper, S., Hall, T., Hampson, A., Wood, M., Worrell, R. and Murray, K.** undated 'Environment review of Scotland's National Forest Estate'.
- PlayLink** 2008 'Assessment of provision for play'. Forestry Commission.
- Pretty, J.** undated 'A countryside for health and wellbeing: The physical and mental health benefits of green exercise', Colchester: University of Essex.
- Project Partners Research** 2004 'Community Forests Monitoring Report 2003/2004', Bury St Edmunds.
- Rametsteiner, E. and Kraxner, F.** 2003 'Europeans and Their Forests: What Do Europeans Think About Forests and Sustainable Forest Management?' Vienna: FAO/UNECE Forest Communicators Network, United Nations Economic Commission for Europe.
- Selman, P.** 1996 'The role of woodlands in meeting planning objectives in Great Britain', Cheltenham: Countryside and Community Research Unit / Forestry Commission.
- Slee, B.** 2002 'Understanding forestry in rural development', Aberdeen: University of Aberdeen / Macaulay Institute / University of Gloucestershire.
- **undated** 'Understanding forestry in rural development : An appraisal manual', Aberdeen: The University of Aberdeen / The Macaulay Institute / The University of Gloucestershire / The Forestry Commission.
- **undated** 'The socio-economic evaluation of the impact of forestry on rural development : a regional level analysis', Cheltenham Countryside and Community Research Unit.
- Snowdon, H.** 2006 'Evaluation of the Chopwell Wood Health Project', Newcastle: Primary Care Development Centre, Northumbria University.
- Space4trees East Midlands** 2004 'Access to Green Space', Edwinstowe.
- Stewart-Roper, C. and Park, A.** 1999 'The living Forests: Non-market benefits of forestry', London: The Stationary Office.
- Straker, A. and Gelder, U.** 2002 '"I just call it the woods' A research report commissioned by the Small Woods Association to explore attitudes and access to woods and woodland products': Small Woods Association.

- Sunderlin, W. D., Hatcher, J. and Liddle, M.** 2008 'From Exclusion to Ownership? Challenges and Opportunities in Advancing Forest Tenure Reform', Washington: Rights and Resources Initiative / International Institute for Environment and Development.
- Tabbush, P.** 2005 'Consultation and community involvement in forest planning', Farnham: Forest Research.
- **2008** 'Maulden Faith Woodland: an investigation', Farnham: Forest Research.
- TEP and Vision 21** 2004 'Newlands community involvement research': The Countryside Agency and Partners.
- Thompson, C. W., Aspinall, P., Bell, S., Findlay, C., Wherrett, J. and Travlou, P.** 2004 'Open space and social inclusion: Local woodland use in central Scotland', Edinburgh: Openspace.
- Urquhart, J.** 2009 'Public benefits from private forests and woodland in England: classifying private woodland owners' *Research Summary*, Farnham: Forest Research.
- Urry, J. and Morris, J.** 2007 'Growing places: a study of change in The National Forest', Lancaster: Lancaster University.
- Weldon, S., Bailey, C. and O'Brien, E.** 2007 'New pathways to health and wellbeing in Scotland: research to understand and overcome barriers to accessing woodlands', Edinburgh Forestry Commission Scotland.
- White, A. and Martin, A.** 2002 'Who owns the worlds forests? Forest tenure and public forests in transition', Washington: Forest Trends / Centre for International Law.
- White, E. M. and Mazza, R.** 2008 'A closer look at forests on the edge future development on private forests in three states' *USDA Forest Service - General Technical Report PNW-GTR*.
- Whiteman, A. and Sinclair, J.** 1994 'The costs and benefits of planting three community forests', Edinburgh: Forestry Commission.
- Willis, K.** 2004 'Making woodland count: its contribution to our quality of life': The Woodland Trust / ERM
- **undated** 'Woodland - its contribution to sustainable development and quality of life': Woodland Trust.
- Willis, K., Garrod, G., Scarpa, R., Macmillan, D. and Bateman, I.** 2000 'Non-Market Benefits of Forestry', Newcastle: Centre for Research in Environmental Appraisal and Management: University of Newcastle.
- Willis, K., Garrod, G., Scarpa, R., Powe, N., Lovett, A., Bateman, I. J., Hanley, N. and Macmillan, D. C.** 2003 'The social and environmental benefits of forests in Great Britain', Newcastle: CREAM University of Newcastle prepared for the Forestry Commission.
- Willis, K., Selman, P. and Tucker, G.** 2005 'Review of Evidence for the Formulation of Forestry Policy in England': CJC Consulting / Forestry Commission.
- Winter, M.** undated 'The role of forestry in a sustainable countryside: rural policy priorities after Foot and Mouth Disease', Cheltenham: Countryside and Community Research Unit.
- Woodland Trust** 2004 'Space for People', Lincolnshire

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The Forestry Commission Public Forest Estate in England: social use, value and expectations. Final Report
Farnham: Forest Research

Lawrence A. and Carter C. (2009)
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