



Social benefits from the Forestry Commission Public Forest Estate in England: review of current evidence

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Acronyms

BME	Black and minority ethnic
DEFRA	Department for Environment, Food and Rural Affairs
EU	European Union
FC	Forestry Commission
FCE	Forestry Commission England
FCS	Forestry Commission Scotland
FCW	Forestry Commission Wales
FR	Forest Research
GB	Great Britain
GIS	Geographical Information System
Ha	Hectare
LA	Local Authority
N	Number of sample
NIWT	National Inventory of Woods and Trees
NTFP	Non-timber forest products
O&N	Offenders and nature
PCT	Primary Care Trusts
PFE	Public Forest Estate
PhD	Doctor of Philosophy
SE	South-East
SERG	Social and Economic Research Group
UK	United Kingdom
USA	United States of America

1. Introduction

1.1 Background

The Forestry Commission (FC) manages about 258,000 hectares (ha) (over 600,000 acres) of land in England and provides an important national asset delivering many benefits. These include protecting and enhancing the natural environment, providing economic opportunities and helping to improve the quality of people's lives.

The Secretary of State, Hilary Benn, has asked Forestry Commission England (FCE) to undertake a review of its estate in England. The study, which will show how the estate contributes to society today and how it might sustainably serve society's long-term needs, is part of the FC's Corporate Plan 2008–11 published in June 2008. The remit of the Public Forest Estate (PFE) study is:

“To consider the future long-term sustainable role for the public forest estate making recommendations about any necessary changes to improve its ability to deliver relevant priorities in the strategy for England's trees woods and forests and contribute to other Government objectives.” (Written Ministerial Statement, 24 November 2008; Department of Environment, Food and Rural Affairs; Column 37WS¹)

1.2 Aims of the social study

FCE has commissioned Forest Research's (FR) Social and Economic Research Group (SERG) to conduct social research as part of the study of the PFE. The main aims of the research are to establish:

- whether people have different expectations of publicly-owned woods and forests in England and their management as compared to woods and forests in other forms of ownership;
- what those expectations are; and
- how these are reflected (or not) in the use and management of the PFE.

The approach to answering these three questions includes two strands of information:

- identifying and analysing existing data (phase 1); and
- collecting and analysing new data to fill gaps in existing knowledge (phase 2).

Both strands, and links to other parallel ongoing research efforts (e.g. on economic aspects of the PFE), will then be brought together by FCE to formulate key findings and make recommendations to the Commission's England National Committee. This report

¹ See www.publications.parliament.uk/pa/cm200708/cmhansrd/cm081124/wmstext/81124m0001.htm

summarises the initial results of the first phase. It has been written as an interim report and whilst it aims to provide a summary of the relevant evidence and interim conclusions that were drawn, it is not a final and complete piece of work in itself. We make it available as a reference point and to stimulate discussion about research design that can in future address the question of public benefit from public forests more thoroughly.

1.3 Activities

The social study envisages the following activities for the two phases:

Phase 1 - reported on here:

- Review existing research, and extract where possible information and insights into what is offered by FC and non-FC managed woodlands and taken up by different publics / user groups of the PFE across England.
- Identify existing (FC and other) databases and surveys with information on the provisions, use and expectations of forests and woodlands, distinguishing wherever possible between PFE and other forests and woodlands (by inference if necessary).

Phase 2 - see the Final Report (Carter, et al. 2009) and the Summary Report (Lawrence & Carter 2009):

- Carry out research to identify the range of the uses, expectations and values that distinguish the PFE from forest or woodland under other forms of ownership or management arrangements.

1.4 Research questions

In order to address the issues identified above, we focused on the following research questions which explore the diversity within society, land tenure regimes and woodland types:

- **Comparison within society:** What social benefits do the trees and range of woodlands of the PFE provide, and which parts of society currently use them or feel welcome to use them?
- **Comparison between PFE and other woodland owners:** Does the PFE provide different / more / fewer benefits than woodlands under other ownership and management? Does the PFE provide benefits to different parts of society compared with woodlands under other ownership?
- **Comparison between different parts of the PFE:** Do particular kinds of woodland in the PFE provide different / more / fewer benefits than other parts and to different parts of society?

This report is structured around the different sources of evidence, beginning with the international literature to set the scene, then focusing on research already conducted by SERG, and on relevant datasets collected by the FC and other relevant agencies. It concludes with a discussion of the knowledge gaps identified by this phase of the PFE study.

1.5 Approach

We sought three broad categories of information during this review:

1. over 80 published journal articles of relevance were identified through academic bibliographic database searches using keywords which included 'tenure', 'owners', 'ownership', 'private' and 'public' in combination with 'woods', 'forests' and 'woodlands'.
2. over 70 reports and 20 surveys relevant to this study were identified through web searches, reference list trawls and consultation with key individuals. Primary search terms were similar to those used for the academic literature search. Secondary search terms included: 'social, economic, environmental', 'costs, benefits', 'use, access, leisure, recreation', 'planning', 'policy', 'provision', 'attitudes, perceptions, beliefs, expectations, experiences, preferences'.
3. the results of a meta-analysis of qualitative and quantitative research previously conducted by SERG.

We included literature, reports and surveys conducted and published or released within the last 15 years, although the majority date from the last ten years. While most focus on the British context and in particular England, we also included those relating to Europe and North America.

Details of the reports identified during this review can be found in the appendices. Details of the quantitative datasets can be found in section 4.1.1 and of previous SERG research in section 3.1.

2. Review of academic literature

2.1 Global issues

The international academic literature is abundant on the subject of forest tenure, but rarely makes an explicit contrast between the benefits of public and other ownership. This literature tends to focus on the role of community ownership as a challenge or catalyst for community empowerment and development (Lawrence 2007). In this discourse, 'state ownership' is contrasted with, and often seen to undermine, such empowerment and development.

A significant recent paper on tenure, however, aimed to separate these factors, and concluded that 'Although a majority of forests continue to be owned formally by governments, the effectiveness of forest governance is increasingly independent of formal ownership' (Agrawal, et al. 2008 p1460). Because partnerships are now becoming significant factors in tenure the community benefits can be more widely shared. This approach is particularly emphasised in North America where community participation has been superimposed on widespread public land ownership, and has served to diffuse tensions and demonstrate both livelihood and engagement benefits (Ballard, et al. 2010).

The appropriateness of different forms of forest tenure is context specific. In the USA for example, private ownership causes concern where the financial attractions of woodland decrease, and the regulatory framework leaves room for change of land use (Alig 2007). It is also a highly culture-specific and often emotive issue. Divergent experiences in post-socialist Europe illustrate this. The Polish public voted with a large majority, to retain forests in state ownership. The Romanian public has been vociferous in demanding restitution (restoration of pre-war ownership) and the state forestry sector has suffered from political antagonism (Lawrence 2009b).

2.2 Evidence from Scotland and Wales

A number of studies related to community forestry in Scotland have highlighted a range of feelings and expectations around public, private and community forest ownership. In summary:

1. news or concern that the FC might sell forest to private commercial owners has in several cases prompted local community action to reinforce demands for continuing FC (public) ownership, mainly on the grounds that this provides a more secure basis for local employment;
2. in the case of Laggan this also prompted the formation of a now well-known community-FC partnership; this partnership has provided many of the benefits that others expect from community ownership and residents now feel it has been a constructive option (Tylden-Wright 2000);
3. in the case of Abriachan, in contrast, it prompted the community to seek (and obtain) ownership of the forest themselves (Matheson 2000);
4. change of ownership from public to community can change people's expectations of what is possible. A study of two communities that purchased forest under the National Forest Land Scheme concluded that while community ownership is a huge and unproven challenge, 'the psychological effects of ownership also have the effect of changing perceptions of what is possible: community members see more potential for leasing to local business, opening up access, converting local heating systems to woodfuel, and hosting Forest School, when they own the forest, even

though all of these are in fact possible under public ownership.’ (Lawrence 2009a);

5. recent public reaction to the proposals to lease a significant part of the national forest estate indicate strong public preference for public ownership.

Even though some of this evidence is anecdotal and indirect, it provides an indication of the range of attitudes to public forest ownership in Scotland. Furthermore, a completed PhD which used GIS analysis, combined with questionnaires, to explore forest owner attitudes and objectives, concluded that ‘No consistent relationship was evident between specific types of landownership and forest management functionality. ... Overall, ‘social’ objectives were relatively weak, particularly for private forests, while ‘environmental’ objectives were consistently strong and ‘productive/economic’ objectives varied in importance’ (McMorran 2008).

In Wales there is less such evidence. The recent public consultation for the revised *Woodland for Wales* strategy (Welsh Assembly Government 2009) indicated:

- strong industry views on how the public estate should be managed, with a majority expressing concern about the effects of continuous cover forestry on future timber supplies;
- strong support across all categories of respondents, to encourage ‘a more varied approach to involving more communities in woodlands, especially on the Assembly [public] woodland estate’; the contrast with private woodland is shown in the response from a few owners who expressed concern that community involvement would compromise management.

The main body of academic work on forest governance in Britain was conducted in South Wales and was critical of FC attitudes and capacity to deliver community benefit (Kitchen, et al. 2006; Kitchen, et al. 2002; Milbourne, et al. 2008). This has valuable pointers for public forest management, but the wider validity of the research remains untested. Indeed the research team highlighted the need for a context-specific approach to understanding delivery of public benefits from public forests.

2.3 Evidence from England

The situation in Scotland and Wales is not necessarily comparable to England, however. Here rural development, community resource ownership and forestry employment opportunities all have a lower public and political profile, but significantly more emphasis and demand/pressure to provide social and environmental benefits.

The academic literature about the implications of woodland ownership in England is thin, and conclusions have to be drawn by comparing studies of privately and publicly owned forests. There is a small but significant literature on motivations of private woodland

owners. One paper reports the findings of a study into the responses of private and public/non-profit woodland owners to financial incentive schemes related to recreational access in South East England. Finance is the most important incentive for achieving uptake in these schemes to promote access, but depends on owners' predisposition towards the goals of the recreational access incentive scheme and the extent to which these goals fit their self-identity as (largely) custodians of their woodland (Church and Ravenscroft 2008).

In addition to the attitudes of owners, knowledge about woodland management affects outcomes. A study in the Sheffield area highlighted 'rapid loss of local cultural knowledge about woodland management' (Rotherham 2007). A recently submitted PhD considering public good provision and management in private forestry (Urquhart 2009) concluded that the main differences between public and private forestry are most likely to be in terms of woodland structure (private have a higher proportion of broadleaves), size of woodland (private smaller), duration of ownership (private often short-term), management objectives and activities (private woodlands often 'undermanaged'), and motivations (highly varied amongst owners).

Public perceptions and expectations are highlighted in O'Brien (2005a). Group interviews in two parts of England showed that on the one hand, respondents were unclear as to who owned woodlands and forests and, in most cases appeared to have given the matter little thought. They did not feel that they needed to know as long as the areas they used remained accessible to them. On the other hand, the need for respondents to have a sense of ownership of the areas they visited regularly was revealed as a significant issue. This sense of ownership can have an important impact on the meanings people attach to particular areas (O'Brien 2005a).

A study of accessible greenspace provision by the FC and Natural England shows that in the South East (SE) England region (where woodland cover is 15%), woodlands constitute more than half the *accessible* natural greenspace (McKernan and Grose 2007). They conclude that 'the Forestry Commission provides 35% of all accessible natural greenspace in the South East' (p. 21), this being 97.5% of all FC land in the region, while another 22% of accessible natural greenspace is non-FC woodland. Nevertheless 70% of (private) woodlands fall outside the definition of accessible natural greenspace, highlighting the value of FC land for public access.

The report builds on an earlier report (McKernan 2003), which 'found no clear evidence that woodland was sought after more than any other type of greenspace for recreation and access' (McKernan and Grose 2007, p. 5), and this issue appears to remain unresolved.

Finally, a paper on community forestry includes data about the distribution of benefits in locations with high indices of multiple deprivation, health deprivation and education deprivation (Lawrence, et al. 2009). Most of the woodland in the programmes concerned is delivered through private or local authority ownership.

For more detail on the English situation we focus in the next section on an analysis of work conducted by the Social and Economic Research Group (SERG).

3. Meta-analysis of SERG's research

3.1 Overview of the material

SERG carries out research in Britain for the FC and also at a European level through European Union (EU)-funded research programmes. The group's work started in 2000 and includes research of/on public as well as privately owned woodland. To date, work has spanned a range of topics but includes the ways in which people experience and enjoy woodlands, the ways in which people benefit from them, and the barriers that prevent access to woodlands for certain groups of people. A wide range of methods and analytical approaches have been utilised, both quantitative and qualitative. SERG has recently compiled an inventory of all its past and current research projects; of the 56 projects listed 23 were assessed as being relevant to this social study of the PFE in England (Table 1).

Some of these studies took place in England or primarily in England (Table 3). Other studies, undertaken in Scotland and Wales and/or partly in England (Table 4), are drawn on to provide a broad picture of the use, perceptions and benefits of trees, woods and forests.

Much of the research has been undertaken in a variety of places and often does not specifically focus on the PFE; therefore it is difficult to draw out similarities and differences between the benefits people derive from public and/or private woodland. We take the opportunity in this section therefore to revisit the data obtained from focus or discussion groups, interviews, and participant observation to explore the extent to which it informs us how ownership affects the ways in which people perceive, use and enjoy woodlands. Many of the benefits derived and, equally, barriers preventing use are common across a number of people and groups suggesting that there are commonalities between different groups of people.

The research covered a range of sites, from small-scale woods to large sites with a range of facilities such as visitor centres and play areas. The type of woodland cover varied from coniferous to mixed and broadleaved woodlands.

Table 1: SERG research relevant to this PFE study

Research on or about the PFE/part PFE or private woodlands	Number of studies (N=23)
Studies that took place solely on the PFE in England	5
Studies that took place on or are about the PFE and other sites in England (private or Local Authority)	5
Studies that took place on or are about others sites (private/Local Authority) in England	5
Studies conducted on the PFE in Scotland or Wales; the results of which may be transferable to England	1
Studies that took place on or about part of the PFE and other sites in Scotland or Wales	7

3.2 Perceptions and expectations

Much of SERG's past research has focused on understanding *why* individuals do, or do not, use or access woodland, which elicits people's perceptions, motivations and (even though mainly only by inference or implication) expectations. An important part of this research has focused on investigating the barriers to access for different groups of people. These barriers can be characterised as:

- **Physical** – related to site conditions, and issues such as transport to the site;
- **Social** – cultural norms and community pressures connected with woodland use;
- **Perceptual and emotional** – individual feelings and perceptions about woodland.

Lack of public transport to sites can be an issue for those without a car. The majority of people visiting large FC sites travel by car. The last two categories cover the range of barriers that people perceive in relation to accessing woodlands. The different categories of barrier have differential impacts on different groups of people.

The *Active England* evaluation (O'Brien and Morris 2009b) found specific barriers mentioned by the different groups targeted through the project (Table 2). At Haldon Forest Park the presence of a ranger had the effect that some women felt more able and confident to visit. Having visible on-site staff and providing organised activities and events seem to play a large role in removing barriers for many groups; however, this requires resources.

Table 2: Barriers to accessing woodlands, green spaces and the countryside for target groups (Note that the barriers outlined here were brought up by these different groups; however, they were not necessarily specific only to that particular group)

Target group	Barriers to accessing woodlands and green spaces
Low income target group	<ul style="list-style-type: none"> • Lack of transport • Health problems and restricted mobility either physically or mentally • Money issues (cost of transport/buses; cost of paying for treats for children such as ice creams and soft drinks) • Lack of information, knowing where to go and what to expect, lack of sign-posting on site • Embedded deprivation restricting social and actual mobility and motivation • Being moved on by police (adolescents)
Women target group	<ul style="list-style-type: none"> • Lack of transport • Loss of green space to development – business or housing • Lack of facilities for children, e.g. good play areas, car-free roads • Safety concerns for themselves and children • Work patterns and time constraints • Littering – rubbish, needles used for drugs
BME target group	<ul style="list-style-type: none"> • Lack and costs of transport • Wet/bad weather • Lack of information, knowing where to go and what to expect, lack of sign-posting on site • Lack of awareness that the site(s) were for public access; minimal cultural norms of accessing these sorts of spaces • Confidence – to feel able to access a site, to feel that one does not stand out from other users
Over 45s target group	<ul style="list-style-type: none"> • Lack and costs of transport • Confidence – to feel able to access a site, to feel that one does not stand out from other users • Lack of specific facilities – toilets, rest stops • Wet/bad weather • Lack of information, knowing where to go and what to expect, lack of sign-posting on site • Safety concerns for themselves and for children • Littering – rubbish, needles used for drugs • Being on their own; e.g. recently bereaved, divorced, without partner

One of the themes of a study on the social and cultural values of woodlands (study 4, see Table 3) (O'Brien 2004b) was about conflict and confusion. This was not conflict between different uses but conflict concerned with the loss of woodland or green space to housing or business development. Confusion arose about who owned land and where people were allowed to go. One respondent was quoted as saying:

'... especially in the countryside you've got public footpaths but often you go trekking off down them but you come to a dead end and you're not quite sure where you are allowed to go. Often it's enclosed by farmland which is private so then you tend to use National Trust areas or Forestry Commission.' (O'Brien 2005a)

Several studies have found that women tend to have more concerns about safety when visiting woods alone or with their children and this prevents many accessing these spaces unless they visit with family and friends (Burgess 1995; O'Brien 2004b; O'Brien and Morris 2009b).

A study in Scotland on the barriers to accessing woodlands for health and well-being² (Weldon, et al. 2007) found similar issues to the ones identified in Table 2 and suggested that barriers are not usually about single issues. The study emphasised the need to engage with people in the context of their everyday lives and their local environment and with their collaboration build a new culture of woodland use.

In the National Forest study (Morris and Urry 2006) the creation of new woodlands was perceived as improving the economic and environmental conditions of the area which fed into a growing trust and support for the 'institutional' forest (the National Forest Company and partners). However, there were also negative feelings concerning increased gentrification of the area and potential exclusion of poorer groups.

EU studies concerned with broad reviews of the significance of (public) forest resources, such as EFORWOOD, documented perceptions of woodlands as being attractive and 'safe', especially when the woodland has a more open structure and multi-aged stands and/or stands of mixed species (Edwards 2006).

3.3 People's use of woodlands

Looking at the results from studies carried out in England (on PFE /part PFE / private) we can distinguish between two types of studies: ones that look at everyday use of woodlands and trees, and those which are evaluations of specific woodland-based projects and programmes (Table 3). This distinction is important because specific projects or interventions often target particular sections of the population and can involve led and supported activities (often run by site staff or volunteers). The evaluative research results will reflect these efforts. Both types of studies have also raised a range of issues about specific barriers different groups face in accessing woodlands (see section 3.2).

² see <http://www.forestry.gov.uk/forestry/infd-5w2nfz>

Table 3: Overview of studies on everyday use of woods and those that were specific projects in England

Studies concerned with everyday enjoyment and or use of trees and woodlands	Studies evaluating or researching a specific intervention/project or Forest Distinct programme
1. Peabody Hill Wood, London (private) (O'Brien 2005b)	6. Hill Holt Wood: social enterprise and community woodlands (Lincolnshire, private) (O'Brien 2004a; O'Brien 2005a; O'Brien 2005b)
2. Consultation and community involvement in forest planning (Cranbourne Chase and North Dorset) (part PFE/part private) (Tabbush 2005)	7. Forest School in England (Oxfordshire, Worcestershire, Gloucestershire; PFE/other) (O'Brien and Murray 2006)
3. Monitoring and evaluating quality of life for CSR07 (PFE) (Morris and Doick 2009)	8. Growing places: study of social change in the National Forest (Derbyshire; private) (Morris and Urry 2006)
4. Social and cultural values of woodlands in northwest and southeast England (part PFE/part private) (O'Brien 2004b)	9. West Midlands Health project evaluation (West Midlands; PFE/other) (Interface NRM Ltd 2004)
5. Race equality scheme (Salcey Forest, Northamptonshire; PFE)	10. Chopwell Wood Health project (near Gateshead North East England, PFE) (Snowdon 2006)
	11. Using nature in offender rehabilitation (e.g. Dartmoor, SE England, Gloucestershire, Nottinghamshire; all PFE) (Carter 2007)
	12. Active England: the woodland projects (Rosliston, National Forest, Bedgebury Kent, Haldon Forest Park Devon, Great Western Community Forest Wiltshire and Greenwood Community Forest Nottinghamshire) (PFE/other) (O'Brien and Morris 2009b)
	13. Young people mountain biking at Bedgebury (Kent PFE) (a PhD project linked to the Active England evaluation) (O'Brien and Morris 2009a)
	14. Environmental volunteering in northern England (and southern Scotland) (PFE/other) (O'Brien, et al. 2008)
15. Faith woodlands (PFE Maulden Wood, Berkshire; PFE) (Tabbush 2008b)	

The PFE provides a location for a broad range of uses including recreation and play, exercise and health activity, building social capital, volunteering and different forms of education and learning. Studies that focused on everyday use and enjoyment of trees and woodlands suggest that walking is the most popular activity undertaken in woodlands and this often includes walking with a dog (Edwards, et al. 2009). Another key use mentioned by men and particularly women is visiting woodlands for children to play. Playing outside is seen as important to keep children physically active and woodlands provides opportunities for a range of different play activities.

3.3.1 Knowledge of ownership and how this may affect use

In studies 2 and 3 (Table 3) participants in focus group discussions raised ownership of woodlands. In terms of the PFE, there was some confusion about the difference between crown land and FC woodland and in study 2 some expressed the view that PFE land was productive and not always user friendly due to harvesting operations. Generally, there was often little awareness of who owned the woodlands people described using and this led then to them lacking confidence to visit and confusion over what spaces they were allowed to access. Study participants often assumed that woodlands in urban areas are owned by the Local Authority. They felt that, generally, access was clearer and ownership easier to discern for the larger sites with a range of facilities. For smaller sites there was more ambiguity and uncertainty over ownership and public access rights and this could act as a barrier to visit those woodlands, particularly for those who were less confident in their use of outdoor spaces. In study 1, on the other hand, ownership of the small woodland was clear (owned by Peabody Trust, a social housing association). Here, use was affected by the perceived lack of management and concerns about safety rather than the type of ownership.

3.3.2 The impact of 'projects' and 'events' on use

For the studies that researched particular interventions in woodlands (6-15) people's use ranged from general activities such as walking, cycling, mountain biking, use of play areas for children through to practical volunteering work, education and learning, led activities such as health walks, cycle rides and training in conservation and green woodworking. In these instances, people's use of woodlands directly related to project activities or to activities that were promoted and encouraged through the projects. These activities often had the benefit of breaking down barriers to access, for example by providing activities led by site staff. This gave people the confidence to get involved. Also, the knowledge that they would meet others often acted as an incentive to participate. For some the knock-on effects of participating in a project led to them accessing that woodland or other woodlands by themselves or with their family outside of the project activities. This is important as it suggests that specific interventions can encourage broader use of woods and green space not just during the project duration but also in the longer term.

Studies 7, 9-15 took place, either fully or in part, on the PFE. The scheduled project activities often gave people the confidence to visit the sites without worrying about getting lost, not knowing what to do or where to go. A direct comparison of these projects with studies 6 and 8 in terms of the difference between public and private provisions and how this affected use is however not possible as the studies were not set up for that purpose. Each project took a different approach and targeted different groups. The projects demonstrated a range of successes and challenges. They highlight that to attract and enable those who do not usually access woodlands requires an understanding of the type and mix of barriers that currently exist. This then can inform the provision of targeted and led activities and support structures to overcome these barriers.

3.3.3 Insights gained from studies in Scotland and Wales

Studies undertaken in Scotland and Wales that focused on projects and specific interventions include the Cydcoed Programme evaluation in Wales (Owen, et al. 2008), Gathering Non-Timber Forest Products (NTFP) (Emery, et al. undated), Environmental Volunteering (O'Brien, et al. 2008) provisions for disabled groups and their perceptions of access (Bell and Travlou 2007), and barriers to accessing woodlands (Burns, et al. 2008). The valuation of the economic and social contribution of forestry for people in Scotland (known as 'Forestry for People' project) highlighted the diversity of activities taking place in woodlands in Scotland (Edwards, et al. 2009). However, these studies have included woodlands under a range of different ownerships without distinguishing between them in their analysis. Thus there is currently no clear indication how different types of ownership might affect use or benefits of woodlands.

3.4 The benefits derived from woodlands

Several studies have explored the range and types of benefits that the general public, or specific user groups, gain from the presence or use of woodlands (O'Brien 2004b; O'Brien 2005b; Kitchen et al, 2006; Morris and Urry 2006; Edwards et al, 2009). In general, those who used woodlands more frequently were more likely to say that they gained greater benefits. Depending on the specific objectives and context of each study, the approach taken and categorisation of benefits or impacts differed. This reflects the difficulties of delineating interacting factors, and highlights overlaps between the themes in what is often a holistic experience for people that incorporate a range of benefits. We use a combination of the reviewed themes to briefly outline benefits identified by existing SERG research.

Research in 2004 (O'Brien 2004) on the social and cultural value of woodlands outlined key benefits of woodland use as:

- Well-being
- Education and social learning

- Community, place and personal identity

The *Forestry for People* study that took place between 2005 and 2007 developed a typology of the benefits of forestry and forests to people in Scotland (Edwards, et al. 2008a; Edwards, et al. 2008b). The key themes included:

- Employment and volunteering
- Contribution to the economy
- Recreation and accessibility
- Learning and education
- Health and well-being
- Culture and landscape
- Community capacity

The Cydcoed programme focused on using woodlands for community development in Wales (Owen, et al. 2008). The research used similar benefit themes derived through participating in Cydcoed to the *Forestry for People* study including:

- Health and well-being
- Social and human capital
- Education and learning
- Recreation
- Environmental benefits
- Employment and local economy

The Active England project involved the evaluation of five projects that tried to encourage people to become more active in woodlands³ (O'Brien and Morris 2009b).

Benefit themes identified by project users in England included:

- Personal childhood use of green space and interest in opportunities for children in nature
- Nature – outdoors, senses and aesthetics
- Social networks and socialising
- Health – physical and mental
- Achievement and learning
- Enjoyment
- Wider life impacts

The ongoing study on *Monitoring and Evaluating Quality of Life for CSR07* uses the following key themes (Morris and Doick 2009):

- Use
- Engagement
- Quality of experience
- Personal benefits
- Social benefits

³ See <http://www.forestresearch.gov.uk/activeengland>

We can see that 'social benefits' are being categorised by various researchers in similar but distinct ways, because the benefits overlap and are interconnected. It will never be possible to analyse them separately. Nevertheless the following sections are structured around a typology of benefits that broadly maps on to the categories identified above.

3.4.1 Employment and volunteering

The Offenders and Nature (O&N) projects that take place on different sites of the PFE include one that supports transition from unpaid to paid work for prisoners (Carter and West 2008). Fifty eight percent of the people in the study gained employment on leaving the project. Benefits under this and other O&N schemes include improved skills and attitudes, and increases in confidence and physical wellbeing for prisoners and probationers. On another project, the young people at Hill Holt Wood (under private ownership) received training in conservation activities and green woodworking and gained certificates on passing a test for these activities (O'Brien 2004a). This potentially improves their chances of employment. The volunteering work undertaken in northern England and southern Scotland outlined a range of benefits to volunteers of participating in active hands on practical conservation work (Carter and O'Brien 2008; O'Brien, et al. 2008). For the young people in these studies volunteering was seen as a means of gaining training specifically to find future employment in a work area of interest to them.

3.4.2 Education, learning and skills development

This theme is linked to employment and volunteering as training gained can lead to employment opportunities. The results of those studies which focused on Forest School (on public and private land) (O'Brien and Murray 2006), the activities at Hill Holt Wood (private ownership) (O'Brien 2004a), Chopwell Wood (PFE) (Snowdon 2006), environmental volunteering (on land under all types of ownership) (O'Brien, et al. 2008) and Active England (again sites under various forms of ownership) (O'Brien and Morris 2009b) illustrated the ways in which children and adults can gain education and learning benefits from use and activity in woodlands. At Hill Holt Wood (O'Brien 2004a) the forest environment not only provided a setting for woodland-based skills training, but was noted for providing a calming effect on difficult groups of young people, an outcome which has also been noted in other projects including Offenders and Nature (Carter and Pycroft 2007) and Forest School (O'Brien and Murray 2006). At Forest School children are taken on a regular basis over a period of months to carry out some of their education in woodlands; this might be related to the natural environment or to speech development, or to 'academic' subjects such as Arts, Maths and English (O'Brien and Murray 2006). Environmental volunteers spoke about education and learning both in the sense of undertaking specific training and also in terms of broader learning by being involved in different activities, including tasks that require teamwork skills and particular attention to health and safety (O'Brien, et al. 2008). In another project, women mountain bikers at Haldon Forest Park (PFE, Active England Project) gained a sense of

achievement from improving and learning more about specific mountain bike techniques (O'Brien and Morris 2009b).

Overall, the education service provided by FC in England, Scotland and Wales includes school visits to woodlands, ranger visits to schools, Forest School and engages children with the natural environment. The above reported learning outcomes can be seen as typical especially for the more developed sites across the PFE and those woods that have conservation volunteer groups and other formal or informal educational activities happening on a regular basis.

3.4.3 Health and well-being

Benefits to physical health have often been cited by participants getting involved in activities from walking to running, cycling and mountain biking. At Forest School children can also gain health benefits from their education as they are moving around the forest, being active and learning to move over the uneven terrain of the woodland floor (O'Brien and Murray 2006). Interventions such as Active England (O'Brien and Morris 2009b), Chopwell Wood Health Project (Snowdon 2006) and West Midlands Health Project (Interface NRM Ltd 2004) all had a specific focus on health and an aim to get people physically active in woodlands. However, focus group research (O'Brien and Morris 2009b) highlights that while people appreciate the physical well-being benefits, this is often less of a key driver for their activity than getting out into pleasant outdoor surroundings and meeting new people. Contact with nature and getting involved in specific woodland activities with others also has mental well-being benefits, including a reduction in mental fatigue and stress. The GP referral schemes using the FC estate put a tangible value on the cardio-vascular and mental health benefits of woodlands in terms of treatment costs avoided (Edwards, et al. 2009; Snowdon 2006).

A key issue demonstrated by SERG's research confirmed findings in a growing body of literature that getting outdoors into woodlands/green space is important, enjoyable and beneficial for many people. For those with children it is an opportunity for them to let off steam, run around and become physically tired. For volunteers a key motivation to participate was an appreciation of the outdoors and being in pleasant surroundings. Even in built urban environments small patches of woods or green space are seen as important as a contrast to the built environment and can be viewed as a piece of the countryside in the city (O'Brien 2006).

Woodlands are seen in urban areas as representations of nature (O'Brien 2005b). Focus group participants and Forest School co-ordinators have commented on how all the senses can be used in woodlands, so they are important not only aesthetically but also through providing smells, sounds and touch (O'Brien and Murray 2006). Being out in the fresh air and seeing changes in the seasons is also a benefit of woodland use mentioned

by those in urban and rural environments. Contact with wildlife is also an important component of this them.

3.4.4 Community, place and personal identity

Woodlands and green spaces near to where people live are likely to be used on a more regular basis than other sites that may offer better facilities but are further away. People can develop a sense of ownership and identify with spaces that are familiar to them. For example, in the recent study with young mountain bikers at Bedgebury Forest this activity was found to be important in the formation of their youth identity and distinguished them from youth engaged in other activities such as mainstream sport (O'Brien and Morris 2009a). Focus group participants and interviewees often talked about memories of childhood use of woodlands (O'Brien and Morris 2009b). These memories involved adventure, fun, excitement as well as a certain amount of risk. People talked about the freedom they had had as youngsters to explore their environment and raised concerns that their own children did not have this opportunity due to concerns about safety. In the National Forest, woodland creation on farmland with public access transformed the relationships between farmers and the wider community, with the farmers becoming more open and accommodating of those accessing the land (Morris and Urry 2006). The NTFP gatherers found that their activities gave them an opportunity to observe their surroundings more closely (Emery, et al. 2006).

3.4.5 Social capital

A key aspect of many of the projects and interventions that have been set up in woodlands is how they bring people together. Volunteers described the importance of meeting others and this was particularly the case for those who were retired, lived alone, and/or were bereaved (O'Brien, et al. 2008). Meeting interesting or like-minded people is often a key motivation for participating in projects and activities such as health walks. These activities can also bring diverse groups of people from different ages, socio-economic backgrounds and ethnicities together. A study with disabled forest users in Scotland found that getting out into woodlands with others was seen as a way of building identity and doing activities that were not curtailed by social norms (Bell and Travlou 2007). In the faith woodlands project users and partners felt that a benefit of the project was an increased understanding between different social groups (Hand 2007; Tabbush 2008a).

While the PFE has a significant role to play here, it has in other circumstances been reported as problematic. Some of the Cydcoed projects in Wales noted that management agreements between groups working on FC Wales land and FC Wales were problematic (Owen, et al. 2008). Community groups talked about the high turnover of staff and lack of understanding of the Cydcoed remit by new staff.

3.4.6 Diversity and equality

A review of the UK evidence for *'Equality and inclusion of social diversity with respect to woods and forests'* (Ambrose-Oji 2009) found that many of the barriers affecting woodland use across equality groups were similar to those previously discussed (in section 3.2).

For Black and Minority Ethnic (BME) groups in the *Active England* project⁴ (O'Brien and Morris 2009b) and *Race Equality* study (Edwards and Weldon 2006) the lack of cultural norms around visiting woodlands was an issue. For some women chaperoning and concerns about personal safety also acted as barriers. Some also identified language as a barrier; there was a lack of awareness of the opportunities available to access sites due to leaflets primarily appearing in English only.

The impacts of woodland use described by the review of UK evidence were mainly positive (Ambrose-Oji 2009). The most important impacts for nearly all equality groups were:

- The chance to build social relationships. Woodlands provide a place to meet, walk with the family or other friends.
- The chance for new sensory and skills-based experiences, and participating in exciting forms of independent play.
- The health impacts of walking through woods, including the value of woods and forests in relieving everyday levels of stress and improving mental wellbeing.

As with the other types of evidence described here however, it is not easy to infer differences between benefits and barriers related to the PFE and other woodlands.

3.4.7 Wider life impacts

Participation in specific projects can potentially lead to wider impacts. Active England (O'Brien and Morris 2009b) participants spoke of how they tried to lead healthier lifestyles and had gone on to participate in challenges such as 5 kilometre walks or runs. Some participants also became volunteer health walk leaders and took others out into the forest for walks. Volunteers started to think more about the environment from their active hands-on engagement in conservation work and this led to considering their impact on the environment through consumerism and travel patterns (O'Brien, et al. 2008). The children participating in Forest School (O'Brien and Murray 2006) and the Chopwell Health Project (Snowdon 2006) activities asked their parents to take them to woodlands at the weekend. Seeing children at Forest School provided teachers and parents with a different perspective on the children, enabling them to see different competencies for children that struggle in the classroom environment (O'Brien and Murray 2006; O'Brien and Murray 2007).

⁴ see <http://www.forestresearch.gov.uk/activeengland>

3.5 Use value of PFE by business partners

The research on tourism, art, accommodation and activities providers (part of the Leisure Landscape study (Martin 2007)) found that the providers felt able to use the public resource for direct and indirect uses of woodlands that would benefit their businesses. They generally had positive views of FC which was seen as a helpful bureaucracy doing positive, modern and exciting activities. Whilst there were concerns expressed about FC getting involved in commercial tourism activities as they did not want FC as a competitor providers were keen to work in partnership with FC. Many of the projects and interventions mentioned in this section are or have been run in partnership with Local Education Authorities, Prison and Probation Services, Primary Care Trusts (PCT), and a range of community groups, 'friends of' groups and third sector organisations. For example the Chopwell Wood Health Project included two PCTs in northern England and the project leader, although funded by FC, was based within Gateshead PCT (Snowdon 2006). A key success of the project was the newly formed partnership and how it was able to successfully steer the project once it was up and running. This partnership brought 'in-kind' support and some funding for FC England. Management agreements with FC Wales were not seen as robust enough for groups to be able to undertake all the activities they wanted to. NTFP gatherers, while not formal business partners of FC, welcomed FC changes in management practices to more broadleaved planting as they felt this provided better habitat for their gathering activities (Emery, et al. 2006).

3.6 Interim implications of SERG's work for the PFE study

SERG's research highlights the breadth of activities being undertaken in woodlands, ranging from very active hands-on engagement and activity such as volunteering and NTFP gathering through to walking, cycling and to using woods as a short-cut to get from A to B. These uses lead to a range of benefits. Many of the benefits are similar across the different activities, but there is not yet sufficient evidence to demonstrate whether they differ in terms of intensity between different uses.

Each piece of research was commissioned for specific purposes, and did not include the explicit comparison of woodlands under different ownership. Nevertheless, through the above qualitative meta-analysis, we can tentatively infer the following:

Potential added value of PFE:

- A public/common good resource open to all
- Long term management of a woodland resource for multiple benefits
- Knowledge and experience of community, education and recreation rangers in working with range of publics
- Practical institutional capacity for land and recreation management

- Partnerships with wide variety of bodies, including Prison and Probation Services, Primary Care Trusts and Local Education Authorities
- Existing developed networks, e.g. with schools.

Potential disbenefits of PFE:

- Staff resource spread thinly so that the main focus of ranger activity is on large 'honey pot' sites
- Bureaucratic management approach (on occasions)
- Many existing sites are not close to where people live - earlier FC focus on planting was not intended for broad public benefit but rather as a strategic timber resource
- The same earlier objectives lead to dominance of coniferous woodlands in some areas, which users can experience as monotonous and dark.

4. Review of quantitative data and statistics

This section focuses on what existing quantitative surveys, statistics and data can tell us regarding the:

- expectations and perceptions of the PFE;
- use of the PFE; and
- individual and social and benefits of the PFE.

The data discussed in this section is drawn predominantly from surveys of people's use, attitudes and perceptions. The sample includes surveys for all or parts of Britain from the past 15 years, but for most sections relies more heavily on data gathered in the past five years. For this survey of existing data the aim was to identify the range and content of suitable data sources through existing research and relevant points of contact, such as the FC's Economic and Statistics Unit. Data regarding, firstly, the quantity of recreation opportunities, facilities and provisions, and the extent of access to woods and forests in England and, secondly, economic analyses of the social benefits of woods and forest were also collected.

4.1 Overview of relevant surveys, statistics and data

4.1.1 Surveys

Twenty surveys and data sets were identified as having relevance to this study, many of which had repeated waves (Table 4). The surveys were commissioned by governmental or non-governmental organisations associated with forestry or the natural environment. The majority of the surveys considered in this section focus on England. Those which

focused on Wales, Scotland or Great Britain as a whole have also been included where they include relevant data.

There is considerable variation in the aims of the surveys and therefore in the questions asked and data gathered. The reviewed surveys include assessments of:

- the quantity, frequency and type of visits to woods and forests (including the range of activities undertaken while in the wood or forest)
- quality of visitor experiences of woods and forests
- the facilities, provisions and accessibility of woods and forests
- broader environmental perceptions and behaviours.

The majority of the surveys made use (at least in part) of quantitative interview methods. These tended to be either telephone or face to face (either in the home or at a specific location). Notable exceptions include the Woodland Trust's review of accessible woodlands (*Space for People* (Woodland Trust 2004)) which entails an analysis of the extent of woodlands with permissive access, and the *Review of Provisions for Woodland Recreations and Access* (P Scott Planning Services 1997), which surveyed the quantity and type of access and provisions on various woodland sites.

Sample size and sampling strategy between the surveys vary considerably. Whilst some, such as the *England Leisure Visits* survey (Natural England Accessed 2009 -a) made use of large randomised samples, others such as the *Quality of Experience* surveys (Forestry Commission Accessed 2009b) had much smaller samples and surveyed users of particular woods or forests. Some repeated surveys changed questions or sample strategy between years. Comparison between surveys is therefore problematic, and analysis has to assemble a picture from different scales and samples.

Table 4. Details of key surveys and data sources relevant to the PFE study

Date of survey	Title	Author/s - commissioners of survey	Coverage
1994, 1996, 1998, 2002-03	Day Visits Surveys (DVS) (Natural England Accessed 2009 -c)	Consortium of organisations including the FC	GB
Feb 2005 - Feb 2006	England Leisure Visits: 2005 (ELV) (Natural England Accessed 2009 -a)	Consortium of organisations including the FC	England
2006-2008	Wales Outdoor Recreation Survey (WORS) (Countryside Council for Wales and Forestry Commission Wales Accessed 2009)	Countryside Council for Wales and FC Wales	Wales

Date of survey	Title	Author/s - commissioners of survey	Coverage
2003, 2004, 2005, 2006, 2007, 2008	Scottish Recreation Survey (SRS) (Scottish Natural Heritage Accessed 2009)	Scottish Natural Heritage and FC	Scotland
1986, 1989, 1993, 1996-7, 2001, 2007,2009	Survey of Public Attitudes towards the Environment (SPBAE) (Department for the Environment Food and Rural Affairs Accessed 2009)	DEFRA	England
2002	Public Attitudes to the Environment (PAE) (Scottish Executive and Forestry Commission Scotland Accessed 2009)	Scottish Executive, FC	Scotland
1999,2001,2003, 2005, 2007, 2009	Public Opinion of Forestry (POF) (Forestry Commission Accessed 2009a)	FC	GB
2003 - 2008	Quality of Experience (QoE) (Forestry Commission Accessed 2009b)	FC	England and Wales
1994-2007	Forest Visitor Surveys (FVS) (Forestry Commission Accessed 2009 -b)	FC	GB
2002-2008	All Forests Monitoring (AFM) (Forestry Commission Accessed 2009 -a)	FC	Scotland and Wales
2004	Space/Woods for People (SFP) (Woodland Trust 2004)	Woodland Trust	UK
2003, 2007	Europeans and their forests/ Europeans and wood (MCPFE) (Rametsteiner and Kraxner 2003)	A range of European organisations associated with the environment and forestry including the FC	Europe
2009	Monitor of Engagement with the Natural Environment (MENE) (Natural England Accessed 2009 -b)	Natural England and others	England
2006-2007	Forestry for People (F4P) (Edwards, et al. 2009)	FC (SERG)	Scotland

Date of survey	Title	Author/s - commissioners of survey	Coverage
2005-2009	Active England (AE) (O'Brien and Morris 2009b)	FC (SERG)	England
2004	Woodland Trust Wales Visitor Survey (WTWVS) (Woodland Trust 2005)	Woodland Trust	Wales
1997	Review and Provision for Woodland Recreation and Access (RPWRA) (P Scott Planning Services 1997)	FC	GB
2001	Perceptions, Attitudes and Preferences in Forests and Woodlands (PAPFW) (Lee T R 2001)	FC - Countryside Commission for Scotland - Countryside Commission for England	GB
1998-1999	Forest Employment Survey (FES) (Heggie 2001)	FC	GB
2008/2009	Monitoring and Evaluating Quality of Life (QOL) (Morris and Doick 2009)	FC England	England

4.1.2 Statistics and data

Further quantitative evidence used in this review was sourced from the FC website, the *National Inventory of Trees and Woods* (Forestry Commission 2001), and the *State of England's Woodlands* (DEFRA undated) paper.

4.2 Studies which compare different kinds of ownership

The vast majority of the surveys, statistics and data have focused on the perceptions, use and/or benefits of trees, forests and woodlands, without specifying or investigating the type of woodland and ownership. However, ownership and/or management was considered by the following:

- A small number of the surveys attempted to estimate the ownership of the forests and woods visitors were using (either the woods used most frequently or most recently) (*Public Opinion of Forestry, Scottish Recreation Survey, English Leisure Visits, Forestry for People, and the Monitor of Engagement with the Natural Environment* (Edwards, et al. 2009; Forestry Commission Accessed 2009a; Morris

and Doick 2009; Natural England Accessed 2009 -a; Scottish Natural Heritage Accessed 2009)).

- The *Quality of Experience* surveys focused on the use, perceptions and expectations of selected PFE sites. The *Quality of Experience Community* surveys (Forestry Commission Accessed 2009b) in 2007 included a comparison of forests and woods in different ownership.
- The *Public Opinion of Forestry* surveys (2001, 2005, 2007, 2009) (Forestry Commission Accessed 2009a) included a number of questions designed to understand perceptions and expectations of the FC and the PFE. The *Perceptions, Attitudes and Preferences in Forests and Woodlands* survey (Lee T R 2001) and the *Forestry Commission Affiliation* market research also investigated knowledge of the FC.
- *The Review of Provision for Woodland Recreation and Access* compared recreation facilities and provisions on PFE sites with those on sites in other ownership.

4.3 People's perception and expectations of the PFE

So far, no data or statistics has been identified which *directly* and *specifically* examined people's perceptions and expectations of the PFE in England. However, the *Quality of Experience* (Forestry Commission Accessed 2009b) and the *Public Opinion of Forestry* surveys (Forestry Commission Accessed 2009a) collect data which provide some understanding of people's expectations and perceptions.

The *Quality of Experience* surveys investigate respondent's perceptions of a number of factors associated with their use of particular PFE woods or forests in England; these included:

- The importance of particular facilities in their decision to visit a particular site;
- How important feeling safe in the forest or woodland was to their decision to visit;
- The importance of a range of aspects of the site (e.g. car parking, sign posting, children's play equipment, availability of staff (e.g. rangers), open grassy areas, or disabled facilities) to their decision to visit.

The *Public Opinion of Forestry* survey asks several questions which also have relevance; in 2009 the respondents were asked:

- What are good reasons to support forestry with public money? (e.g. supporting the rural economy, help tackle climate change, provide places for relaxation and stress release, to improve the countryside landscape or to make woods more accessible to all in the community)
- Should the government provide more facilities for families in woods and forests?

Knowledge of the FC and its activities were assessed by a number of the surveys; *Public Opinion of Forestry* (2005, 2003), the *Forestry Commission Affiliation* research and the *Perceptions, Attitudes and Preferences in Forests and Woodlands* research (Lee T R 2001)

Further analysis of the *Public Opinion Forestry* 2009 data to identify differences amongst social groups, in terms of perceptions and expectations of public forests and spending, was conducted subsequently and is included in the final report (Carter, et al. 2009).

4.4 People's use of the PFE

4.4.1 GB sources on the use of the PFE

A number of the *Public Opinion of Forestry* surveys (Forestry Commission Accessed 2009a) questioned respondents as to whether they were aware of the management and ownership of the woods and forests they visited in the past few years. Whilst different editions of the survey cannot be easily compared, the emerging trend appears to be one of decreasing use of the PFE. In 2001, 41% of the respondents thought they had visited woods or forests owned by the FC in the past few years (the question does not ask respondents to indicate in which country the FC woods were). In 2003, 38% thought they had visited FC managed forests or woods, and in 2005, 35% of the respondents.

The most recent survey (2009) found that 26% of respondents had visited FC managed forests or woodlands in the past few years. Table 5 compares the percentage of respondents who claimed that they had visited the PFE compared to woods thought to be in other ownership.

Table 5. Management of the woods and forests visited by *Public Opinion Forestry* respondents in the past few years (2009)

Forest or woodland owner	Percentage of respondents who visited woodland in past few years (N=1291)
FC	26%
Woodland Trust	14%
National Trust	34%
Other	15%
Don't know	34%

The data shows that the proportion of survey respondents reporting having visited FC managed woodlands is slightly biased towards males (43% females : 56% males). The majority of respondents (87%) visiting FC managed woods and forests were aged 35

years or older. The highest proportion of respondents who reported having visited FC managed forests and woodlands were in social class AB1 (30%), had access to at least one car (90%) and described themselves as white (96%).

The *English Leisure Visits* survey (Natural England Accessed 2009 -a) found that 8% of day trips to woods or forests were reportedly made to those owned and/or managed by the FC in England, Scotland and Wales. In comparison, 18% of visits to woods and forests were made to those thought to be owned by local authorities and 13% to those owned by the National Trust.

As with the *Public Opinion of Forests* (2009) results, the *English Leisure Visits* survey found that the highest proportion of respondents who reported having visited FC woodlands were aged 35+ (76%) and described themselves as white (93%). It has not been tested however, how this compares with the distribution of the population in general (for example, it is possible that PFE woods are located closer to white populations).

The *National Inventory of Woodland and Trees* (Forestry Commission 2001) includes an assessment of recreational use of each surveyed plot⁵; 57% of FC forest showed evidence of public recreation, compared with only 32% of non-FC (Gilbert 2007).

4.4.2 Surveys of specific sites or types of ownership or management

The FC also collects data on the use of the PFE through the *Quality of Experience* and the *Local Visitor Surveys* (Forestry Commission Accessed 2009b). These surveys focus on the use of individual FCE sites or Community Forests.

The most recent *Quality of Experience* surveys of individual sites (Bedgebury; Thetford; Wyre - 2008) indicate that there a number of commonalities in their use:

- The majority of visitors to the three sites were in the 'Family' and 'Empty Nester' lifecycles and lived locally, travelling for less than an hour to reach the sites.
- The majority of visitors were on a repeat visit to the particular site, with many of the repeat visitors tending to visit between 1 and 6 times per year.
- The leisure activities most frequently undertaken at the three sites included walking with or without a dog, visiting the cafés, cycling, having a picnic or barbeque and using particular facilities such as children's play areas or a Go Ape course.

The 2007 *Quality of Experience in Community Forests* in South West England surveyed a FC site (Leigh Woods) alongside a non-FC site (Blaise Castle – managed by Bristol City Council). The survey found that:

⁵ Describe NIWT approach

- 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.

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Lawrence A. and Carter C. (2009)
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