Exploring relationships between peri-urban woodlands and people's health and well-being

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Executive Summary

Context and aim

The overall aim of this research was to explore people's understandings and experiences of the relationship between peri-urban woodlands and health and well-being. Detailed information is lacking about how woodlands are experienced by users – a gap in evidence that this research aims to fill. The research focuses specifically on: 1) experiences in and perceptions of the physical environment, 2) motivations for visiting woodlands, activities and benefits, 3) social experiences in woodlands, and 4) identifies what is special (if anything) about trees and woodlands.

This study is part of a wider programme of on-going research by the Social and Economic Research Group that explores how trees and woodlands contribute to people's health and well-being.

Study approach

Four case study sites, all over 90 hectares in size, were included in the research: two Community Woodlands (Bentley and Brodsworth in Doncaster) and two Destination Woodlands[1] (Birches Valley, Staffordshire and Shorne Woods, Kent). Six groups and a total of forty nine woodland users were involved in the research including a group of conservation volunteers, Nordic walkers, Green gym volunteers, a deaf group and two groups of mixed age and gender.

Evidence was gathered *in situ* in the four woodlands with researchers participating in an activity with participants for approximately an hour. Photo elicitation was used as a method with four of the six groups. Participants were asked to take photographs of anything in the wood that they felt had an impact (positive or negative) on their health and well-being.

After the woodland activity, a one hour focus group was held to discuss the types of photographs participants had taken, the physical characteristics of peri-urban woods that have an impact on health, what social factors enable people to use woods for health and well-being and whether peri-urban woods facilitate social contact between people.

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[1] See page 11 for a description of Destination Woodlands.

Key findings

Experiences in and perceptions of the physical environment

- Access infrastructure (paths, car parks, toilets, benches) is critical for some participants, particularly the elderly, disabled and those suffering from long term health problems.
- Participants talked of the importance of striking a balance between management that allows and encourages access and the need for what is viewed as more 'natural', less managed woodland.
- Managed sites are seen as desirable by many, particularly those who need certain facilities and infrastructure. Others prefer more natural environments. On reasonably large sites there is the potential to accommodate both of these needs.
- Life stage affects preferences and needs for different experiences and types of infrastructure.
- Participants favour variety and complexity in wooded landscapes. The sites in this study include a mix of heathland, wetland, and open grass as well as wooded areas.

Motivations, activities and benefits

- Motivations for visiting include the opportunity to try new activities, getting outdoors into the fresh air, being encouraged by others, wanting to pass on enjoyment of woodlands to children and making a contribution through activities such as volunteering.
- The most common responses concerning the benefits of woodland experiences were to do with restoration, including aspects such as peacefulness, calm, restfulness, and stimulation of the senses.
- Participants enjoy the opportunities available within the woods for physical activity at a level and pace that suits them.
- Visiting woodlands is often an opportunity for people to reflect on nature, natural/seasonal cycles, and also to reflect on issues and problems in their own lives.
- Visiting woodlands provides an escape from general everyday concerns and frustrations providing feelings of freedom.
- For many participants the woodland environment affords a sense of connection to nature.
- Woodlands provide a unique sensory experience for participants due to the scale of trees in relation to other vegetation types and participants talked about a heightening of the senses when outdoors and particularly when in a woodland environment.

Social experiences in woodlands

- Many of the participants enjoy sharing activities and experiences with others.
- Being outdoors in woodlands allows people the space to behave more socially with strangers than they might do in everyday life.
- Participants often enjoy watching other people engaging with and behaving in woodlands in a positive way.
- Led and organised activities are particularly important for those who are interested in learning or trying new activities, for those who have concerns about visiting alone, or getting lost. They can also give a sense of meaning and purpose to a woodland visit.
- People like to be able to socialise with others, or may seek isolation and solitude. Individuals may want different experiences on any given visit, depending on motivations.
- Negative experiences are connected to two key issues: 1) dislike of seeing evidence of neglect, litter or vandalism within a woodland and 2) concerns, particularly for women, about visiting alone, especially if they do not visit regularly or they do not know the site.

What is special about trees and woodlands?

- Participants feel that woods provide security, shelter and screening from others, or from the built/urban environment.
- Woodlands provide participants with a sense of history and continuity, creating atmospheric experiences and a sense of natural grandeur.
- Trees and woodlands can make a distinctive contribution to well-being by providing non-timber forest products such as mushrooms, berries and nuts.

A number of the findings in this research are confirmed by previous research, particularly the issue of women's concerns about visiting woodlands alone, the importance of site infrastructure for older groups and the less mobile, the enjoyment of sensory experiences and the feelings of restoration gained from using and enjoying woodlands. Many of the benefits gained from the woodlands in this study are dependent upon the active and sustained management of the sites.

Key implications and insights

Management of the woodland resource

- Woodlands are multi-functional, allowing a variety of activities to take place at any one site. They are also 'synergistic satisfiers' i.e. able to meet a range of needs at any one time.

- Time and resources are needed to gather information on users and their access requirements. This can inform site design and planning where a key objective is to encourage public access.
- Managing woodlands successfully for wildlife can be an important means of achieving well-being benefits for people.
- It is important to respond quickly and effectively to minimise the impact of vandalism and litter.

Implications for policy

- Policy should look to support a variety of woodland experiences and site types, ranging from well managed areas with lots of facilities and high visitor numbers, to quieter, more natural sites.
- It is important to continue to promote the creation and management of peri-urban woodlands for amenity, recreation and well-being and ensure access is easy and welcoming.

Delivery of social forestry programmes

- This research highlights the importance of led and organised activities, particularly for those who do not want to visit woods alone, who are less familiar with visiting woods, are concerned about getting lost or being alone, or are keen to meet new people and try out new activities.
- Events can attract new users, such as those who want to try a new activity, or visitors from further afield. Regular activities can attract those who want to visit woods on a more frequent basis and become more familiar with a particular site.
- Effectively targeted communication about the opportunities available is critical.

Future research needs

- Further explore the most effective forms of intervention to promote the health and well-being benefits of urban and peri-urban forestry in urban communities in general, and amongst different urban social groupings more specifically (such as those with mental health problems).
- Investigate the societal benefits (such as health and well-being) of utilising urban and peri-urban woodland spaces for the creation of social/community enterprises.

1. Introduction

There is currently a strong government policy focus on the health and well-being of the United Kingdom (UK) population, with particular concerns about reduced physical activity, increased obesity levels and increases in mental ill health (Department of Health et al. 2011a). The use and enjoyment of natural environments such as woodlands is increasingly seen as a potential method for tackling these issues and as a preventative measure to ill health. Changing behaviour, or encouraging the maintenance of what are seen as healthy and sustainable lifestyle behaviours, is also a strong government policy focus. Campaigns such as 'Change 4 Life', for example, are targeted at increasing awareness of healthy lifestyles by encouraging people to eat well, move more and live longer (Department of Health 2011b). Well-being as a concept is broader than health and includes ideas about good relationships, healthy environments, rewarding work and having a sense of purpose and meaning in life (DEFRA 2007; Steuer and Marks undated). There is current research being undertaken to develop indicators of well-being, identifying specific components so that changes in the population's well-being can be assessed at a national level (Office for National Statistics 2011). Well-being is also a key concept within the Ecosystems Approach at the heart of UK natural environment policy, with diverse ecosystem services contributing to various aspects of well-being (DEFRA, 2011; UK NEA 2011).

The Social and Economic Research Group (SERG) within Forest Research has undertaken a range of research in recent years that explores the contribution that trees and woodlands make to people's health and well-being[2]. This has entailed evaluations of health projects such as the Chopwell Wood Health project (O'Brien and Snowdon 2007), Active England projects (Morris and O'Brien 2011) and a review of urban health and the role of trees and woods (O'Brien et al. 2010). Many other SERG studies have included a focus on well-being. For example, work on environmental volunteering, Forest Schools, and the social and cultural values of woodlands have all addressed this issue (O'Brien 2005; O'Brien and Murray 2007; O'Brien et al. 2011).

This study compliments our existing research, but with a stronger focus on the physical, social and personal characteristics of woodland visits and experiences and how these contribute to people's health and well-being. According to Heft (2010: p22) '*information is sorely lacking about how environments are experienced by users in the course of action*'. He argues that perception is not passive, i.e. with a person statically perceiving a woodland. Instead, perception is

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[2] To find out more about relevant SERG research visit our web pages at: 'Trees, woods for well-being and quality of life' http://www.forestry.gov.uk/fr/INFD-5Z5ALT

a dynamic 'perception-action' process, where people engage actively with woodlands. Therefore, as people walk, cycle, etc. through a woodland they are moving their bodies, looking around, feeling, smelling, listening. Heft (2010, p20) and others (e.g. Gibson 1979) talk about the concept of nature's affordances, which are '*the functional properties of an environmental feature for an individual*'. An example of this would be a tree with large lower branches that can afford opportunities for children to climb, or which afford a place for adults to sit and relax. Another example would be a footpath within a wood which can afford walking opportunities. If it is an all-ability path, it can afford use by those in wheelchairs or mobility scooters. This concept of affordance is about the relationship of the person to the environment. This relationship is communicative, as well as physical. People attach meanings to the environment but also derive meanings from that environment because of the way it is experienced, how it looks, how it is managed and where it is located.

The research reported here set out to explore these relationships between people and various woodland settings and to determine how these people-woodland relationships affect well-being.

1.1 Aims and objectives

The overall aim of the research was to explore people's understandings and experiences of the relationship between peri-urban woodlands and their health and well-being.

The research provides recommendations for woodland managers, policy makers, those designing projects and programmes to encourage public access and identifies some research gaps.

The research addressed the following questions:
- What are the specific components/characteristics of peri-urban woods that promote health and well-being?
- What are the range of benefits people gain from undertaking activities in woodlands?
- What social characteristics and factors enable people to use woods for health and well-being?
- Do peri-urban woods facilitate social contact between people and, if so, how does this occur, and do people believe it has an impact on their health and well-being?

2. Site governance and study methods

2.1 Governance and management of the sites

We undertook the research at four woodland sites. The sites were chosen to specifically complement other SERG research that focused on monitoring and evaluating (M+E) the contribution of woodlands to people's Quality of Life for Forestry Commission England[3]. The sites in the Quality of Life study included Birches Valley Forest Centre, Bentley Community Woodland and Ingrebourne Hill Community Woodland. The Quality of Life study collected quantitative data from site visitors (on-site) and also from people living within a defined catchment area around each site. In this study we focused on two of the above monitoring sites (Birches Valley, Staffordshire and Bentley Community Woodland, Doncaster), however we were unable to organise a visit to Ingrebourne Hill and instead we recruited the Jeskyns Wood Volunteer group and visited a nearby site called Shorne Woods Country Park in Kent. We also decided to include a fourth site (Brodsworth Community Woodland) so that we could research two Community Woodlands and two Destination Woodlands (see explanation on page 11).

Table 1 provides details about the ownership, management, facilities and infrastructure at each of the sites. Shorne Woods and Birches Valley are the larger of the four sites with significantly more facilities (e.g. visitor centres, cafes and toilets) and more organised on-site activities and events. The two community woodlands are located in more urban and deprived areas.

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[3] More information is available at: http://www.forestry.gov.uk/fr/INFD-7TGBUC

Table 1: Governance of the sites and infrastructure

	Shorne Woods Country Park	Birches Valley	Bentley Community Woodland	Brodsworth Community Woodland
Ownership	Kent County Council (KCC)	Forestry Commission England (FCE)	Land Trust	Land Trust
Management of site	KCC	FCE	FCE	FCE
Size of site	116ha	442ha 93ha		99ha
Woodland type	Ancient woodland with some heathland, meadows and wetland	Pine plantation and heathland	Mixed deciduous and coniferous woodland with 12 ha wetland	Mix of mature broadleaf woodland, newly planted trees, large open meadows, wetland valley
Designation	SSSI within Kent Downs AONB	Part of Cannock Chase AONB	Called a Community Woodland	Called a Community Woodland
Infrastructure, facilities, opportunities	Play area, cycling, horse riding, parking, toilets, disabled toilets, fishing, refreshment (café), eco friendly visitor centre, walking trails, trim trail, easy access features for wheelchairs, pushchairs and electric scooters, electro scooter hire, education	Adventure play area, mountain bike trails, horse riding, walking trails, orienteering, Route to health sculpture trail, Go ape, fishing pools, heritage trail, education, visitor centre, refreshments, easy access trail, toilets, disabled toilets, caravan/camp site	Walking, cycling, horse riding, education, picnic tables, miners memorial sculpture, parking, no toilets	Walking, cycling, horse riding, education, orienteering, picnic tables, parking, sculptures, no toilets
Organised activities, programmes	Hosts educational programmes and activities Provides Forest School	Volunteers, school visits, family events, team building and inset days	Conservation management, health walks and activities	Nordic walking, Green gym, summer activities for children
Other information	Green Flag award (the benchmark standard for parks and green spaces in the UK)	Has held pop concerts on site	Former Bentley colliery site	Former Brodsworth colliery site closed in 1990

The detailed quantitative Quality of Life study at Bentley Community Woodland, Ingrebourne Hill and Birches Valley is reported by Morris and Doick (2009a, 2009b). This previous work established two broad site groupings or types that can also be used to categorise our four study sites:

1. **Local Community Woodlands** (e.g. Bentley and Brodsworth) – used by people local to the site who travel from a short distance, who visit reasonably frequently (often every day or every week) and do not stay long at the sites which have no toilets or café. Events and activities may be organised on these sites, however they will be fewer in number than those organised at Destination Woodlands. Overall visitor and visit numbers to these sites will generally be lower than for Destination Woodlands.
2. **Destination Woodlands**[4] (Birches Valley and Shorne Woods) – usually larger in size, used by a mix of local residents and visitors who travel from further afield. People, particularly visitors from further afield, often visit less frequently (a few times a month or a few times a year) but stay longer at the sites which have facilities, such as cafes and toilets. Events and activities will be organised at these sites and they will often get high numbers of visitors, particularly in school and public holidays.

2.2 Methods and approach

This study adopted a participatory research approach, involving the researchers visiting four different woodlands and undertaking a walk with six groups of research participants lasting approximately one hour[5]. This was followed by a group discussion, also lasting about one hour. Photo elicitation and focus group discussions were the primary methods used for data collection. Photo elicitation was employed with four of the six groups[6]. Participants were asked to take photographs of anything in the woodland that they felt had an impact on their health and well-being, whether positive or negative. They were also asked to write short comments for each photograph, covering: a) what the photograph was of, and b) what the nature of the impact was on their health and well-being. Taking photographs was intended to get participants thinking broadly about the physical characteristics of the woodland they were in. The focus groups took place after the walk and were used to elicit discussions about the photographs people had taken, and to explore the links with well-being. Participants were asked to think about the following questions:

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[4] Known as 'Forest Centres' by Forestry Commission England staff.
[5] This was the case for five of the groups. However one group did not participate in a walk, instead the researcher participated in the activity the group was undertaking i.e. Green gym.
[6] Two groups did not use cameras as they were carrying out Green gym and Nordic walking activities which meant that carrying cameras was difficult.

- What are the aspects/elements of this site that you think impact positively or negatively on your health and well-being?'

- What are the (social and pe rsonal) things that enable you to use this site for health and well-being/other benefits?

- Do you meet people/visit with people when you visit this site and does this have an impact on your visit?

All the groups were also asked to fill in a short demographic questionnaire so that we could profile our participants. The questionnaire also included questions about whether sounds, textures, views and smells had an impact on participants' health and well-being, and questions about what factors enabled them to enjoy visiting woodlands (e.g. visiting with others, joining an organised activity, and their familiarity with using woodlands). Detailed protocols, sample forms and a focus group topic guide can be found in Appendix 1, 2 and 3.

2.2.1 The participants

Site staff assisted in identifying potential groups and participants we could engage in our research. Forestry Commission staff (and staff from other organisations) played a vital role in helping us to gain access to groups and in leading the walks. We wanted to include people from a variety of ages and backgrounds. For example, we had the opportunity of working with a deaf group at Bentley Community Woodland and engaged someone who had expertise in sign language to help us. Participant recruitment was made difficult by the fact that we were asking people to commit approximately 3 hours of their time. Because of this, some groups were offered the chance to take part in a free organised activity, as well as the research. For example, the two groups at Birches Valley responded to an advertisement to get involved in the construction of a willow fence for half a day and to take part in our research during the other half of the day. The Green gym (Brodsworth Community Woodland) and Nordic walkers (Bentley Community Woodland) were carrying out their normal activities which the researchers joined in with (see Table 2 for details of group numbers).

Table 2: The groups involved in the research

| Site	Group Type	Number in Group
Bentley Community woodland	Nordic walkers group	7
	Deaf group	3 deaf people 3 support staff (Sue Ryder staff and volunteer FC rangers)
Brodsworth Community woodland	Green gym group (environmental volunteering)	4
Birches Valley Forest Centre	Morning mixed age and gender group	11
	Afternoon mixed age and gender group	8
Shorne Woods Country Park	Jeskyns Wood [7]Volunteer group	13
		Total participants: 49

Demographic data from the questionnaires showed that out of a total of forty nine people involved in the study, 35% (n=17) were men and 63% (n=31) were women[8]. Just over half (54%, n=25) were in the 45-64 age range (see Figure 1). Most were working or retired. All classed their ethnicity as 'White'. In terms of income, 28% (n=14) were from households with an annual income of under 20K, 31% (n=15) from households with an annual income of £21-50K and 6% (n=3) from households with an annual income of £75K+ (see Figure 2). Eight (16%) people stated they were registered as disabled, and two of these were from the deaf group. Seven people (14%) stated that their daily activities were limited significantly by a health problem or disability (this included 4 out of the 8 people who were registered disabled). Thirteen (26%) said their activities were limited a little by a health problem or disability (this included 1 of the 8 people registered as disabled). Two of the people registered as disabled stated that this did not affect their daily activities.

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[7] The volunteers were Jeskyns Wood volunteers. However, the visit took place at a separate location - Shorne Woods.
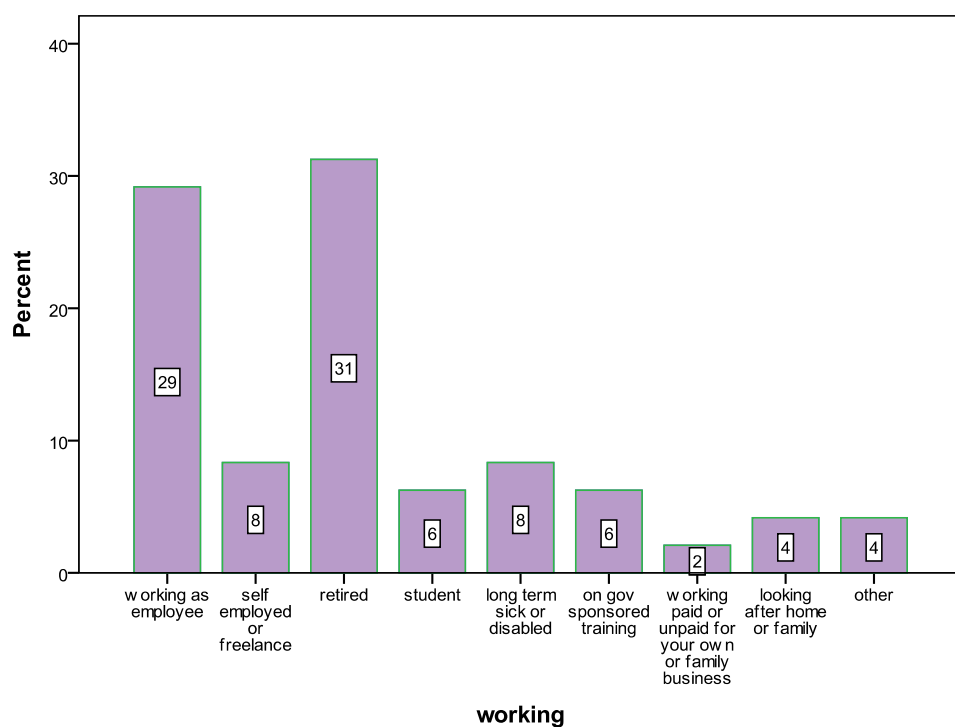[8] Numbers do not always add up to 49 people or 100% as not everyone completed all the questions.

Figure 1: Age range of participants
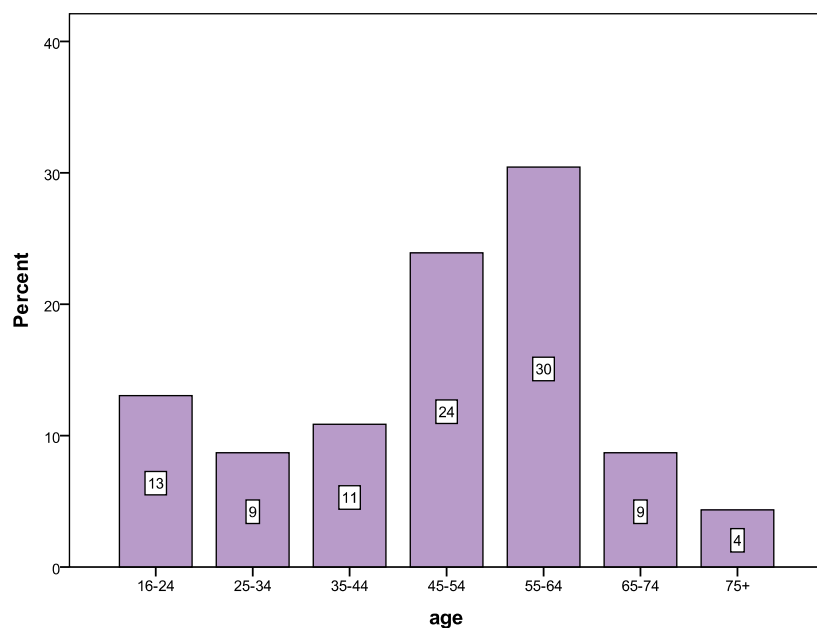
Figure 2: Occupations of participants

Participants from the four photo-elicitation groups took a total of 397 pictures. There was a wide variety of photographs and comments, illustrating how different people focus on a wide range of factors at each of the sites. Many of the photographs taken by participants, together with the relevant comments are incorporated into the thematic analysis presented in this report.

2.2.2 Ethics and consent

We adhered to the protocols set out in the SERG research ethics statement (SERG 2010). Signed consent was gained from all participants to involve them in the research, to record their discussions and to use their photographs. Participants were informed that they could stop participating at any time for any reason. We made it clear that the data provided by participants in the discussions or questionnaires would be anonymised and their names would not be used.

2.2.3 Data analysis

All of the group discussions were recorded. These recordings were then transcribed and the transcripts and the photographs were imported and coded using NVivo (a qualitative data analysis software package). Coding is an interpretive technique used to organise qualitative data, it requires the researcher to carefully read the data and demarcate segments within it (Braun and Clarke 2006). These segments are labeled with a code that provides an indication of what is included within that segment. Therefore, the coding process involved the careful reading of each focus group transcript and attributing individual sentences, phrases or words to single or multiple codes and related themes. For example, when exploring participants' perceptions of the benefits gained from woodland visits a clear theme emerged that included terms such as calmness, peacefulness, restful and we coded this as 'restoration'. We adopted an inductive approach, with codes and themes emerging from careful reading of the text rather than starting deductively with a pre-structured coding schema.

Codes were grouped under 4 high level themes relating to the physical characteristics of the forest, individual benefits, social characteristics and the special nature of trees and woods. The coding structure is outlined in Figure 3.

The data from the short questionnaire (including the demographic questions) was input into SPSS [Statistical Package for the Social Sciences] and descriptive and frequency statistics used to outline percentages.

Figure 3: Coding structure of data showing key themes at three levels of hierarchy. The four Level 1 themes are 1) experiences in and perceptions of the physical environment, 2) motivations, activities and benefits, 3) social experiences, 4) what is special about trees and woods. Below the Level 1 themes are Level 2 and 3 codes and these are both sub categories of the Level 1 themes. The coding structure provides an overview of the key themes of the research.
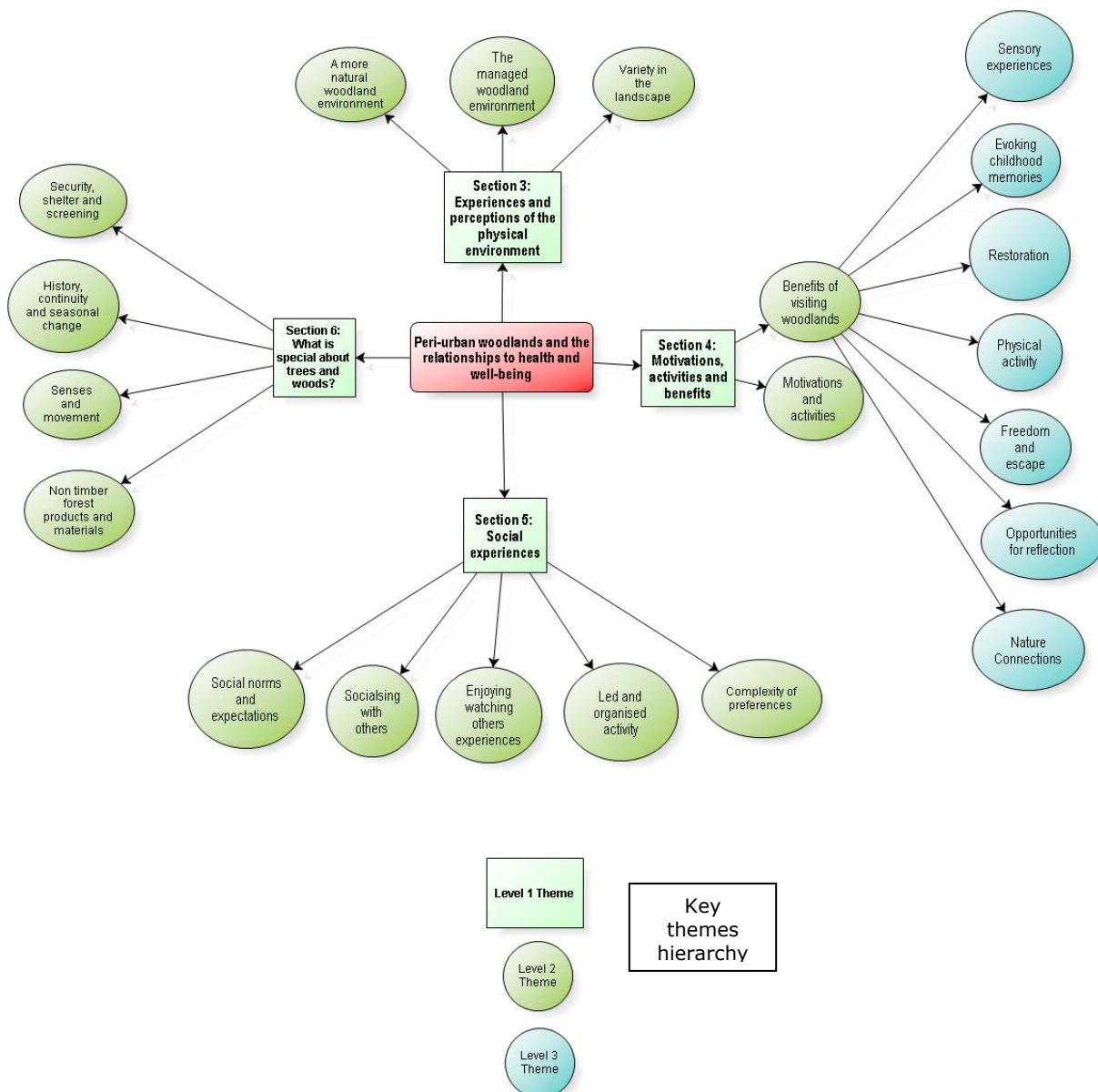
3. Experiences and perceptions of the physical environment

During the walks round each of the woodland sites, participants were asked to think about, and to take pictures of elements of the physical environment that they perceived to be significant in terms of their health and well-being. Each group was encouraged to consider the impact of natural (e.g. flora and fauna) as well as man-made (e.g. infrastructure, equipment) features of the physical environment. During the focus group discussions after the walk, participants were asked to reflect on the impacts of different characteristics of the woodland environment, focusing on issues such as the size of the woodland, its quality, the facilities available and the quality and maintenance of the access infrastructure.

In this section we report the findings relating to participants' experiences and perceptions of the physical environment and we highlight the variety, and sometimes conflicting nature of people's preferences, setting out the challenges faced by managers of peri-urban woodland to meet the needs of a range of visitors. In a first sub-section we outline the associations people make between aspects of the managed woodland environment and their own health and well-being. We then document how participants perceive, experience and attach meanings to more 'natural' aspects and features and show how these perceptions, experiences and meanings relate to health and well-being. Finally, we report on people's preferences for variety in the landscape.

3.1 The managed woodland environment

KEY POINTS

- Good quality, well maintained access infrastructure is key for some people
- Woodlands need to cater for a wide range of access requirements
- Parents benefit from play infrastructure and equipment that their children can enjoy.

In this research we found that maintenance and access infrastructure were critically important factors for many participants, and particularly for the elderly, disabled, or those suffering from long-term health problems. For these participants, the ability to park a car, have access to toilets, walk on well maintained paths, and rest on benches and other seats was absolutely fundamental to being able to access the sites and, therefore, to enjoy the physical health and other well-being benefits associated with using them.

I took some photographs of the logistics, if you've been ill for a long period of time, it's all very well having this on the doorstep, if you can't access it, so I've taken photographs of car parks and seats (Birches Valley AM group).

But the thing that held me back from visiting was concern that there wouldn't be facilities that I would need such as toilets and the terrain being too difficult for me to walk with confidence (Birches Valley AM group).

I took a picture of the bench, I've sat there with my husband and just sat there peaceful (Birches Valley PM group).

There's a lot of benches on the trail because it's designed to get people with disabilities out and about, so they can sit and have a rest (Birches Valley PM group).

Those who have a strong preference for a high level of management include those who do not want to visit alone (see section 5.5) and have concerns about personal safety or getting lost, and those who need or want facilities e.g. those with children, and those with mobility-related health problems (see Box 1).

Box 1: Infrastructure and facilities can attract and assist visitors

Photo description: 'Adventure playground'. **Contribution to health and w-b**: 'Encourages families and children to visit sites and explore'. Shorne volunteer group	**Photo description**: 'Disabled fishing facility' **Contribution to health and w-b**: 'Good facility for disabled people lets them interact with surroundings and site'. Shorne volunteer group

Indeed, for those with mobility concerns, it is evident that having a managed site with facilities is a critical factor in terms of enabling access. This is the case even for those that still want to be challenged by their environment. As one individual said of Birches Valley, '*a park like this really bridges the gap between accessibility and challenge*' (Birches Valley AM group) because it is accessible with facilities, sculptures and well-maintained trails, but it still provides a physical challenge.

Parents talked about how they benefited from the infrastructure and equipment provided for children. For some parents, coming to a site and being able to relax and to enjoy being outside was dependent upon the provision of fun and stimulating things for their children to do.

> *...we've been coming up here regularly and she absolutely loves going around the trail because it's something for her to do because young children often get bored* (Birches Valley PM group).

> *I headed straight for the play area, maybe because that's the main area that I've been here before, and the children like it and that sort of thing because if they're happy playing on there, then it means I can relax in the fresh air and that means I'm happy* (Birches Valley PM group).

3.2 A more 'natural' woodland environment

KEY POINTS

- Some people prefer less managed and more 'natural' environments
- Life stage can be a factor affecting these preferences
- Some larger sites can cater for preferences for both managed and unmanaged environments.

As discussed above, many participants have a preference for managed woodland environments with infrastructure and facilities that are easy to access and which encourage use. However, not all participants shared this preference, and the groups had some interesting discussions about the need to strike a balance between a level of management that allowed access for those who required it, and the need for a more 'natural', unmanaged woodland experience that was beneficial in terms of well-being and which could be compromised by too much infrastructure (the term 'unmanaged' was not used by participants to mean 'neglected'). Some participants were willing to accept a reduction in accessibility for this more natural woodland experience.

I think there's a fine line between balancing accessibility with going over the top and things becoming too commercialised and then becoming a bit vulgar and a bit tacky (Birches Valley AM group).

I've taken a photo of a track that's hardly ever walked, pretty much covered by trees, because I like the idea that I can go somewhere and there's no goal, there's no task ahead of me. I just wander… (Shorne volunteer group).

My dad would prefer to be out in the wild walking on a path that hasn't been walked in two years or whatever, you know? I would be quite able to walk that sort of terrain, I would be with him on that, you know? Okay, I would come to here as a starting point and go off away from all the managed stuff and everything because then you would get into the wildlife (Birches Valley AM group).

Some participants argued that improvements to health and well-being required an environment that presented a degree of physical and mental challenge, and that the design of sites and the provision of infrastructure should not only be informed by those with specific access requirements.

You can get someone such as myself in a wheelchair coming and going, "I can't do that slope" but if they take the slope out, then you're just going through woods and it wouldn't be countryside, you can't have and make everywhere accessible, there's got to be some… place where you struggle to get to and that's half the point of it, you know (Birches Valley AM group).

In the context of discussions around site management for access, it was important for some participants to have areas where there was no infrastructure.

Sometimes I just really quite like to walk into the trees and go "no that's it, I've had enough, don't come anywhere near me"! [laughter] It doesn't bother me because I used to do that with my dad, I'd run off into the trees and he'd be like "where are you going?", "I don't know, wherever I feel like"! "You can't go there", "why?", "because you can't, what's over there?", "I don't know, going to go and have a look" (Birches Valley PM group).

I'm looking for places where I can go and hide away, on the old isolation (Shorne volunteer group).

Life stage also appears to be an important factor that affects how some people's preferences change. For example, a member of the Birches Valley morning group commented that:

I've gone back to some of the paths [on the same site] *I used to go on when I was a child, they're just so inaccessible now, you end up getting brambled to bits or knee deep in mud, which probably wouldn't have bothered me years ago* [when I was young and fit] *so…I think that this site is perfect for people like me* [because it is managed which enables access] (Birches Valley AM group).

Conversely, another individual in the same group reported that:

…this is not the kind of place I would choose to come now, at the time of my life where I am because I'm young and I don't have a family and I don't have children. None of the things here interest me but I could see a point in the future where, when I do have a family, that this would be a lovely place to bring children and it might be something I would use at that stage of my life, but where I am now I do want to be away from children essentially, I want the quiet and all that…I would choose somewhere that was a little bit wilder (Birches Valley AM group).

For one individual at Birches Valley there was also a feeling that management can focus too much on the needs of people and not enough on the natural environment. For this individual, management for people and access is perceived as detrimental to personal well-being (see Box 2).

Box 2: Interest in biodiversity

Photo description: 'Spiders web with dew'.	**Photo description**: 'Fungus on tree stump'.
Contribution to health and w-b: 'All of the photos are incidences of biodiversity - process of looking is beneficial to my mood and well-being. But also negative - many habitats were uniform in vegetation due to creation of space - for anthropogenic space - over management of woodland'. Birches Valley AM group	

One group in particular acknowledged differences in preference with regard to managed and unmanaged forest sites, but suggested that this need not always be a problem where a site is big enough. At sites such as Birches Valley, they argued, it may be possible to accommodate a range of users' preferences and, furthermore, that this is desirable:

I think a combination of both [managed and unmanaged] in a place like this because it's for everyone then (Birches Valley PM group).

Oh no [I wouldn't want it to be less managed]*, when there's all those things because that's what it's focused for, for families to come with children, if they've got pushchairs, or whatever, and it still felt like using the wood…and then if they want to explore further, there must be other paths that you can go on* [which take you out beyond the central facilities and busy areas of the site] (Birches Valley PM group).

…it's a big enough space even if there's something there you don't like, it doesn't matter because it's a big enough space to accept it isn't it? (Birches Valley PM group).

Others felt that with careful planning, sites that were heavily used could still offer a sense of solitude and escape.

There's so many people about, it's very difficult to really, you enjoy the scenery but just thousands of people there whereas the site's been developed into so many different footpaths, that there can be a thousand people but you can hardly see anybody, you can have your own experience as it were (Birches Valley AM group).

3.3 Variety in the landscape

KEY POINT
- People favour diversity and complexity in the landscape.

Our research shows that people display a variety of preferences for trees and woodland, versus open green spaces with clear views. Although there is a general sense of appreciation for trees and wooded landscapes (both broadleaved, coniferous and mixed), people also appreciate open spaces with views and clear sightlines as the quotations and Box 3 (below) demonstrate.

I've got photos of the trees because I love trees and the movement of the trees makes me feel good. I've got photos of open spaces because I think if

you can look beyond things, it makes you think positively to see beyond something. So if there's a problem, always look beyond it, so I like that feel about it (Birches Valley AM group).

Well it's nice to have all woodland but this, it happened to be quite nice just not seeing the, all the power plants and things but just managed to get a bit of the Thames and the boats. It's nice if the woodland is framing the picture, that's just, that's part of being there in woods (Shorne volunteer group).

*I like different levels. Different levels of land, different scapes, some are quite sort of entangled, some are quite free and open moorland. So real variety. It's nice to have water as well so near to a wood. Whether you have got a big expanse or a little brook running along. Yeah, a variety (*Bentley deaf group, non-deaf participant).

Box 3: Variety and complexity

Photo description: 'Wild rose'. **Contribution to health and w-b**: 'Diversity conifers and other trees and then a rose in the middle. I love flowers especially wild ones'. Bentley deaf group, non-deaf participant	**Photo description**: 'View'. **Contribution to health and w-b**: 'Enjoy the views of local area. Gives an idea of what's around where we fit in the landscape'. Bentley deaf group, non-deaf participant	**Photo description**: 'View over hills'. **Contribution to health and w-b**: 'Romantic and refreshes the spirit'. Birches Valley AM group

It would therefore appear that many people favour complexity and variety in the landscape, and the sites in this study which were of a reasonable size (93ha and over) incorporated a range of habitats such as heathland and wetland, and were able to provide this level of diversity.

4. Motivations, activities and benefits

In this section we report participants' perceptions and experiences of engaging with, visiting and undertaking activities in woodland environments. We focus first on some of the motivations for accessing woodlands and the range of specific activities participants reported undertaking when visiting woodlands. We then identify how the type of engagement and activities undertaken contribute to participants' individual health and well-being. These include mental and cognitive benefits such as feelings of restoration; freedom and escape; opportunities for reflection; and the evocation of childhood memories. Benefits also include physical benefits gained from exercising in woods; feelings of connection to nature; and a broad range of sensory experiences.

4.1 Motivations and activities

KEY POINTS

Motivations included:

- Opportunities to try new activities by joining an event or organised activity
- Making a contribution to the environment and putting something back – through activity such as volunteering
- Getting outdoors into the fresh air
- Being encouraged by others
- Passing on enjoyment to children

Activities:

- Woodlands of a reasonable size can accommodate a broad range of activities
- Organised and led events can broaden the range activities people undertake.

4.1.1 Motivations for visiting woodlands

Our research explored some of the key motivating qualities of the woodland environment. One participant described how, when she visited the site with her children, they headed straight for the play area at Birches Valley as the play equipment afforded them opportunities to climb, touch, develop imaginative games and to engage with the woodland in different ways.

For those at Birches Valley who participated in making a willow fence and for some of the Nordic walkers at Bentley, the motivation to get involved was to try something new and because they were curious about the activity.

Curiosity was also a motivation to join… What is Nordic walking? (Bentley Nordic walkers group).

I think it was lovely this morning to be involved making the willow fence… People perhaps would have thought 'I can't do that' but obviously people have had a go and made things others can enjoy (Birches Valley PM group).

For some of the volunteers (Bentley Green gym and Shorne Woods volunteers), the motivation was a strong emotional connection to the natural environment and wanting to make a positive contribution. For others, and particularly for retired participants, the motivation to volunteer was partly to give structure and variety to the weekly routine. Wanting to get outdoors and not be cooped up indoors could also act as a key motivation, particularly for parents and retired people.

It's what life is all about [spending time outdoors] *it's not about the office and paper work, this is what we used to do before all that, we worked on the land and manage it so a lot of people feel it's in their blood* (Bentley Green gym group).

…and I just enjoy giving something back to the community, a chance that I got at Jeskyns. So be it infrequently at present but it gives me the chance to be involved in a more practical way and give something back (Shorne volunteer group).

Having a support worker, friend or colleague to encourage and suggest getting involved in an activity could also act as a key motivation.

The desire to pass on enjoyment of visiting woodlands to children was important for one participant, who hoped that visiting would make her children:

Want to come back again and again and again and when they get older they'll want to bring their families here (Birches Valley AM group).

4.1.2 Activities undertaken in woods

A key focus of our research was to explore the linkages between certain kinds of woodland-based activities and people's health and well-being. The range of organised and informal activities participants talked about undertaking included walking, picnicking, the use of play areas with children, cycling, attending a pop concert in the woods, fungi hunting, looking for wild flowers, using the Go Ape[9], trail, Nordic walking, Green gym, willow fence making and volunteering. This

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[9] Go ape is a high wire adventure activity undertaken in the tree canopy.

illustrates the wide range of different activities that participants talked about undertaking and enjoying in woodlands. It also highlights the multi-functional quality of woodlands as locations for a range of different types of engagement with the natural environment. There are a wider range of activities that can potentially be undertaken at the sites studied, however the list outlined here highlights the activities participants mentioned in the focus groups. Organised regular activities that participants in this research were involved in (e.g. volunteering, Green gym and Nordic walking) provide opportunities for people to try out new activities on a regular basis. Some more detail on activities is given in the section below on the benefits of visiting woodlands.

4.2 Benefits of visiting woodland and participating in activities

KEY POINTS

- Restorative and mental well-being benefits
- Exercise and fitness, weight loss and encouraging children to be active
- Opportunities for freedom and escape
- Remembering childhood experiences of using woodlands and green spaces
- A chance to reflect on nature or one's own life
- Connection to the natural environment, wildlife and natural cycles
- Learning about nature
- Sensory experiences - seeing, smelling, touching and hearing woodlands are positively associated with well-being
- Sensory benefits are heightened because of the scale of trees as compared with other green space vegetation types.

4.2.1 Restoration

Amongst the most common responses concerning benefits of woodland experiences were responses alluding to their restorative qualities and their linkages with improved mental and psychological well-being. Participants talked about visits to woodlands as a way of reducing stress, and achieving a state of peacefulness, calm, and restfulness. All the groups involved in the research mentioned some of these aspects (see Box 4). Some contrasted their feelings of calmness and relaxation in woodlands with being in a town or other kinds of built environment. The concept of restoration could also include stimulation at the same time as relaxation and it could help people who were feeling down or having a bad day. For example, one Birches Valley participant took a picture of

the view from a bench saying, '*in all weathers it's a beautiful view, relaxing yet stimulating'*.

Box 4: Peacefulness and reducing stress

Photo description: No comment **Contribution to health and w-b**: 'It makes me feel peaceful'. Birches Valley group AM	**Photo description**: No comment **Contribution to health and w-b**: 'Makes you feel peaceful - fresh air in your lungs and in your head - takes away worries and stress looking at the large open space'. Birches Valley group PM

I find it very peaceful and calming to come out and more wild areas, a place to get away, away from all the noise and business of town (Bentley deaf group, non-deaf participant).

Personally if I've been quite down, I will find trees, I'll sit on the trees, I rest on the trees. I find a very restful place for me they are quite personal but that's not why I am in forestry but that's just an additional side (Bentley deaf group, non-deaf participant).

…my husband and I will come up here on our own, lovely and peaceful, not being stressed about anything, it's peaceful and quiet, even if there's a lot of people here it still seems quiet and peaceful (Birches Valley AM group).

…when I've had a really bad day, "I need to go for a walk, don't talk to me, don't look at me, I'm just not in the mood, I'm going to go sit on one of them benches (Birches Valley PM group).

When you're out here you're thinking of problems on the outside not your own problems (Bentley Green gym group).

The following exchange between participants at Shorne Woods indicates that feeling calmer and forgetting worries are a valued outcome of a visit to the woods:

P[10]1: *You forget about your worries when you're out, especially with a lung full of fresh air.*

P1: *You don't just breathe through your nose and your mouth when you're outdoors do you, you just raise your face to the sky and you breathe through everything don't you?*

P2: *Yeah.*

P3: *It's just the way it is* (Shorne volunteer group).

Some of the volunteers considered their activity to be therapeutic.

> *I work in an office, this is therapy, I love it, just being outdoors and joining in with a great group of people. So it's brilliant therapy, I get more than anybody gets from me* (Shorne volunteer group).

There was recognition by one participant that contact with woodlands and nature could reduce the burden on financing th e National Health Service by improving mental health:

> *I'd have thought you could put a monetary value on taking it out of the NHS budget because of mental welfare, if there was more treatment for mental health, bringing people out into this environment. Because it does make us all feel so much better so it must make anybody feel better, surely* (Shorne volunteer group).

4.2.2 Physical activity opportunities

Many participants made an association between taking part in an activity in woodlands and feeling healthier. In particular, they talked about the range of opportunities to be active and exercise as a way of maintaining or improving fitness and/or losing or maintaining weight.

> *The woodland and tracks make me think I'd like to run round the park for my fitness* (Shorne volunteer group).

> *It encourages me to come for a walk* (Birches Valley AM).

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[10] P=Participant.

For one wheelchair user, who was able to use a tricycle at Birches Valley, the all ability trail was particularly important because it provided an even and flat surface, minimising the risk of falling.

…I still use the 'Route to Health' track, but I can gauge my fitness on how long it takes me to get round it and then I add another lap or whatever to increase my fitness (Birches Valley AM group).

Play spaces and interactive installations could also help to encourage activity in children. One parent noticed that locating them away from the car park could:

Encourage kids to walk to the drums (Birches Valley AM).

For some participants, getting involved in vigorous activity, such as the Nordic walking or Green gym activities gave them a sense of achievement from undertaking physical exercise. As one participant stated, this kind of physical activity was what the body was designed to do:

Your body was made to work and it's like a car. If you buy a new car and stick it in the garage it will eventually seize up; this keeps you going. I mean I should be in a rocking chair knitting at my age (Bentley Nordic walkers group, 75+ age category).

Physical   activity was also described   as   rhythmic by the Nordic walkers, suggesting potential therapeutic benefits:

P1:   *You get more philosophical, getting into a rhythm*
P2:   *Once you get into it you go into almost like a trance*
P3:   *It's metronomic* (Bentley Nordic walkers group).

4.2.3 Evoking childhood memories

During the discussions and in the comments accompanying photographs, participants would often reflect on childhood experiences of visiting woodlands (Box 5). The evocation of memory and connections between present and past experiences emerged as a strong theme of the research.

It evokes childhood memories and if you've got children and a family of your own, you can have a second delight if you like in knowing that whatever you felt or saw yourself you're sort of having it vicariously again and it's an absolute pleasure to see that and it makes you feel good (Birches Valley AM group).

It's like your past perception is how you perceive bliss and happiness is something when you were a child you were free. Then you've got all the constraints of an adult but you can go back and still get that feeling from looking at a wood or watching other children (Shorne volunteer group).

Box 5: Structures and experiences that can evoke memories

Photo description: 'Secret path'. **Contribution to health and w-b**: 'Makes you remember childhood times when you use your imagination and make believe'. Birches Valley PM group	**Photo description**: 'Fairy den carved in tree'. **Contribution to health and w-b**: 'Happy memories with children my mum looks after playing and celebrating birthdays'. Birches Valley PM group

One young man at Brodsworth Community Woodland described how he had not been a walker until his grandfather died. He then started walking with his father who had originally walked with his grandfather. His grandfather had worked in the pit (coal mine) in the '*olden days*'. The young man (Brodsworth Green gym) remembered when the site had been a pit and was sure many people would not know it had been transformed to a community woodland. In this sense, walking at the site was a way of sharing with his father and connecting with his grandfather and his life story.

For some participants, visits to woodlands evoked memories of school trips that had made a strong impression on them because they had been challenging and enjoyable.

Yes with school to do with school work we used to come to places like this. I did go on a hiking holiday for a week when I was a youngster. It was sort of orienteering that sort of idea. It was really good it was lovely. We had a camp and we camped next to a lake and we actually washed our clothes and washed ourselves in the lake (Bentley deaf group).

I was at XXX school for the deaf and I was there from 11 years old and we used to do walking. We used to walk about 10 miles. We went different places, different countryside. We used to walk mountains, not high ones but lower ones but some people went high ones but I didn't I just did the low ones. When I joined the brownies and I used to camp I went camping and walking and things (Bentley deaf group).

For others, childhood play was often located in nearby nature spaces, some of which had since been developed for other purposes:

P1:   *I was in a sort of unofficial green space it was down along the lane from where we lived, down a little stream into some willows that now no longer exist – it's been cleared*

P2:   *We are losing such a lot aren't we?* (Bentley Nordic walkers group).

When I was younger I lived across the road from a wood so we used to always think that was our playground, the wood and the river so I have always liked the wood (Bentley deaf group, non-deaf participant).

In the short questionnaire participants were asked about the importance of familiarity with woodlands and of having visited as a child (Figure 4) to their ability to gain well-being benefits from woodland visits. 84% agreed or strongly agreed that familiarity with woods was important for health and well-being, while 80% thought that having visited woodlands as a child was important. This suggests that having visited as a child and familiarity with woodlands are key motivators for visits and/or contribute to levels of confidence and interest in visiting woods.

Figure 4: Importance of familiarity with woods and visiting as a child
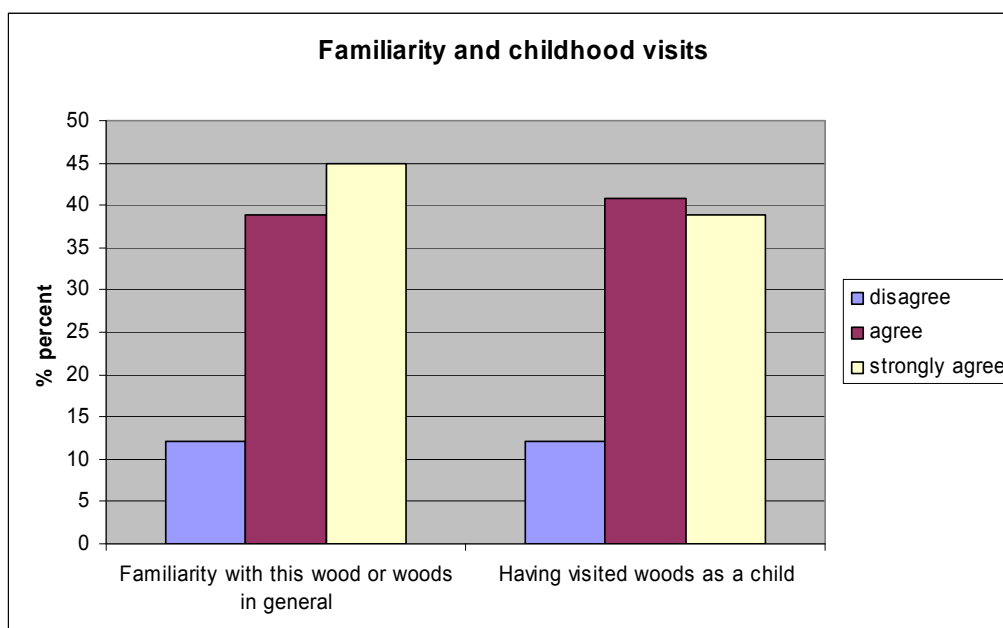
4.2.4 Freedom and escape

Getting out into the woodland environment gave participants a contrast to their everyday lives and, for some, provided feelings of freedom and escape. This could be escaping from something, such as worries or frustrations, or escaping into a sensory experience. Places with views and vistas were particularly significant in this regard (see Box 6).

It makes you feel free, the wind and the view (Bentley deaf group, paraphrased by a non deaf participant).

If you want to think you can and also escape in the view (Bentley deaf group, non-deaf participant).

If I was ever choosing to go to a woodland, it's always escapism (Birches Valley AM group).

This sense of freedom and escape also gave some participants the chance to be themselves, or to just wander through the wood with no specific purpose in mind.

I just felt it was marvellous to create an inspirational setting, where you can not feel, what's the word, self conscious about just being yourself and allowing your imagination to just go free for a little while, before you have to get back into the rat race and get back on that horrible hamster wheel called work (Birches Valley AM group).

Box 6: Views providing a sense of freedom

Photo description: 'View from top of hill'.
Contribution to health and w-b: 'Effect of space and fresh air – freedom'.
Shorne volunteer group

4.2.5 Opportunities for reflection

Our research suggests that contact with woodland provides people with opportunities and space for reflection on their place in the world, the ability to put worries into perspective, to think about the natural environment, other people's behaviour (positive or negative behaviour), and to reflect on the history and heritage of specific places (see Box 7). Ideas about history and heritage are linked to the discussion of symbolism and the special nature of trees and woods (see also section 6).

For me I think it's when you look up a tall tree, it makes you feel insignificant somehow but not insignificant bad but insignificant that's just part of everything, but not significant anymore, to have worries or anything (Birches Valley PM group).

It makes me feel peaceful - insignificant not important - small - but makes your earthly worries less fierce (Birches Valley AM group).

Sculpture left by pits. It looks stunning like a beacon. Awe-inspiring and reflective of history (Bentley deaf group, non deaf participant).

Box 7: Symbolic and historical value

Photo description: 'Yew tree'. **Contribution to health and w-b**: 'Symbol of enduring life, great wisdom and nobility'. Shorne volunteer group	**Photo description**: 'Old tree'. **Contribution to health and w-b**: 'History'. Shorne volunteer group

4.2.6 Nature connections

Many participants talked about how woodlands signify a connection between themselves and nature. It appears that visits to woodlands have the effect of reinforcing an awareness of this connection by bringing people into direct experiential contact with, and actually being part of, the natural environment and its processes. In turn, this awareness and experience is beneficial in terms of well-being generally, and particularly strong in relation to mental health. The following quote from a non-deaf participant in the Bentley deaf group discussions illustrates this:

> *It's sort of a connectedness really when you come out of your home environment outside and particularly wide open spaces or woodlands because you feel yourself moving through that environment and you feel connected to other things around you really… I also like foraging in the woods as well so I like the idea that it's abundant and you can live off it and there are lots of animals and creatures living here, this is their world and it's nice to be a part of that…It's good as well that you appreciate that everything is a living thing and it's giving out positive energy… It makes you feel good because they are giving you energy. You just absorb that energy, freedom and spirits.*

One person in the Birches Valley afternoon group summed it up by saying: *'nature is naturally inspiring'*. Some participants talked about acts of reinforcing this sense of connectedness through direct physical contact with trees. These physical acts are overtly communicative, whereby there is a direct exchange between person and tree.

> *I don't know why, I just do. I've heard of tree huggers but I could, I do actually touch the trees in my garden* (Shorne volunteer group).

For one participant, contact with trees was a cultural practice, opening up a connection with previous generations and a time when human beings' connections with the natural environment were more routinely expressed in everyday practices.

> *But trees for humans have always been good because we evolved from monkeys, that's how we first found safety, in the trees. So there's got to be some kind of primeval instinct in us…*(Shorne volunteer group).

Other participants also thought the woodland environment afforded a sense of connection to natural cycles and processes. Observations of changes in the physical appearance of trees afford a sense of connection to the changing seasons (Box 8). This sense of connection, of being part of natural cycles of

change emerges from the research as a strong beneficial influence over people's well-being.

Then in summer it's just like a canopy over the top of the wood, and then in autumn the colours, and then in winter you have got the same. We go on exactly the same walk every week but we have got all these. We have got four seasons and we have got such dramatic effects. You know in winter you look up at the sky through all these branches. So being able to go through the seasons and see the dramatic impact (Bentley deaf group, non-deaf participant).

Box 8: Being in nature

Photo description: 'Silver birch trees'. **Contribution to health and w-b:** 'Lovely trees, beautiful and dainty leaves'. Birches Valley group AM	**Photo description**: 'Autumn leaves'. **Contribution to health and w-b**: 'Love to come here every season to see all the changes the seasons bring'. Birches Valley group PM.

One participant outlined their deep level of connection to nature:

….you don't know why you like trees but you just like them. But I think it's just in the human nature to sort of, it's got to be genetic, back in your roots kind of thing to sort of … (Shorne volunteer group).

For some participants, experiences of a connection with the woodland environment can act as a catalyst for relaxation and reflection that can have a directly therapeutic affect (see Box 9).

I found it very atmospheric and it allowed you to sort of be in touch if you like with nature and feeling closer to it… I actually laid down on one of the benches and just gazed up into the sky, seeing the trees and it was just perfect, all sorts of memories and feelings were just absorbed and … it just made me feel very peaceful (Birches Valley AM group)*.*

Box 9: Canopy

Photo description: 'Looking up through the trees'.
Contribution to health and well-being (w-b): 'positive – looking beyond'.
Birches Valley group AM

For some participants, trees symbolise a number of important ecosystem services that they provide. For example, some referred to the fact that trees absorb carbon dioxide and give off oxygen.

Well they're also the lungs of the world aren't they (Shorne volunteer group)."

Learning could also be an important component of connecting to nature and actively engaging through, for example, volunteering activities:

You see, for me it's more the mental, cerebral stimulation I get out of it. It's the fact that I want to learn more about the whole environment, the forest ecology. So I strive to find out more, like why has that tree grown like that out of that position, in what soil? Why is there that bird living in that tree? And that's more of what is the enjoyment of nature for me (Shorne volunteer group).

For the volunteers, there was also the contribution they could make to conserving the natural environment and the potential in particular for one participant to gain experience in order to look for employment (Shorne volunteer group). Some participants also spoke about taking time to appreciate these sorts of environments and feeling lucky if they are nearby and accessible.

Participants talked about woodlands being good places for wildlife (see Box 10). For example, dead wood was viewed by a few to be important for wildlife but also could be visually attractive with sculptured pieces of wood lying on the floor. Watching and listening out for birds was especially important for one of the Brodsworth group, and woodlands were particularly significant in this respect: '*woodlands are my favourites I have a passion for everything* [outdoors] *really, but I do like trees'.* Seeing regeneration and natural growth take place provided a

valued contrast to the artificial, or man-made environment, and some felt seeing these on-going processes within nature made them feel safe.

Participants also enjoyed seeing and looking for flowers, mushrooms and fungi (Birches Valley AM group). Participants at Shorne Woods also talked about trees and woodlands as a source of food that could be gathered – walnuts, apples, mushrooms and blackberries were mentioned (see 6.4).

Box 10: Wildlife and biodiversity

Photo description: 'Trees left as they have fallen'. **Contribution to health and w-b**: 'For wildlife - important to me to encourage wildlife - also they are artistic - beauty and good for environment (optimism) that wildlife will be preserved.Beautiful and artisitic and further my understanding of how plants continue to regenerate and thrive – education'. Birches Valley AM group	**Photo description**: 'Fungus on tree stump - purple tones'. **Contribution to health and w-b**: 'All of photos are incidences of biodiversity - process of looking is beneficial to my mood and well-being. But also negative - many habitats were uniform in vegetation due to creation of space for anthropogenic space - over management of woodland'. Birches Valley AM group

4.2.7 Sensory experiences

The sensory experiences gained in woodlands were often described by participants as very important. Figure 5 shows results from our short questionnaire that asked about the importance of sounds, textures, views (seeing) and smells. Combining the 'strongly agree' and 'agree', categories highlights that 'views' (100%) followed by 'smells' (98%), 'textures' (94%) and 'sounds' (90%) played a role in improving people's health and well-being on a woodland visit. It is perhaps surprising to note that texture emerges as equally, if

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not more significant than sounds as a sensory experience that contributes to well-being. Just taking the 'strongly agree' responses, then views (84%) were most important followed by sounds (45%), smells (41%) and texture (20%). One participant stated that the importance of the sensory experience depended on their mood when visiting a woodland.

Figure 5: Importance of different sensory experiences to health and well-being while on a woodland visit (a strongly disagree category is not shown on this figure as none of the participants ticked this option)

Woodlands and people's senses

[Bar chart showing % percentage on the y-axis (0 to 90) for Sounds, Textures, Seeing, and Smells categories. Legend: disagree, agree, strongly agree]
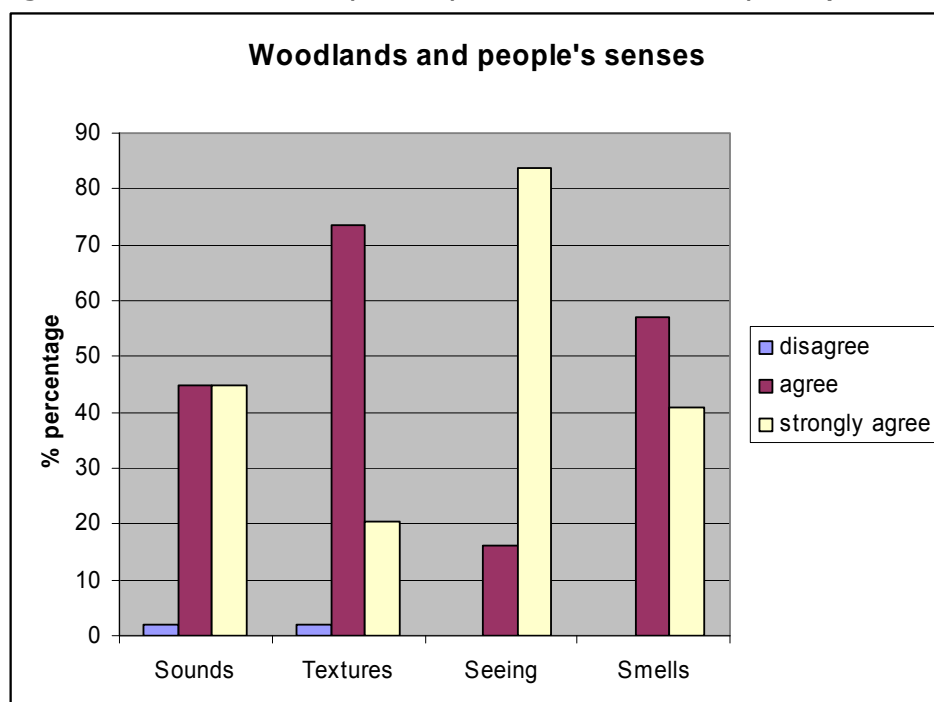
In the questionnaire participants were asked to give brief examples of the views, sounds, smells and textures they particularly enjoyed. There was a broad range of responses:

Views/seeing: 'seeing changes in the seasons', 'views through the area of woodland, exploring, looking', 'I like views of natural woodland with no man made items in sight', 'scenery, woodland, open spaces', enjoy seeing the open spaces and then the contrast of the tightly compacted trees', 'children playing'.
Sounds: birdsong was mentioned by 24 people, 'wind in the trees', 'peaceful', 'quiet', 'rustling leaves', 'crunchy leaves', 'treading on gravel', 'drowning of traffic noise'.
Smells: these included 'smell of the damp woods in autumn', 'smell of pines', 'smell of the rotting leaf litter layer within the wood', decaying bracken', 'smell of trees and grass'.

Textures: 'bark of trees', 'touching sculptures', 'diversity of textures', 'crunchy stones on path then soft grass'.

Participants were also asked to think about sensory experiences of the woodlands whilst they walked and to try to capture these experiences in their photographs and notes. During the focus group discussions, some participants talked about a general heightening of the senses when they were outdoors and particularly in woodlands. This sensory stimulation emerged as a significant positive influence over well-being.

P1:   *It's got to be a combination of all of them* (senses) *because all your senses are heightened by where you are really, be it throwing it down with rain or glorious sunshine.*

P2:   *It makes me feel happy, I feel happier* (Shorne volunteer group).

Many participants took photographs of individual trees, features or objects that they saw during the walks and which they felt were significant. Pictures of sculptures on the sculpture trail at Birches Valley, and of natural objects at Shorne Woods were particularly prominent. However, vistas and views of woodland scenes emerged as important to the majority of participants. Of particular significance in terms of well-being was the ability to view beyond one's immediate surroundings to gain a sense of space and freedom (Box 11). This sense of well-being could also be gained from observing the sky through the tree canopy.

I liked, it's not really anything to do with the trail but I liked lying on the bench and looking up at the canopy, the trees, the sky, it just feels so peaceful (Birches Valley PM group).

Box 11: Views beyond

Photo description: 'Crossed paths'. **Contribution to health and w-b**: 'a good view from high up and a horizon always makes me feel uplifted and free'. Bentley deaf group, non deaf participant	

In terms of hearing, participants particularly valued the sound deadening qualities of woodlands, especially the ability of woodlands to absorb undesirable noise, such as that from nearby traffic.

> *I come to woodlands, I like the fact that obviously because of trees and canopy, sound is dulled from outside and it's nice to get away from having to project noise* (Birches Valley AM group).

Many participants also talked about the sounds of wildlife. Birdsong featured particularly prominently.

> *You don't necessarily see the little birds so much but you do hear them when they do all the mating calls and everything in the summer* (Birches Valley AM group).

Participants agreed that woodlands have a unique range of smells, and that exposure to these was particularly beneficial.

> *I took a picture of the forest floor and it was just, once we got into that thick area of woodland it was that thick, moist, humus smell that you get from the rotting leaves* (Shorne volunteer group).

Woodland smells, for some, also have the ability to transport the imagination and to evoke memories.

> *I think smells are really important because you smell the leaves decomposing and you smell the bracken and you smell the pine, and it sort of takes you to a different place, even though we're busy at work and what have you, come here and get a whiff of that and it takes you back to childhood almost in certain areas…* (Birches Valley AM group).

Many participants talked about 'fresh air', as a particularly pleasant feature of their sensory experiences of the woodland environment.

> *I found it difficult to take photographs of some of the things that gave me enjoyment, like I said to you about the fresh air. I could smell it and I could, and you can't photograph that can you? But that contributes to your sense of well-being* (Shorne volunteer group).

5. Social experiences in woodlands

We were interested in exploring in more detail people's social experiences in woodlands, their perceptions of engagement with others in a woodland setting, and how this contributed to their health and well-being. We encouraged discussion within the focus groups around the issues of socialising and visiting with people (e.g. with family, friends or others), visiting alone and getting away from others, and participating in shared activities such as volunteering. A relevant question was also included in the short questionnaire filled in by each participant.

It is possible that social experiences with others were particularly important for participants in this study as they were joining a regular organised activity (e.g. volunteering, Green gym, Nordic walking) or had responded to an advertisement/flyer to get involved in creating a willow fence (Birches Valley participants only). The deaf group in particular stated they were only likely to visit Bentley Community Woodland in a group when they were supported and with someone who knew the site.

In our short questionnaire we asked to what extent participants felt that visiting with others, meeting new people, or participating in an organised activity was important in terms of their ability to enjoy visiting woodland for their health and well-being. Combining the 'agree' and 'strongly agree' responses shows that visiting with other people was most important (94%), followed by taking part in an organised activity (78%), and meeting new people (71.5%) (Figure 6).

Figure 6: Importance to health and well-being of the social characteristics of woodland visits for participants
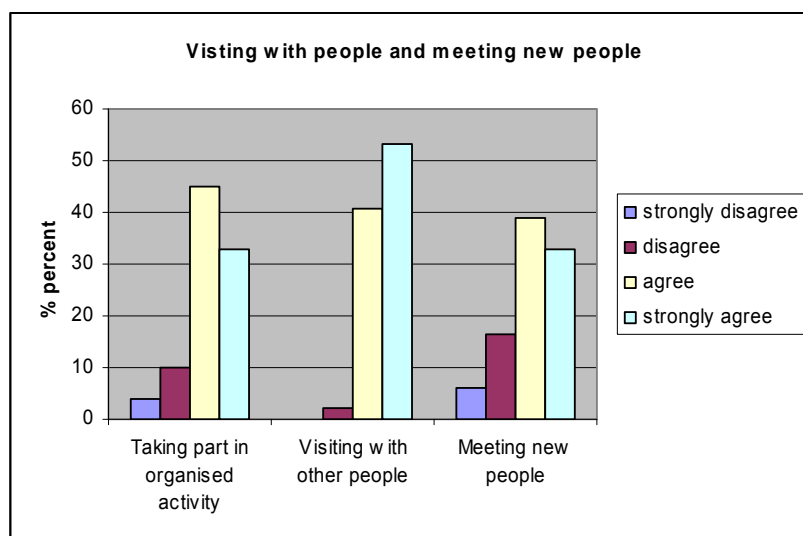
5.1 Enjoying and benefiting from watching others' experiences

KEY POINTS

- Seeing and hearing others having a good time confers well-being
- Enhanced feelings of connection to woodlands and other people
- Seeing what others do can provide inspiration.

There were discussions in the focus groups of the benefits and enjoyment people gained from seeing other people during a woodland visit. This gave many people pleasure, and sometimes enhanced their own experience, making them feel more connected to the woodland, nature and to other people. The sounds others make, such as laughter or children playing can also improve mood.

It makes me smile to see the kids and hear them (Shorne volunteer group).

I like to see the children's area because I like seeing the children enjoy their environment (Shorne volunteer group).

We saw a man and a horse cantering by. It was jolly and makes one feel connected to the community and woodland paths (Bentley deaf group non deaf participant).

Seeing others also inspired some participants. For example, one man was disabled and mainly used a wheelchair but was able to use a tricycle (available for hire at Birches Valley) to ride around the all ability trail (Box 12). Other participants drew inspiration from this. Some participants took pictures of men fishing and in particular of a fisherman on a mobility scooter. One commented:

It made me feel very relaxed and they looked so relaxed (Shorne volunteer group).

The activities people saw others undertaking could also serve to remind them of the enjoyment they had got from doing the same or similar activities:

I took a picture of the guy at the fishing lakes but it was more the fact that he reminded me of my own enjoyment when I go fishing there. It just reminds me of the whole, the thrill of the chase of fishing, the subterfuge of tricking the fish into biting your bait (Shorne volunteer group).

Box 12: Enjoying watching and hearing others

Photo description: 'J. on tricycle'. **Contribution to health and w-b**: 'An inspiration for so many'. Birches Valley AM group	**Photo description**: No comment **Contribution to health and w-b**: 'Murmering of trees, footsteps and voices, laughter and movement'. Bentley deaf group, non-deaf participant

5.2 Socialising with others

KEY POINTS

- Visiting woodlands allows people to be sociable and this is positively associated with well-being

- Visiting woodlands helps people to feel part of society

- People enjoy sharing woodland-based activities and experiences with others

- Woodland visits provide opportunities to meet new people and make acquaintances.

Sharing a woodland visit with family and friends was important for many participants, as well as having the opportunity to meet new people or to stop and chat to other visitors. For example, a couple stated that visiting with their dogs provided opportunities for socialising:

We've got our dogs and we meet a lot of walking dogs and this last 12 months we've made quite a few, I won't say friends but acquaintances, other people walking their dogs and you get to chat to them and we look forward to seeing them…(Birches Valley AM group).

For some participants, visiting woodlands enabled them to be more sociable and to feel more a part of wider society or their local community (Box 13). Taking part in similar activities to other visitors engenders a sense of affinity with them, for example walking, Go Ape, volunteering, or being with children or having a dog. The woodland environment also seemed to act as a space where people feel freer to say hello and speak to others than they might otherwise do in other contexts or environments.

I took a picture of my friend and the people she was talking to because I felt that in terms of your health it's nice to have gone out somewhere for the day with a friend which makes you feel good. But also the fact that you can meet people you don't know and just chat to them, it makes you feel part of society, part of the world. It's a better feeling than just staying indoors on your own (Birches Valley AM group).

When we were on that Go Ape thing you talked to them and you didn't know them but because you'd come to that thing and they've come to it as well so you immediately talked to them. I'm sure we would talk to people if we were just walking around and they were walking around (Birches Valley PM group).

It's like any green space, people say hello, it's like when you're on the moors. It's because you're meeting like-minded people (Bentley Nordic walkers group).

I've taken photographs of groups, not only this group but other people enjoying themselves, and it brings things out in people this type of environment, and there's always someone to talk to isn't there? People seem in a better frame of mind and interact with each other and strangers (Birches Valley AM group).

A few participants also talked about re-discovering places with their grandchildren, spaces they may have visited with their own children and then visited less once their children had grown up.

Box 13: Importance of social interaction and sharing

Photo description: No comment **Contribution to health and w-b**: 'Friends to talk to is good and meeting new people makes you feel part of society'. Birches Valley AM group	**Photo description**: 'Strangers talking'. **Contribution to health and w-b**: 'Forests seem to make people more sociable which is good to see and share'. Birches Valley AM group

5.3 Social norms and expectations

KEY POINTS

- People derive benefits from seeing others engaging with and behaving in woodlands in a positive way
- Seeing the results of certain negative behaviours, such as litter and vandalism, can have a negative impact on experience and well-being.

A key focus of our research was on participants' observations of others' behaviour in woodlands. The results show that positive behaviours observed in others can be seen as beneficial for well-being. Conversely, when others exhibit behaviours that are perceived to be negative, unexpected or inappropriate, this can have an important negative impact on well-being. As such, our research suggests a strong link between woodland visits and a range of social norms and expectations of appropriate, and inappropriate behaviour. For example, one participant talked about the importance of children getting out into woodlands and the availability of family activities to form the habit of visiting the outdoors.

For another, seeing families out together enjoying themselves in the woods meant that parents were taking the important step of introducing children to nature.

I wonder, there are lots of Forest School events and clubs and activities for children and so on, and there are arranged groups and other walking groups…and one of the really useful things I think is to get families out. Some people as youngsters in our generation, they haven't been out as families, they haven't been on their own. They haven't had that opportunity and it's quite good I see more things being arranged for families that are family friendly so that people are confident to do that on their own as they grow older (Bentley deaf group, non-deaf participant).

It's nice to see parents with children walking their children around because they're obviously bringing them up in the right way, aren't they, to do that. I was thinking about wigwams up there in the wood, I've actually seen groups of youths from, they don't tell me what school it was, that they come and dismantle them and then re-make them somewhere else. It's good that this is a good influence on young ones because it's their legacy, isn't it? (Birches Valley AM group).

Although the majority of people's experiences of the behaviour of others in woodlands are positive, our research also highlights some negative dimensions that can act as well-being 'detractors'. For example, at Birches Valley a sculpture had been vandalised and one participant took a photograph of this saying it made her unhappy and that she did not understand why it had been done. Another participant from the Shorne volunteer group said that seeing litter made them angry and argued that people should take their rubbish home with them (Box 14). Indeed litter was highlighted by many participants as representing negative behaviour that people did not want to see and which detracted from their enjoyment of the visit.

Box 14: Views of perceived unacceptable behaviour and good and appropriate behaviour

Photo description: 'Litter'. **Contribution to health and w-b**: 'It annoys me that people are too lazy to dispose of rubbish'. Shorne volunteer group	**Photo description**: 'Families playing'. **Contribution to health and w-b**: 'It's nice to see families playing together in a safe environment, some children in inner city areas may not have access to green spaces regularly'. Shorne volunteer group

5.4 Led and organised activities

KEY POINTS

- Led and organised activities were highly valued by some participants
- Benefits included opportunities to try new activities, learning opportunities, support from an activity leader, orientation and finding your way around, being part of a group, giving the visit a sense of meaning and purpose.

All of the study sites have a programme of organised activities, such as volunteering, nature walks and Nordic walking. The Destination Woodlands (Birches Valley and Shorne Woods) had more regular, organised activities than the Local Community Woodland sites (Bentley and Brodsworth). The Birches Valley participants responded to flyers/advertisements to get involved in making a willow fence for half a day, the other half of the day they participated in our research. These types of taster sessions provide people with the opportunity to try something new and to learn a new skill. They also enable people to try something they had previously thought they could not do (Box 15) (see also 4.1 for discussion of motivations):

I think for me it is about when you've got a formal day it is about trying new things and then I can take those away with me and then I might re-visit either on my own, or I might bring other people and introduce people to the same things. It's about me seeing something new, having different ideas, being a bit

creative, just trying to think differently to my normal everyday life (Birches Valley AM group).

Always fancied coming along and it was an opportunity to do that [Nordic walking] *without spending on poles and finding out you don't like it before buying the poles thought I should try it out* (Bentley Nordic walking group).

For others, participating in led activities provided them with necessary support. Some were concerned about getting lost or not knowing where to go, whilst others lacked the confidence to visit alone. This was particularly the case for the deaf participants, who stated that they would prefer to visit the site with support:

If I come, I have a support worker now 3 times a week, I would come with her or probably with people but I wouldn't come on my own I fear… (Bentley deaf group).

I wouldn't know my way around so, no, I wouldn't [visit alone]. *It's better in a group because you get guided around the woodland* (Bentley deaf group).

I think it's better with other people. J says it's much more enjoyable if you're in a group and also there is individual help available (Bentley deaf group).

For some participants, regular organised activities, such as the Nordic walking, allowed them to schedule the activity more easily into their routine. This meant that their participation was more regular and sustained than it would be if it was left up to them to motivate themselves and arrange each visit alone. For some retired participants, the activity had given them a sense of purpose.

You don't have to think you just turn up (Bentley Nordic walkers group).

It's a certain time and that then become part of your life. But if you just think I'll go for a walk something always gets in the way. You catch something on the radio or there is always something you can do instead (Bentley Nordic walkers group).

There is a degree of accountability, if you say you're coming along, people know you're coming (Bentley Nordic walkers group).

Jeskyns Park started about the time I retired and I came along to an open day and then I thought I'd sign up [to volunteer]*. And D is so good at organising things I've stayed ever since* (Shorne volunteer group).

Box 15: Organised willow fencing making activity

Photo description: 'Willow fence'. **Contribution to health and w-b**: 'an enjoyable mornings work with the artist, Anthony Hammond, who taught us how to weave'. Birches Valley group PM	**Photo description**: No comment. **Contribution to health and w-b**: 'Enjoyed learning it, so positive to mental health and well-being, enjoyable'. Birches Valley group PM

5.5 Complexity of preferences

KEY POINTS

- Some people enjoy meeting / seeing strangers
- Others like to get away from strangers
- Some people enjoy visiting alone
- Many prefer visiting with others
- Socialising and visiting with others can shift the focus away from the landscape and environment
- Seasons, weather, time of day, landscape and woodland age can impact on preferences for isolation and socialisation
- Concerns for personal safety, particularly amongst women around visiting woodland alone.

As the discussion above has illustrated, many people enjoy or need the social element of woodland visits to be able to experience positive effects on their health and well-being; whether this involves visiting with or talking to others or just 'people watching':

…it does make people more sociable…they seem to be able to communicate better in this environment (Birches Valley AM group).

I like people watching, it's good (Bentley deaf group).

For some, such as members of the Deaf Group, their preference was for visiting as part of an organised group, since they are concerned about safety, getting lost and not having support if they visited alone. However, while visiting woodland in this way was seen as a social activity, it did not involve a preference for contact necessarily with others outside the organised group:

Its better the more peaceful it is…otherwise it gets a bit crowded (Bentley deaf group).

Similarly, a number of participants in other groups reported that they are less keen on sharing their woodland experiences with large numbers of other people.

Sites with lots of facilities such as Birches Valley and Shorne Woods attract large numbers of people at certain times, such as weekends and bank holidays and for some this is unappealing. However, it was also noted that large, busy Destination Woodlands such as Birches Valley and Shorne Wood are able to accommodate the needs of those seeking more peaceful 'less social' experiences, because there is enough space for people to 'escape' in and get away from the crowds. For other participants their preference was not to visit busy, managed sites with lots of facilities at all (see also section 3.2).

Within the subset of participants who preferred quieter experiences away from busy crowds, there was also a further subset of individuals with a preference for visiting woodland alone (see Box 16).

I'd prefer to be on my own, doing it for myself (Shorne volunteer group).

I actually like this time of year 'cause the amount of people drops off that you see…and it does allow you to use your imagination a bit more, when you've got the wind whistling through the trees…I go back to any time I want, caveman days…and it gets so atmospheric, especially when it starts getting a bit towards dusk…I don't mind it at all [going out in the woods alone], *it gives your more primitive instincts a chance to kick in and like I say, if there was five or six of you out there, those instincts don't kick in then and there's lots of stuff you don't pick up on and you miss, you're sensing everything that's going on around you* (Birches Valley AM group).

Box 16: Finding spaces to be alone

Photo description: 'Side track away from main route more isolated'. **Contribution to health and w-b**: 'I like to be able to find space where there is only me on a route and feel some isolation at times'. Shorne volunteer group	

One participant observed that visiting alone or visiting with others can impact on and alter an individual's experience, either enabling them to, or preventing them from focusing on the environment:

> I think you enjoy it in a different way when you go with people, or if you're going with too many people and they're talking you can't enjoy it all really because you're having a conversation rather than enjoying the environment. If you're taking children or grandchildren or something, you're concentrating on them so not really enjoying it in quite the same way as on your own or just two people not talking. I think on your own, I prefer it on my own, well, or with you [said to her partner] (Shorne volunteer group).

However, although some participants prefer visiting woodlands alone, many feel much less comfortable, particularly women, be it for safety concerns, or just because of a sense of unease (perhaps related to behavioural norms) about being alone. Many female participants talked about being alone in woodland as daunting and scary, and their feelings of isolation and anxiety, suggesting that woodlands can be symbolic of a potential danger or threat that is hidden from view. The photos taken by participants to reflect these views tended to be of closely planted stands of conifer trees, as in Box 17.

> I never feel safe to walk in here, walking on my own I always feel vulnerable (Bentley Nordic walking group).

> And then as a lone woman walking, I like the tranquility of being able to do it myself but you've always got that feeling of anxiety because there could be someone weird lurking in the woods (Shorne volunteer group).

Yes it is, you feel isolated and as I say when you're on your own, it can be a bit daunting (Birches Valley AM group).

I get quite … well, it's a bit scary when you're on your own, it's quiet for natural surroundings, especially into the fir woods and that, they're still, there's nothing there, it's as if they're dead and you get that quietness and the wind (Birches Valley AM group).

I don't think it's to do with feeling unsafe because I don't, I'm not really a scared sort of person, I just wouldn't enjoy the thought that I was doing it on my own…But going round with somebody, I think makes you feel peaceful and feels better, I feel if I went round on my own, that it would have the opposite effect (Birches Valley PM group).

Box 17: Nature threatening

Photo description: 'Woodland adjacent to pathway'. **Contribution to health and w-b:** 'views into areas make you feel as though surrounded by nature. Potentially a little bit threatening as it is quite a dense vista'. Birches Valley group AM	

One person from the Birches Valley group mentioned a murder she had heard about years previously and how '*it sticks in your mind'*. Another participant from Birches Valley said that she had heard rumours about a panther in Cannock Chase but she thought this was just someone trying to scare her.

One participant also noted that the seasons, weather and time of day could affect preferences:

That sort of depends on the time of year and the time of day and what's happening in the atmosphere. If it's bucketing down with rain and it's getting

dusk, it can be a bit eerie I suppose and it's autumn time…but in Spring it would take on a totally different sort of feeling. So sometimes if you're alone in a forest or a wood, it can be really peaceful and…really good. Other times, in the wrong type of weather it can be a bit spooky and scary and a place you need to get out of (Birches Valley AM group).

Similarly, another participant suggested that visibility, landscape and woodland age and type could affect preferences:

I wouldn't feel totally at ease on my own walking round here [an established wood]*. I do at Jeskyns* [a relatively newly planted community woodland] *because you can see anyone coming* (Shorne volunteer group).

These comments illustrate a range of behavioural strategies that people use in response to concerns about personal safety, namely visiting with others and only going to known sites. It also confirms the importance of familiarity with a particular site in order for some people to feel able to visit alone. For many of those who suggested a preference for visiting woodland alone, their confidence to undertake this activity correlated with their familiarity with the site and with having spent time in the countryside and woodland as a child. However, there were also other participants who stated a preference for visiting woodland with others but who were also familiar with the site and had spent time in the countryside as children. Therefore, whilst these may be important factors in determining why people do or do not feel comfortable visiting woodland alone, they do not in themselves always necessarily explain people's preferences for isolation or socialisation.

6. What is special about trees and woodlands?

One of the key aims of our research was to address the question of whether trees and woodlands display particular qualities that are significant in terms of health and well-being. Some of the evidence which suggests that they do is elaborated on below. These qualities largely relate to the benefits that individuals perceive they can gain from spending time in woodlands (as discussed in section 4) but they are also impacted upon by the physical attributes of the area and how it is managed (as discussed in section 3).

It is beyond the scope of this research to determine whether these qualities are unique to trees and woods. However, our research suggests that the contribution made by trees and woods may, in some respects, be distinct from that made by other flora, habitats, or green space types. It is less obvious whether any of the social benefits provided by woodland visits (as discussed in section 5) can be separated from those afforded by other types of green space.

Our research, and particularly the application of the walking and photo elicitation methods, allowed an analysis of how people perceive the woodland environment. The analysis of perception involves looking at how participants process and interpret data from the senses (things they see, smell, hear and touch). This enables the researcher to examine the various meanings that emerge from people's experiences of the woodland environment and, in the case of our research, to examine if and how these meanings relate to health and well-being. Our research shows that woodlands are richly symbolic environments and that large trees in particular are perceived as the physical expression of a range of meanings and values, many of which were identified by participants as being significant in relation to health and well-being. The detail of the symbolism attached to trees and woodlands is likely to be unique in many respects as compared with other components of green space.

6.1 Security, shelter and screening

KEY POINTS

- Trees can provide shelter and a sense of security
- Screening provides a sense of freedom, as well as safety
- Mature woodland creates an atmospheric sense of natural grandeur.

Some participants referred to the particular qualities of the woodland canopy and how it can engender a sense of safety, security and protection.

> *You can shelter under them when it rains* (Shorne volunteer group*).*
>
> *I think there's strong comparisons with the idea of a tall canopy being majestic, similar to a cathedral in its, in its proportions and the sense of light playing through the leaves and the branches is similar to that of a stained glass window … And it's that sense of security that that roof gives you when you're walking through it* (Shorne volunteer group).

Box 18: Feelings of security

Photo description: 'Mature chestnut tree area'
Contribution to health and w-b: 'Ancient trees takes you back to your hunter/gatherer days and a feeling of safety'.
Shorne volunteer group

As the quote above suggests, as well as providing feelings of security, mature woodland can also create an atmospheric sense of natural grandeur. These qualities are not mirrored by many other types of flora or elements of green space. Box 18 describes how another participant felt that trees contribute to feelings of safety and that this may in someway be connected to our historical roots as a species and our heightened connection with and reliance on wooded landscapes.

Part of the sense of security that trees offer may be linked to their screening qualities, which some participants also feel helps to create a sense of wilderness and freedom:

> *…it's almost that inbuilt childhood thing. I don't know about anyone else but when I was a kid with all my friends we'd go into the woods and the first thing that come to mind was hide and seek and you can just get lost in the woods for hours. It's that ability to just wander off* (Shorne volunteer group).

6.2 History, continuity and seasonal change

KEY POINTS

- Trees are perceived as markers of time
- Old (and large) trees act as a reference point to gain perspective on one's own life
- Their longevity makes trees symbolic of strength and resilience
- Individual mature trees are seen as particularly charismatic
- Woodlands provide markers of seasonal change and the passing of time and a visible connection to natural cycles.

Alongside human beings' historical connections and reliance on trees as discussed above, trees also seem to offer society something unique in terms of their longevity and the symbolic sense of history and continuity that they provide, borne out of an ability to adapt, regenerate and survive (see Box 19).

I took a picture, there's a very ancient tree that had fallen over, but new sprouts coming out the side of it so it's life regenerating itself (Shorne volunteer group).

I think it's that sense of adaptability they have. I took a picture of a yew tree and it's an immeasurably brilliant tree, it virtually can't die. If it starts to rot it sends a root upwards to get rid of all of the rotting substance that's within the crack. They live for ridiculous amounts of years, there's something so noble and charismatic about a big tree (Shorne volunteer group).

Box 19: Longevity of trees

Photo description: 'Variety of trees some mature'.
Contribution to health and w-b: 'Amazing to think how long some of the trees have been there and what they have seen'.
Shorne volunteer group

As the quote above illustrates, individual older trees are sometimes regarded as 'charismatic' and 'noble', with the viewer in some ways imbuing them with human-like qualities, yet at the same time seeing them as symbolic of the fact that humans form only a small part of the natural world and enjoy a relatively

short lifespan. This suggests, as discussed in section 3.3, that while people like complexity in their landscape, trees are a critical element of this complexity.

As was touched upon in section 4.2.5, trees act as markers of time; as a reference point which enables people to gain perspective on their own lives and; as a form of inspiration in terms of their visual presence over years, symbolising strength and resilience:

> *I think it's just sometimes it's envy of how old they are. We're only here for a bit of a time, they've been here for 500 years or so. But they just keep going, the gnarly bits keep coming out from the other bits (Shorne volunteer group).*

Broadleaved trees also act as markers of time through the changes they exhibit in response to seasonal variation - changes in leaf colour (autumn), the loss of leaves all together (winter), new growth, buds and blossom (spring) and full leaf coverage (summer). Many participants indicated that they derived health and well-being benefits from trees' visual representations of the changing seasons, whether in terms of aesthetic appreciation, or because these visual cues enhance a sense of connection with nature, natural cycles and the passing of time.

6.3 Senses and movement

KEY POINT
• Woodlands provide rich sensory experiences of high impact because of scale

The visual representation of seasonal change highlights the sensory experiences which can be provided by trees and woodland. Clearly trees are not unique amongst other elements of green space in their ability to provide sensory experiences, but perhaps what is distinct about trees and woods is the magnitude of that sensory experience, created by the scale of trees as compared with other vegetation types. For example, this is implied by the references to tree canopies creating a 'cathedral' like effect (Shorne volunteer group) and participants' reflections on their enjoyment of gazing up at the canopy.

Sensory experiences have been discussed in section 4.2.7. Box 20 further illustrates the smells that can be evoked during a woodland experience.

Alongside smells, the movement that trees demonstrate was also highlighted by some participants (especially those from the deaf group) as having a beneficial impact on their health and well-being and their sensory experiences.

*I loved walking with K because she spoke about the trees moving and the wind through the trees always yeah. The movement, there was lots of poetic description about movement and things placed in perspective. (*Bentley deaf group, non-deaf participant talking about a deaf adult's experiences).

Box 20: Smells and movement

Photo description: 'Looking up to the top of the tree (pine tree)'. **Contribution to health and w-b**: 'The smell of pine, lovely'. Birches Valley PM group.	**Photo description**: 'Trees and undergrowth'. **Contribution to health and w-b**: 'When you c an smell undergrowth it makes you feel part of woodland'. Birches Valley AM group.	**Photo description**: 'Trees'. **Contribution to health and w-b**: 'Movement in the trees, shades of colour. Trees have always been somethi ng I have liked, they are bold. I lik e the movement of the leaves in the breeze. Makes me feel positive'. Birches Valley AM group.

6.4 Non-timber forest products and materials

KEY POINTS
- Provision of berries, fruit, nuts, mushrooms connects people with nature
- Natural produce benefits individuals nutrionally.

Another area where trees and woodland can make a special and distinctive contribution to health and well-being is through the non-timber forest products (NTFPs) that they can provide, such as mushrooms, fruits and nuts (see Box 21). Various participants in this study raised this issue because of the connection with nature that gathering such produce gave them (as discussed in section 4.2.6) and the direct impact that eating such nutritious products can have on physical health and mental well-being.

C was saying too, it's nice some of the woodlands you go to where you have fruit that grows off the trees… You can take an apple fresh off the tree and actually taste it and that's nice (Bentley deaf group, non-deaf participant talking about a deaf adult's experiences).

I also think of trees occasionally as a source of food because I was saying to them that there's a walnut tree in Jeskyns and…you can get nut trees around. There's a cherry apple, no, a cherry plum tree somewhere near Sole Street Station and there are blackberries, there are lots of blackberries growing around here. I think, because I was born at the end of the war when fruit was rationed and you actually picked whatever was going. So I still think about woodland areas as places to go for foraging…for mushrooms and, well it's a, it's a source of food and nutrition too (Shorne volunteer group).

Box 21: Trees and woodlands as a source of food

Photo description: 'Hawthorne by path'. **Contribution to health and w-b**: 'It makes me think of harvest time, foraging the berries in autumn. It makes me feel delighted at the natural food again in the woods'. Bentley deaf group, non-deaf participant.	**Photo description**: 'Sweet chestnut trees'. **Contribution to health and w-b**: 'Nice when they are ripe to eat, help appreciation of variety of trees'. Birches Valley AM group.

Forest Research

7. Implications and insights

We have found from this and previous research that people attach a wide range of meanings to trees and woods, have a range of experiences and gain a variety of benefits that can change with different activities, as well as the social character of visits. The links between personal, social and physical characteristics that we have identified in this report do not fall into neat categories or have distinct boundaries; the context of a particular visit to a specific woodland is important in terms of people's motivations and expectations of benefits. This variety of activities, infrastructure, sites etc. makes it difficult to be prescriptive or develop a formula/framework for what is required in terms of future woodland management. However, there are some key issues that are raised (below) by this research concerning management, policy, organised programmes and future research.

This study identifies a range of cultural goods/benefits (a key part of the concept of ecosystem services identified in the UK National Ecosystem Assessment (Church et al. 2011 Chapter 16)) that different groups of people can gain from accessing woodlands. Woodlands are multi-functional and also synergistic satisfiers i.e. they can satisfy a number of different needs at the same time (Church et al. 2011). This research illustrates that the concept of affordances mentioned in Section 1 (Heft 2010) can be useful in studying the dynamic relationships between people and woodland. We have outlined how particular environmental features can afford opportunities for different groups. For example, car parks, toilets and easy access trails can allow access for those who are disabled, older and/or less physically mobile. Play areas provide opportunities for children to play and for parents to relax. Trees and woodlands can afford the chance to reflect on nature, become attuned to seasonal change and to connect with the past.

7.1 Management of the resource

This research has highlighted a number of important issues to be considered by those responsible for woodland sites where a key management objective is to encourage access and to deliver well-being outcomes to the public.

1. A key message from this research relates to the need to understand the access requirements of current and potential users of a given site. People with health and mobility-related problems and elderly people have specific requirements in terms of access infrastructure and facilities on-site in order to make a visit feasible. **Time and resources should be allocated to gathering information about users and their requirements** and this should be used to inform site design and planning.

2. There is often a tension between those who require a high level of management and those who visit woodlands to get away from signs of human interference in the natural environment. **For large sites, time and resources should be allocated to the careful zoning of managed and unmanaged areas**, so that a range of requirements can be catered for.

3. Views and vistas are universally popular. People particularly value the ability to see beyond their immediate surroundings to give them a sense of place and space and in order to orientate themselves. **This underlines the importance of integrating these issues into spatial planning and design decisions governing access routes, planting and woodland management**.

4. People derive important benefits from seeing wild flora and fauna. **Managing woodlands successfully for wildlife can be an important means of achieving well-being benefits for people**.

5. Visual signs of neglect, vandalism, litter and other forms of anti-social behaviour are universally disliked. **It is important to deal with these quickly and effectively to minimise their impact**.

7.2 Implications for policy

This study has highlighted a number of issues which are pertinent for forest policy-makers in considering the delivery of health and well-being benefits from peri-urban woodland. Furthermore, these findings may also be relevant to other types of woodland beyond the peri-urban or urban context.

1. Peri-urban woodlands clearly contribute to self-reported health and well-being in multiple ways through the provision of various benefits, experiences and ecosystem services. Therefore, forest policy should continue to **promote the creation and management of peri-urban woodlands for amenity and recreation purposes and ensure that access to woodlands is easy and welcoming**.

2. There is no single type of woodland that will meet the different preferences and needs of all users. In fact one woodland may not always meet the needs of the same individual as preferences change and are dependent on many different factors such as life stage, time of year, who they are visiting with (if anyone) and what they want to get out of their trip. Therefore, forest policy-makers should **avoid being too prescriptive or mainstreaming particular types of woodland, engagement projects or facilities across the board**. Instead, policy-makers should look to

support a variety of woodland experiences and site types, ranging from well-managed areas with lots of facilities and high numbers of visitors to quieter, more 'natural' sites where people can escape and be alone if they choose. It will be important to engage with visitors and also to utilise the knowledge of local staff who will have a good understanding of who visits and the activities people undertake.

3. Many woodland visitors appreciate complexity in the landscape and enjoy experiencing trees and other types of green space in one visit, as well as seeing a variety of tree species. Policy-makers should ensure that through forest policy they **support the creation and management of varied landscapes** to maximise the health and well-being benefits visitors enjoy.

4. As a result of a government spending review and new government policy, the role of the Forestry Commission (FC) is changing, particularly in England. Rather than concentrating efforts on the delivery of health, well-being, tourism, leisure and education interventions themselves, the FC is evolving into an organisation that will facilitate and enable civil society and the private sector to deliver more. Insights from this study highlight the importance of the benefits of peri-urban woodland for health and well-being and these could continue to be a key consideration even though the focus of FC policy-makers in England may be changing. **Where the FC engages less it could encourage others to engage more, particularly in terms of actively supporting access through organised and led woodland activities.** Such activities have been shown to be a critical factor in enabling the health and well-being benefits of woodland to be promoted and experienced by a wider cross-section of society than would otherwise be the case.

7.3 Delivery of organised social activity programmes

All of the sites in this study run programmes of organised event and activities. Some of these are led by site staff, such as rangers, and others are led by staff from other organisations that are using these public sites to work with a range of groups and meet various organisational objectives. This study highlights some key issues for the development and delivery of organised programmes that specifically try to engage a range of individuals and groups.

1. This research highlights **the importance of led and organised activities and events**, particularly for those who do not want to visit woodlands alone, are less familiar with using woodlands, have concerns about getting lost, and for those who are keen to meet new people or to try out different

activities. Consideration needs to be given to which sites should run these programmes as it will not be possible at all sites.

2. **Organised activities can also be particularly critical for reaching people at different life stages** e.g. children with their parents, those who are retired and looking for structure in their lives, those who are disabled, or unemployed people. **Careful targeting of activities and events may be needed to reach and attract particular groups**. An understanding of the communities that live around a site is important, as well as the needs of tourists at large/popular sites.

3. **Events can attract new woodland users**, those who want to try a different or new activity and visitors from further afield. **Regular activities can attract those who want to visit a wood on a regular basis and become more familiar with that woodland** e.g. to exercise as this may help them to stick with a physical exercise regime over a longer period than if they undertook the exercise alone. Regular volunteering can enable participants to feel they are making a meaningful contribution over time to protecting or enhancing the woodland environment.

4. It is clear that some **participants in this research undertook a range of behavioural strategies in order to enable them to access the sites and gain health and well-being benefits** (see also 7.5). For example, women concerned about being alone only visited with friends or family. Those who were concerned about getting lost or needing support would only visit with others (e.g. the deaf participants). Those who wanted to visit alone to relax and de-stress focused on reaching quieter parts of the woods, while those who wanted to socialise ensured they came with friends or family or joined an event or activity to meet others. These strategies can potentially affect how often people visit woods i.e. waiting for friends to be free in order to visit a wood together. Therefore information about users and their requirements is needed to organise successful activity programmes that meet different user's needs.

5. The size of the four woodland sites in this study and the variety of the landscapes at the sites allows for a range of sensory experiences, and enables people to feel connected to nature. The sites are of a size that can absorb a number of visitors and activities without seeming overcrowded. Organised events and activities can be developed on sites such as this to maximise this potential and utilise this variety to provide opportunities for different age groups and people from a range of backgrounds. **Effectively targeted communication of these opportunities is critical**.

7.4 Future research needs

There are a number of important future research areas that could build on the work undertaken in this study.

- The specific or unique benefits of trees and woodlands should be investigated further to determine how these relate to different groups of people across the UK.
- Further exploration of the most effective forms of intervention to promote the health and well-being benefits of urban and peri-urban forestry in urban communities in general, and amongst different urban social groupings more specifically (such as those with mental health problems) would be welcome.
- Investigation of the societal benefits (such as health and well-being) of utilising urban and peri-urban woodland spaces for the creation of social/community enterprises is needed.
- Gaining a better understanding of the relationship between individual street trees and health and well-being in the UK context would be useful.

7.5 How this evidence fits with other research

There is an existing body of evidence that outlines the range of health and well-being benefits people can gain from accessing woodlands (Croucher et al. 2007; Bell et al. 2008; O'Brien et al. 2010; Morris and O'Brien 2011). For example, previous research has highlighted the importance of the restorative capacity of contact with the natural environment (Kaplan 1992; Hartig 2008). Feelings concerned with the importance of connecting to nature may in part be explained by the biophilia hypothesis (Wilson 1984), which posits that we have an innate genetic desire for contact with nature due to our evolutionary history. Our research adds to and compliments much of this existing research.

Heft (2010) suggests that different environments can have 'motivating qualities' as well as afford different opportunities for various groups. The sculptures at three of the sites afforded opportunities for some of the participants to reflect, and sometimes remember childhood experiences or stories. The play areas afforded a range of opportunities for children to climb, play, be physical and use their imagination; this was also found in the Active England sites that created new play infrastructure (O'Brien and Morris 2009). Evidence from previous research has identified the benefits that can be gained from particular organised programmes of activity, such as volunteering or Forest Schools (O'Brien and Murray 2007; O'Brien et al. 2010). Previous research also highlights that social engagement in woodlands is often an important dimension of a visit and that getting involved in an organised activity is good for socialising. This is particularly

the case for those who may not want, or do not have the confidence, to visit alone (Morris and O'Brien 2011).

A current government focus is how to influence and potentially change people's behaviours so that they might adopt more sustainable and healthy lifestyles. A recent House of Lords Select Committee explored interventions that tried to change a range of behaviour (such as reducing smoking) and made recommendations about what approaches might be most effective (House of Lords Science and Technology Select Committee 2011). The report by the Committee suggests that effective policies need to use a range of interventions, and that improvements are needed in monitoring and evaluating the impact of interventions that try to change behaviour. The Forestry Commission is interested in how it can influence and change behaviours by encouraging and facilitating more people to access and use woodlands for a range of benefits such as health, education, and skills development. Recent research into barriers to accessing woodlands (Morris et al. 2011) has shown that women, people aged over 55yrs, disabled people and people from low income families and low social grades (C2DE) are most likely to see poor maintenance, lack of facilities and poor access infrastructure (e.g. paths and car parks) as significant barriers to access. This research outlines that mechanisms such as good infrastructure and facilities, programmes of activities and events, and catering for a variety of preferences through the management of diversity and complexity in woodland sites can provide opportunities for a broad range of visitors. This has been found in other studies SERG has undertaken (O'Brien and Snowdon 2007; Morris and O'Brien 2011).

There are a range of factors that enable, mediate, or restrict the realisation of well-being benefits from trees, woods and forests e.g. well-being is the outcome of different configurations of and interactions between the physical woodland or tree resource, governance structures and processes, the characteristics of individuals or groups of beneficiaries and different activity and engagement types. In this research on peri-urban woods and health and well-being we have explored the physical characteristics of the forest, the characteristics of participants, the types of activity they undertake and the health and well-being benefits gained from use and engagement with the resource. We have put this within a governance context of who owns and manages the sites, and outlined some of the infrastructure and organised activities that are made available. We have suggested that the sites studied can be categorised into two groupings: 1) Local Community Woodlands and 2) Destination Woodlands (see section 2.1). This grouping can aid site managers in thinking about whether visitors to their sites will be local, or travelling long distances, how long they might spend on site and the frequency of their visits. The monitoring and engagement of Quality of

Life research provides more details on these issues for two of the four sites in this study (Bentley Community Woodland and Birches Valley) (Morris and Doick 2009a and 2009b).

Some of the findings of this research are potentially generalisable to other similar Local Community and Destination Woodland sites of a reasonable size that run events and activities and offer a range of infrastructure facilities. Similar findings of the wide range of benefits and social experiences were identified in the Active England evaluation (Morris and O'Brien 2011) and Neroche Landscape Partnership evaluation (Carter et al. 2011), as well as the Quality of Life study (Morris and Doick 2011). Generalising to similar groups of people is also relevant, for example women were generally wary about visiting unfamiliar woodlands alone and this has been found in previous studies (O'Brien 2005 and 2006; O'Brien and Morris 2009).

7.6 Reflection on the methods and approach used

The use of photo-elicitation was an effective methodological approach to encourage participants to think about how the woodland sites and their physical characteristics impacted (positively or negatively) on their health and well-being. Participants took a very broad range of photographs and outlined what these scenes represented and meant to them. Photo-elicitation can either involve participants looking at photographs that researchers have taken or participants can take photographs themselves. The method of asking participants to take photographs can be used effectively to elicit information and provoke reflection that may not be easily stimulated in a standard interview or focus group (Dandy et al. 2011). Interviews and focus groups are often combined with photo-elicitation to explore in more detail the specific meanings associated with different photographs. We argue that undertaking research *in situ* in different woodlands is important to capture people's specific experiences and perceptions, rather than asking them to recall previous visits to woods. This is why we visited sites and walked around them with the participants.

All of the sites were reasonably large and had a range of facilities; this was particularly the case for the Destination Woodland sites of Birches Valley and Shorne Woods. Three of the four sites had some sculptures or sculpture trails. Many of the photographs, particularly at Birches Valley, were of the sculptures as the site walk we undertook with participants was mainly along the sculpture trail. Therefore, we needed to take account of the presence of the sculptures in the analysis as the participants were drawn to take pictures of them. The sculptures seemed to play a role in enabling participants to reflect on previous experiences or evoked memories. Some participants did not find it easy to express themselves by taking photographs and making comments about how that linked

to their health and well-being. Others wondered how to take pictures of smells and sounds that they enjoyed, e.g. things that were difficult to represent visually but were nonetheless an important part of their woodland experience. A few people were nervous as they had to use cameras that they were not familiar with, and some felt pressurised by the need to take good photographs.

As part of the research we wanted to include both users of woodlands and non-users. The previous monitoring and evaluating of the contribution of woodlands to Quality of Life study involved a telephone survey of those living within the catchments of Birches Valley and Bentley Community Woodland and participants were asked if they were willing to be involved in further research. We re-contacted those on the list who were identified as non-users or infrequent users of the woodlands and who were of poorer health or of lower socio-economic status. However the recruitment was not successful and none of the participants were willing to get involved in this study. Potentially this was due to lack of interest in visiting a woodland, as participants were non-users or infrequent users of woodlands. Perhaps committing to a 2-3 hour visit was not something they were prepared to do. Reaching non-users is always difficult and it may be easier to focus research not in a woodland but in the communities were people live. However, identifying these groups is potentially a difficult task. Involving people who are part of an existing group (e.g. the Nordic walkers, volunteers, Green gym participants) is a useful way of gaining participants for research. These participants will often be regular visitors to the sites and/or woods/green spaces in general and this needs to be taken into account in terms of the health and well-being benefits gained; as previous research suggests those who visit woodlands more frequently tend to gain more well-being benefits than those who visit infrequently (O'Brien and Morris 2009).

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Appendix 1: Protocol for photograph and discussion sessions

- **Introduction**: Thank you for coming. Introduce self, colleague, outline we are from FR which is part of FC and we are involved in a research project. The overall focus of the research is to explore people's experiences of the relationship between urban/peri urban trees and woods and health and well-being.

- What we'd like to do today is to take you for a walk for about 1 hour and then come back to hold a discussion. We will then have lunch set up for you at …….

- **Outline our approach to the day in more detail** – Ask people to take any photographs while on the walk of elements/factors within the wood that they feel contributes in some way, however small or large, to their health and well-being. (We are interested in your views so please do not worry about what other people are doing)

- Ask them for each photo to write down: In two brief sentences: 1) what you have taken a photo of and 2) how you think it links to your H+WB if at all or impacts on it negatively?

- An example might be taking a photo of a footpath and saying it contributes to my H+WB by enabling me to be physically active or a poorly maintained footpath is not good for my well-being as it hinders me being able to get around the site.

- We have cameras for all of you and a clipboard and paper to write down info about each photo. We have spare paper/pens and batteries if you need just ask me or my colleague. The cameras should be easyish to use please ask if you have problems.

- Outline that people are free to say they do not want to participate or can leave at anytime. We would like to record the conversation later indoors and use the recording for research purposes, but nothing you say will be attributed to you personally. [check this is okay]. Fill in consent forms.

Indoor session
Ask people to introduce themselves and say where they live (town/village). Ask for permission to record again.

Overall Question: 'What are the aspect/elements of this site that you think impacts positively or negatively on your health and well-being?'

Start this session with a general discussion about the photographs they took:

- Can I start by asking you what sort of photos did you take – probe why they took them? Were the photos mainly positive or negative? Did you find the task easy/difficult – if so why?
- What if anything did you identify from the photos you took as unique to trees/woods that contributes to your H+WB or what about trees/woods can negatively impact on your H+WB
- What is relevant to wider greenspace/countryside
- What is the relative importance of different aspects of woodlands – visual (what you see), sound (what you hear), smell (what you smell), texture (textures you see or feel by hand or underfoot) to your experience and any impact on your health and well-being.

I want to ask about other woodland characteristics that maybe good or not good for H/WB:

- how important is the size of this site, its quality and the facilities – how does this affect your experience.

Probe each
- Proximity / ease of access
- Size
- Quality / maintenance
- Facilities

Do you need different things for different activities or visits in terms of size/proximity/quality/facilities?

'What are the (social and personal) things that enable you to use this site for health and well-being/other benefits?'

- Does it make a difference who you visit the site with? Are you usually visiting with friends/family/others/alone

- How important are these organised activities? Have you met new people, does this motivate you to attend

- Who used woods in general as a child (g et show of hands) – does that make a difference or not to how comfortable you feel using them as an adult (does it give you confidence, do you feel familiar in woods)

- How do/would you feel about visiting this site alone

- What specifically enables people to use this wood and others – it's nearby, organised activities, having dog to walk, going with someone else/company, familiarity with site, meeting new people, personal motivation

'Do you meet people when you visit this site?'

- Did you know any of the other people in this group before participating in this activity today?

- Do you visit this site for more informal visits? If so do you ever speak to others or say hello to others as you pass by?

- Does this contact have an impact on your visit (on your well-being, make it a more pleasant day). If so in what way?

Is there anything else anyone would like to say about the impacts of trees and woods on their H+WB.

Thank you and close
Fill in short questionnaire asking for demographic details

Appendix 2: Demographic questionnaire

Group: …………………………………Date:……………………………..

Location:………………………

Your Initials ………..

Please can you tick the following questions appropriately.

The following improve my health and well-being when I visit this wood (please put an 'x' in the box that is most appropriate)

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ not relevant
Sounds that I hear	☐	☐	☐	☐	☐
The textures I see and or touch	☐	☐	☐	☐	☐
The things I see	☐	☐	☐	☐	☐
The things I smell in the wood	☐	☐	☐	☐	☐

Can you give a couple of examples of what you enjoy or do not enjoy from the list above?

1………..

2……….

The following enable me to enjoy visiting this wood for my health and well-being (please put an 'x' in the box that is most appropriate)

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know/ not relevant
Taking part in an organised activity	☐	☐	☐	☐	☐
Visiting with other people (friends or family)	☐	☐	☐	☐	☐
Meeting new people	☐	☐	☐	☐	☐
Familiarity with this wood or woodlands in general	☐	☐	☐	☐	☐
Having visited woods as a child and therefore being used to visiting woods	☐	☐	☐	☐	☐
Getting away and being on my own	☐	☐	☐	☐	☐

Thank you again for participating in our research. It would help our analysis if you were prepared to answer the following additional questions about yourself. None of the questions are compulsory.

Sex: ☐ Male   ☐ Female

Age: ☐ 16-24   ☐ 25-34   ☐ 35-44   ☐ 45-54   ☐ 55-64   ☐ 65-74   ☐ 75+

We are interested to know how far people have come to visit. Please provide the postcode where you

live: ....

Are you? (tick main occupation):
☐ Working as an employee   ☐ On a government sponsored training scheme
☐ Self-employed or freelance   ☐ Working paid or unpaid for your own or your family's
business
☐ Retired   ☐ Doing any other kind of paid work
☐ A student   ☐ Looking after home or family
☐ Long-term sick or disabled? ☐ Other *(please specify)*:...

What is the occupation of the chief income earner in your household? (If the chief income earner is

retired, what was his/her former occupation?) *Please state and tick the appropriate box*

....
☐ Armed forces/Police/Prison Services/Fire Brigade/Church ☐ Computing

☐ Farming   ☐ Other Non-manual
☐ Director/Manager   ☐ Manual - skilled
☐ Professional   ☐ Manual - unskilled
☐ Foreman/Supervisor   ☐ Apprentice/trainee
☐ Administrative   ☐ Student
☐ Teaching/Education   ☐ Unemployed
☐ Medical   ☐ Retired
☐ Self-employed; **roughly how many OTHER people are employed by the business? Is it:**

    ☐ Five or more staff
    ☐ 1-4 staff
    ☐ No other staff
    ☐ Don't know

What is the approximate total annual income in your household?

    ☐ Under 10K (£10,000)   ☐ 21-30K   ☐ 51-75K
    ☐ 10-20K   ☐ 31-50K   ☐ 75K +

How would you describe your ethnic background? *(Please tick one box only)*

☐ White   ☐ Mixed / multiple ethnic groups   ☐ Black / African / Caribbean / Black British

☐ Asian / Asian British   ☐ Other ethnic group *(please specify)*.................................

Are you a registered disabled person?   ☐ Yes   ☐ No

Are your day-to-day activities limited because of a health problem or disability which has lasted, or is expected to last, at least 12 months?

☐ Yes, limited a lot   ☐ Yes, limited a little   ☐ No

With your permission, we would like to be able to re-contact you for research purposes in the future. This would involve giving us your contact details and access to your survey responses. However, these would be treated <u>in the strictest confidence</u> and would only be used to ensure that the right people are contacted for any future research studies. All data would be transferred and stored securely and not used for any other purpose or shared with any other organisations.

If you would like to be re-contacted, please provide your contact details:

Name:.

E-mail:.. Tel:...

THANK YOU!   Please return this form to the activity organiser

Appendix 3: Camera forms

CAMERA.......

Your initials……..

Please take photographs while on this walk of any elements within the wood that you feel contributes in some way, however small or large, to your health and well-being (positively or negatively). (We are interested in your views so please do not worry about what other people are doing). Please answer two questions for each photo: 1) what you have taken a photo of, 2) how it contributes or not to your health and well-being. Please take no more than 10 photographs.

Photo 1
What have you taken a photo of?
………
………
……………………………………………………………

How do you think it contributes (negatively or positively) to you health and well-being?
………
………
…………………………………………………………

Photo 2
What have you taken a photo of?
………
………
……………………………………………………………

How do you think it contributes (negatively or positively) to you health and well-being?
………
………
……………………………………………………………

Photo 3
What have you taken a photo of?
………
………
…………………………………………………………

How do you think it contributes (negatively or positively) to you health and well-being?
………
………