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Woods and Forests in British Society:progress in research and practice

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Table of Contents

Introduction

When we first started to plan this conference our aims were simple. We wanted to provide an opportunity for social researchers in forestry to meet, discuss their work and feel that they were part of a research community. The volume of social research and the number of researchers has greatly increased since our last conference in 2001 in Cardiff[1]. We felt that the time was right to bring people together to explore current research questions and the approaches being used to answer them.

What pleased us especially was the interest shown not only by researchers, which was very welcome but largely expected, but also by forestry practitioners. We could not have had a clearer indication that social science is valuable and is useful to the wider forestry community. It also indicates the nature of the problems that forest managers face today. Forestry traditionally has very close relationships between research, policy and practice and it seems clear that social science has been adopted by the sector within this tradition.

Reflecting on the conference after it had finished we contrasted it with similar events in other landed sectors. What seems to make forestry singular is that the researchers seem to be much less observers and much more participants. They seem to be researching something that they feel they are a part of. Perhaps this is because even the most theoretical social scientists respond positively when they feel that their research will be taken up and used quickly and with visible impact. Ownership and institutional structures in forestry make this possible in a way that is difficult to envisage in agriculture. Another cause for reflection is that the distinctions that social science makes between research paradigms and methodological approaches are of little interest to practitioners. Whilst this can help reduce barriers to mixed-method and to interdisciplinary research it places particular demands on the researchers. On the one hand they must maintain rigour and make a case that withstands the critical judgement of their peers whilst on the other they have to communicate often complex concepts to folk who want simply to make a decision and get something done.

Our conference demonstrated that social scientists in forestry are up to the task. I was deeply gratified by the quality of the research, the presentations and by the number of young researchers who today see forestry as a research topic that is relevant to a career in mainstream social research. This is a direct result of the high standards that we have all set ourselves and is a testimony to the flexibility and openness to new ideas of the forestry profession in the UK and Europe.

[1] (see here http://www.forestry.gov.uk/pdf/treesarecompany.pdf/$FILE/treesarecompany.pdf)

My thanks go to all the members of the organising committee but especially to Dr Ambrose-Oji whose hard work and intelligence made it such a success.

Marcus Sangster, Land Use and Social Research, Forestry Commission

Well-being, social values and woodlands

1. Woodland freedoms and individualism: nature-situated self-development as a precursor to Cultural Service creation

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Introduction

The 'ecosystem services' approach has emerged as a framework to align UK natural resource management and governance (Defra, 2007), with the intention of reducing damage to ecosystems (Millennium Ecosystem Assessment, 2005a) and improving the quality of life (Defra, 2010). This approach presents the socio-cultural services obtained from ecosystems through the use of two closely related terms; namely the *Information Function* (de Groot *et al*., 2002; Chiesura and de Groot, 2003; Chiesura, 2004), and the *Cultural Service* (Costanza *et al*., 1997; Millennium Ecosystem Assessment, 2005b; Fiedler *et al.*, 2008; Martín-López *et al.*, 2009).

This paper outlines a need for further study in the area, offers a brief overview of selected results from ongoing doctoral research on the recreational uses of woodland, and introduces an alternative conceptual framework for understanding the socio-cultural services provided by ecosystems. Interim conclusions from the study are discussed, which help to reveal the unique experience a woodland provides for many people. Conclusions from the study will endeavour to explain the unique role of a woodland experience, ultimately contributing to the development of a theory for cultural services within the ecosystem services approach.

Within this framework then, an Information Function refers to ecosystems' provision of 'space and a suitable substrate for many human activities', which offer '… opportunities for reflection, aesthetic enjoyment and spiritual enrichment' (de Groot *et al*., 2002: 106). The alternative Cultural Service term conceptualises this phenomena as 'non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences' (Millennium Ecosystem Assessment, 2005a: 40). Published works have expanded these Information Function/Cultural Service (IF/CS) definitions through further sub-categorisation, as detailed in Table 1.1 (NB blue lines were added by the authors to indicate convergent themes).

Table 1.1 Comparison of Information Function/Cultural Service (IF/CS) sub-categories as described by different ecosystem services approach published frameworks. MA = Millennium Ecosystem Assessment

Cultural Service		**Information Function**	
MA (2005b, Ch. 17)	**MA (2005a)**	**de Groot *et al.* (2002)**	**Chiesura (2004)**
Knowledge systems	Knowledge systems	Science and education	Norms and values
Education values			
Aesthetic values	Aesthetic appreciation	Aesthetic information	Freedom
Inspiration	Inspiration	Artistic and cultural	
Cultural diversity	Cultural identity		Cultural identity
Sense of place			
Social relations			Social contact
Cultural heritage	Heritage values	Spiritual and historic	Self-development
Spiritual and religious value	Spiritual services		Ideals
Recreation and tourism	Recreation and tourism	Recreation	Recreation Psycho-physical health

Various problems arise when attempting to apply the IF/CS concept in a systematic way. Published accounts of Information Function as an independent category (see Table 1.1) contain subtle differences in terminology, which frequently overlap, offer little rationale and references for the selected grouping and terminology, and do not account for the part played by separate ecosystem components and underlying processes (as described for other ecosystem services). There is a lack of studies specific to the IF/CS topic, while the absence of a unified methodological approach prevents the comparison of different study results. Moreover, IF/CS is thought to be experienced by individuals (e.g. inspiration), as well as groups (e.g. community identity associated with a specific land feature), and is also recognised as a phenomenon at a macro-level (e.g. economic contributions from eco-recreation), making accurate identification and valuation of IF/CS a challenging task.

The aim of this study is to clarify and enhance the usability of the IF/CS academic concept through the following objectives:

1. To review the current state of IF/CS knowledge.
2. To identify evidence of IF/CS in a semi-natural setting.
3. To identify contextual variables influencing IF/CS in a semi-natural setting.
4. To deliver conceptual improvements to IF/CS theory.

The body of research that relates to IF/CS is substantial yet fragmented, and is rapidly expanding across a broad multi-disciplinary base. An expanded literature review (including works from environmental psychology, sociology of place, human geography, natural resource management and ecological economics) suggests at least 12 subject areas associated with IF/CS which highlight multifarious elements relevant to humans' experience of nature (Table 1.2). It is observed, however, that these publications do not (in the majority of cases) present variables in such a way which indicates *causality*, since there is no single factor that can be attributed to a specific IF/CS-type phenomenon. Instead, a range of causes which vary in quantity, frequency and quality are perceived to interrelate, creating different and unique forms of ecosystem experience.

Table 1.2 Examples of literature associated with Information Function (IF) and Cultural Service (CS) grouped into 15 broad areas

IF/CS related area	**Published literature**
Nature and well-being	Dodds (1997); Lees and Evans (2003); Tzoulas *et al.* (2007)
Mental restoration	Hartig *et al.* (1991); Kaplan (1995); Macnaghten *et al.* (1998); Berto (2005); Hansmann *et al.* (2007); Chang *et al.* (2008); Korpela *et al.* (2008)
Therapeutic landscapes	Townsend (2006); Yamada (2006); Velarde *et al. (*2007); English *et al.* (2008); Korpela *et al.* (2008); Kingsley *et al.* (2009)
Mystery and spiritual symbolism	Burgess (1995); Williams and Harvey (2001); Collar (2003); O'Brien (2004); Millennium Ecosystem Assessment (2005)
Social and civic benefits	Burgess (1995); Coley *et al.* (1997); Bell *et al.* (2004); Kuo (2003); Morris and Urry (2006)
Economic role	Martin and Sunley (2007)
Educational role	Macnaghten *et al.* (1998); Wells (2000); O'Brien (2004); O'Brien and Murray (2006)
Individual idiosyncrasies	Buttimer (1976); Ohta (2001)
Connectedness to nature	Mayer and Frantz (2004); Schultz *et al. (*2004); Frantz *et al.* (2005)
Socio-cultural	Douguet and O'Connor (2003); Sanesi *et al.* (2006); Han (2007)

interpretations	
Preference/scenery types	Kaplan (1989); Burgess (1995); Coley *et al*. (1997); Lohr and Pearson-Mims (2006); Han (2007)
Role of biodiversity	Collar (2003)
Specific sensory experience	Ulrich (1984); Burgess (1995); Macnaghten *et al.* (1998); Williams and Harvey (2001); Bell *et al.* (2004); Yamada (2006)
Disservices and perceptions of risk	Burgess (1995); Travlou (2003); Mornement (2005); O'Brien and Tabbush (2005); Agbenyega *et al.* (2009)
Function trade-offs	Collar (2003); Crosby (2003); CABE (2005); Newton and Freyfogle (2005)

Notably, it has been found that prior acquaintance with the environment, particularly childhood contact (Louv, 2006), and perceived connectedness to nature (Mayer and Frantz, 2004; Schultz *et al.*, 2004), impact upon current experience and actions towards the natural environment. Additionally, a growing literature on mental restoration (see Table 1.2) offers a definition of environmental conditions leading to this particular psychological state. Generally, however, due to the nature of the general IF/CS topic traversing, as it does, both psycho-social and ecological–biological worlds, it is observed that the philosophical and paradigmatic bases of research are fundamental to study design, presentation of results and the emphasis of particular features within analyses. The treatment of IF/CS-relevant findings would therefore benefit from a conceptual structure, with which to align and cross compare information.

Methodological and epistemological statement

For the purposes of this study, the IF/CS phenomena has been understood to be an ecosystem service which is the result of an external natural environment affecting the internal state of a person who has come into direct or indirect contact with that environment. This suggests that an IF/CS study should address two issues: the actual phenomena of experience, *in situ*, as reported by visitors, and an account of the context for that experience, i.e. factors which have led to the natural environment which part-creates and supports the IF/CS experience. The study recognises that individuals construct experience according to their own particular internal mechanisms, but that the physical world has substance and relevance which transcends meaning as attributed by individuals.

Results

Context for IF/CS experience

The study reported here is taking place in Aspley Woods and Heath (Bedfordshire/Buckinghamshire), situated on a geological formation named the

Greensand Ridge (Landscape Character feature JCA 90). The site has been subject to geomorphological processes, which have deposited a layer of Lower Greensand soil and Fullers Earth throughout the area. These in turn have influenced a range of ecological habitats (see Table 1.3) and subsequent land use activities such as mineral quarrying and commercial forestry. The resultant undulating topography and dense land cover interspersed with open heathland have made the site ideal for a range of educational, recreational and sporting activities, including downhill mountain biking, bmx dirt-ramp jumping, orienteering, Nordic walking, remote-control car racing, horse-riding, off-leash dog-walking, and incidences of illicit activities including fire lighting, motorcross riding and illegal raves. The area also contains a Site of Special Scientific Interest, and a Scheduled Ancient Monument.

Table 1.3 Overview of the research methodology used in the project

Research design	**Selected methodological approach**
Design	Flexible exploratory phased case study
Approach	Qualitative, interpretative, phenomenological social psychology
Data collection	Document review; on-site semi-structured in-depth interviews; observation
Data analysis	Coding and clustering
Interview sample	42 visitors (generating 24 transcripts); 6 landowner/manager interviews
Study site	340 ha semi-natural mixed habitat consisting of coniferous and mixed woodland (some ancient); dry acid grassland; heathland

The area forms part of the Bedford Estate and extensive public access is allowed through an Access Agreement established with the relevant county councils and implemented by local conservation charity 'The Greensand Trust'. Historically, public use of the area changed from tribal use to common land and then enclosed parish land before the Estate's acquisition. The present network of permitted footpaths, multi-functional land use and minimalist public access management create substantial opportunities for diverse recreational activity. This circumstance makes the site significantly important to the two local authorities in terms of green infrastructure, particularly given its proximity to the key government urban growth area of Milton Keynes. Concerns have been raised, however, regarding ecological sensitivity, and funding for public access management.

Phenomena of IF/CS experience: nature-situated self-development

Interview findings indicate that this semi-natural woodland and heath setting offers a considerably different experience than that provided both by green space created specifically for public access and more urbanised environments. A common thread

running through many of the interviews concerned the use of the woodland space as an opportunity for self-betterment. This occurred as both physical development (fitness) and psychological development. It was observed that 'something' about the woodland experience enabled people to embrace other aspects of their self; to reflect upon, with discernment, everyday life in such a way that well-being might be improved, for example:

> *Riding you're at one with yourself – it's a flow activity. You stop thinking – you're not worrying about bills or anything. It's all very Zen.*
> *We go through puddles, trying to splash each other. It makes your outlook on life positive – it's a balance to a stressful job.*
> *I feel different after. It's like, I feel crappy and stressed at work, then after we go back I'm refreshed. Like more chilled out.*
> *I'm a runner … I can't say what it is that I like, it's just me, part of my identity. It's an intrinsic part of my life.*
> *This area is ancient. I like that sense that it's ancient … this wood has been here a long time, it's permanent, it has a sense of permanence about it.*

The analysis suggests that the area offered four areas of psychological self-development, namely (i) improved cognitive functioning, (ii) improved mental attitude, (iii) confirmation of self-identity and (iv) the experience of feeling connected. Features of the site referred to in relation to these experiences included a feeling of freedom (connected to minimal rules), the experience of solitude, the history of the woods, and landscape features of woodland cover and topography. The observation that the combination of variables provided by this site offered opportunities for psychological self-development is a finding being taken forward in research currently under way, and is explored further in the discussion below.

Framework for conceptualising IF/CS: experience into Cultural Service

Analysis of primary data, combined with theoretical contributions from environmental psychology (Bonnes and Secchiaroli, 1995; Heft, 2001; Gifford, 2002) and social psychology (Rosenberg and Kaplan, 1982; Semin, 1996), has led to an interim conclusion: namely that sensory information derived from an ecosystem must be mediated through *individual behavioural responses* in order to produce a *socio-cultural response*. It is observed that this is not made clear by current IF/CS literature, and that omitting this stage of what manifests as a 'process' (rather than an object) hinders our understanding of this ecosystem service considerably.

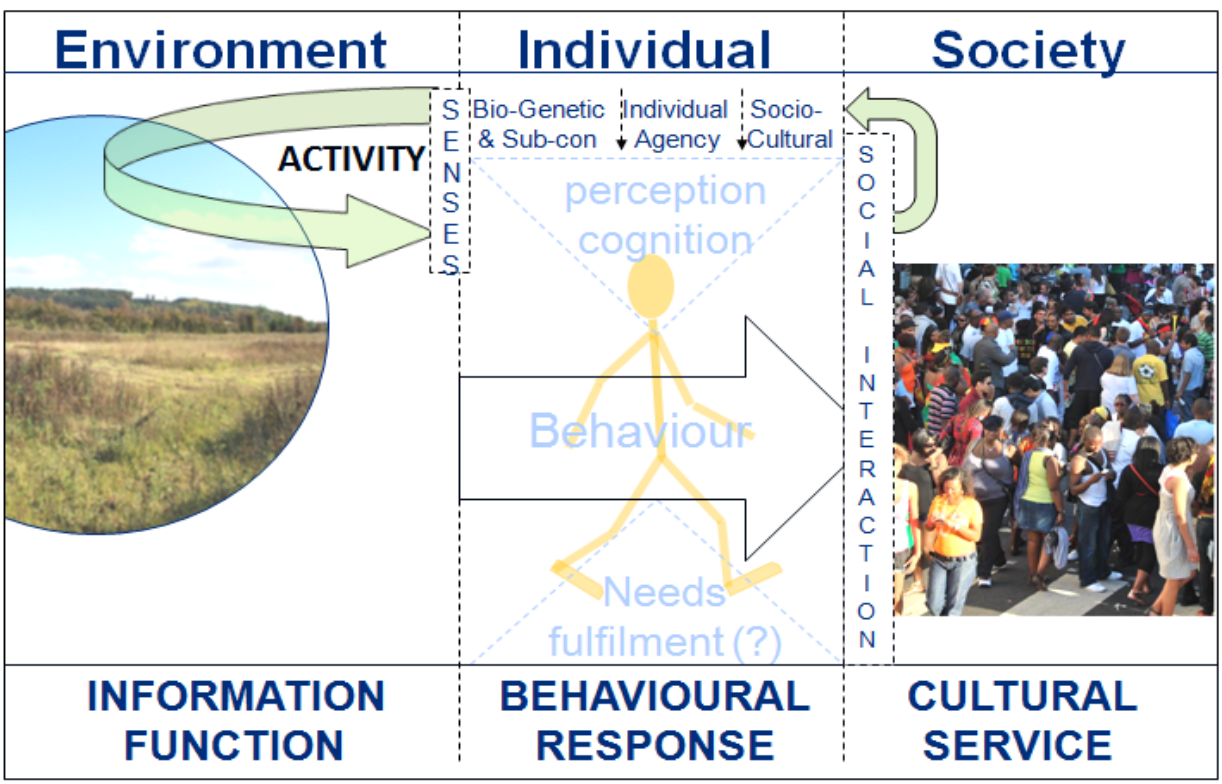
As such, it is proposed that the terms Information Function (de Groot *et al.*, 2002) and Cultural Service (Millennium Ecosystem Assessment, 2005), rather than being used

synonymously, should be considered as *separate* components of a process. To this end, a new set of definitions are offered (see Table 1.4) to accompany a conceptual framework (Figure 1.1), intended to clarify the process of ecosystem to social system benefit transfer.

Table 1.4 New definitions relating to psycho-socio-cultural ecosystem services

Term	Explanation
Information Function	Stimuli from an environment high in biotic activity
Eco-behavioural response	Any physical or psychological reaction to Information Function stimulus
Cultural Service	Social interaction which is influenced by Information Function exposure, which may result in institutional/governance-level change

Figure 1.1 Conceptual diagram showing that individual behavioural responses mediate the development of an Information Function into a Cultural Service



It should be noted that an individual will perceive only a part of all the available sensory information available from a natural environment, and that this is moderated by the activity that the individual is involved in. The perceived sensory information will vary

according to (i) the features of the physical environment, (ii) the activity undertaken, and (iii) the sensory range of the individual, which will then be processed internally. Forces influencing the resultant cognitive and perceptual processes include subconscious and biogenetically determined mechanisms, internalised socio-cultural norms and values, and individual agency. Emotional and/or physical behavioural responses may subsequently result in some personal benefit (needs fulfilment), and influence engagement in further socio-cultural or physical–material interactions. It is suggested that these interactions and/or outputs that are attributable to the internalised natural-landscape-related sensory information be termed *cultural services.*

Discussion

The results of primary data collection (outlined above) showed this woodland/heathland setting to be used for behaviour which may be interpreted as psychological self-development. Aspects of this conduct bear relation to accounts of similar behaviour in alternative settings, published in the academic areas of emotional regulation and positive clinical psychology (see Table 1.5).

Table 1.5 Examples of how the four observed areas of woodland-situated psychological development link with other published non-IF/CS literature.

Finding	**Literary connection**	**References**
Improved cognitive functioning	Self-monitoring Self-regulation	Carver (1979, 2004); Lewis (1991); McCullough and Willoughby (2009)
Improved mental attitude	Restoration Mindfulness	Hartig *et al*. (1991); Kaplan (1995); Berto (2005); Lau *et al.* (2006); Feldman *et al*. (2007); Shapiro (2009)
Confirmation of self-identity	Self-realisation Self-actualisation	Maslow (1954); Clayton and Opotow (2003); Giddens (2007)
Experience of feeling connected	Connection to nature Compassion Unitative experience	May (1982); Schultz *et al.* (2004); Kraus and Sears (2009)

There are a number of psychological health benefits reported by literatures relating to self-regulation and mindfulness, including increasing cognitive clarity, objectivity and improved emotional intelligence. Reported reductions in negative states such as experience avoidance, worry, rumination and over-generalisation have also been found to result in improved physical health (Lovallo, 2004), and connect to new thinking on well-being (Haworth and Hart, 2007).

Evidence related to activities undertaken by woodland visitors which act to strengthen their sense of identity also bear strong relation to theories on *individuation*, *self-actualisation* and the concept of higher needs (as per Chiesura, 2004). In order that people may 'regenerate' themselves as individuals, an amount of self-directed attention must take place, since 'the self is recursive or reflexive to the degree that people constantly monitor, or watch, their own activities, thoughts or emotions' (Elliott, 2008: 10). The process of self-actualisation (Maslow, 1954) is reported to be a largely subjective and unconsciously motivated experience. Likewise, individuation (Carver, 2004) may be reached in a number of ways, compatible with the situation and personality.

It is observed that the ability of this particular woodland site to provide a setting conducive to mindfulness, self-regulation and individuation may be related to perceived 'freedoms', and opportunities for unsupervised play (adults and children), a circumstance which has arisen through minimal public access management, and land use orientated towards timber production rather than recreation. This nodule of 'wilderness', in such close proximity to urban settlement, thus appears to offer people an environment rich in biotic stimuli, which also presents a new set of social 'rules', away from audience which requires individuals to 'perform' (Goffman, 1959), and without the effects of explicit or concealed supervision (Foucault, 1994).

Conclusion

Interim findings from this ongoing research indicate that the combination of variables which comprise *this* study site seems to provide individuals with opportunities for self-development. A matter for further exploration is whether this finding is widespread and, if so, what it is about the woodland setting which provides the circumstances for these behaviours.

It has also been concluded that the ecosystem service approach may benefit from the inclusion of theory relating to the process of Cultural Service creation. In light of this, the acknowledgement that ecosystem stimuli (the Information Function) is *responded to* by individuals, who then *interact* to produce a Cultural Service would, it is felt, substantially improve the understanding of this service.

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2. Access for all? Barriers to accessing woodlands and forests in the UK

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Introduction

Equality of access has become a key consideration for forestry policy and management in Britain. This paper presents the results of research specifically addressing or revealing insights into so-called 'barriers' to woodland access cited in previous research. Our analysis presents an expanded and revised typology of barriers and shows how barriers are experienced by different socio-economic and cultural groups. Our intention is to inform ongoing debates about appropriate forestry sectoral policy and management responses to these barriers.

Equality of access to woodlands is an important issue, affected by recent legal, political and societal developments:

- Provision of accessible land has improved greatly and all public forest land is now accessible. Under the Countryside and Rights of Way Act 2000 (England and Wales) the Forestry Commission estate is Dedicated Access Land, where the public can walk freely. Under the Land Reform Act 2003 (Scotland), the public has guaranteed access to land regardless of ownership.
- The Equality Act 2010 holds the Forestry Commission under a legal obligation to facilitate and encourage equality of access to woodlands and forests under its jurisdiction.
- Forestry strategies for Wales, England and Scotland all make explicit reference to diversity, inclusion and equality.

Despite these well-intentioned policies and a number of targeted interventions, access to woodlands and forests in the UK remains unequally distributed across society. For example, results of a recent Public Opinion of Forestry survey (Forestry Commission, 2009) reveal that, in England and Scotland, there is relative under-representation of a number of social groups among woodland visitors. Surveys in Wales show a similar pattern.

Clearly, legislating for equality of rights to access is not achieving equality of actual access, leading to the conjecture that a 'one size fits all' approach centred on bringing woodlands closer to targeted communities may have limited impact. Spatial distance is,

perhaps, just one of several barriers that apply in different combinations and intensities and are variously perceived and experienced by different social groups.
In this paper it is argued that if the forestry sector is to achieve equality of access, it will need to engage with this diversity of experience relating to barriers. The paper revisits a large body of research, which enables us to conduct a cross-cutting analysis of users, forest access, barriers and ways to address those barriers.

Methods

Our data is drawn from 16 research projects and studies conducted between 2002 and 2009. Overall, the studies represent data and information gathered from over 22 800 research participants.

The studies and associated datasets fall into two broad categories: those with a direct research interest in understanding barriers and those which collected data on barriers indirectly. There are 12 studies that explicitly investigated barriers, or asked direct questions about woodland visits and the reasons for not visiting. In the second category there are four studies that elicited data relating to barriers in the course of exploring public values, perceptions and the use of woodlands.

Quantitative data was generated by surveys administered nationally or regionally, or conducted over the phone, in person or using postal methods at particular forest sites or catchment areas. Qualitative data was collected through focus group discussions and semi-structured interviews. Generally, quantitative data was used to identify general patterns in responses to questions disaggregated by respondent features. Qualitative data was collected to explore not only which barriers affect particular groups, but the reasons why, and how they impact on levels and types of woodland use.

Results

A national, biennial survey administered by the Forestry Commission (the Public Opinion of Forestry survey, hereafter 'POF') asks a representative sample of people in England, Wales and Scotland whether they have visited woodlands in the last few years[2] (Table 2.1). Analysis across the past three surveys (2005, 2007 and 2009) reveals the level of representation of various social groups among visitors. For example, for all three countries there are no significant differences between the gender profiles of visitors and non-visitors, with the implication that males and females are equally well represented. However, age emerges as a significant variable for all three countries, where a greater proportion of young (16–24 years) and especially older people (65+ years) have not visited ($p<0.001$). Similarly, in all three countries a significantly smaller proportion of people with social grade C2DE have visited than those with social grade ABC1

[2] Respondents are not asked to differentiate between different woodland ownership types.

(p<0.001). Proportionally fewer disabled people have visited (England and Wales p<0.001, Scotland p<0.01). Furthermore, in England and Scotland, proportionally fewer people from black and minority ethnic groups (BME) have visited (p<0.001 and p<0.05 respectively).[3]

Table 2.1 Analysis of woodland visitors and non-visitors in England, Scotland and Wales (total sample of 13 284 people)

		Country					
		England		Scotland		Wales	
		Visit?		Visit?		Visit?	
		Yes	No	Yes	No	Yes	No
		%	%	%	%	%	%
Gender	Male	73	27	61	39	76 24	
	Female	72	28	62	38	73 27	
Age class	16–24	70	30	55	45	70 30	
	25–34	76	24	60	40	85 15	
	35–44	80	20	73	27	79 21	
	45–54	79	21	66	34	79 21	
	55–64	75	25	61	39	77 23	
	65+	56	44	53	47	60 40	
Social grade	ABC1	81	19	70	30	80 20	
	C2DE	63	37	54	46	69 31	
Disability	Disability	58	42	56	44	66 34	
	No disability	76	24	62	38	78 22	
Ethnicity	White	75	25	55	45		
	Ethnic	45	55	34	66		

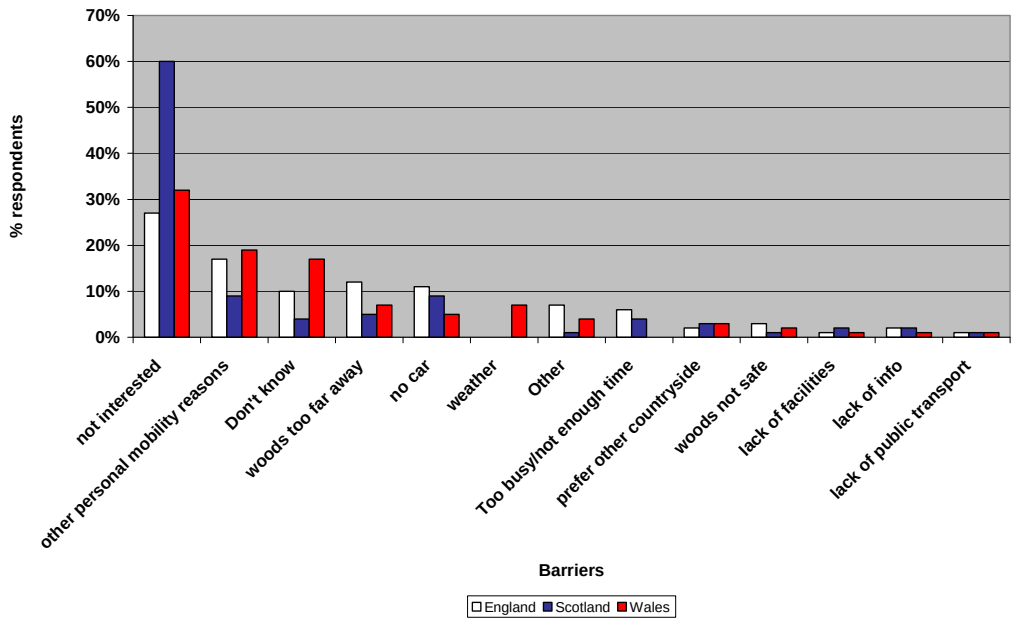
Ownership can be an important factor in access for different groups. For example, those who reported visiting woodland owned by the Forestry Commission in England were more likely to be older, male, married, white, have children, be in full-time employment and live in rural areas, than those who reported using other woods. More white people than BME people reported Forestry Commission ownership of their most frequently visited woods. The reverse is true of woods in other, non-Forestry Commission public ownership (e.g. local authority owned), which are nearly twice as popular among BME people compared with white people.

What factors prevent people from visiting woodlands? In the POF (excluding England 2009), non-visitors were asked to identify the main reason for not visiting. Analysis

[3] Data on ethnicity was not collected for Wales.

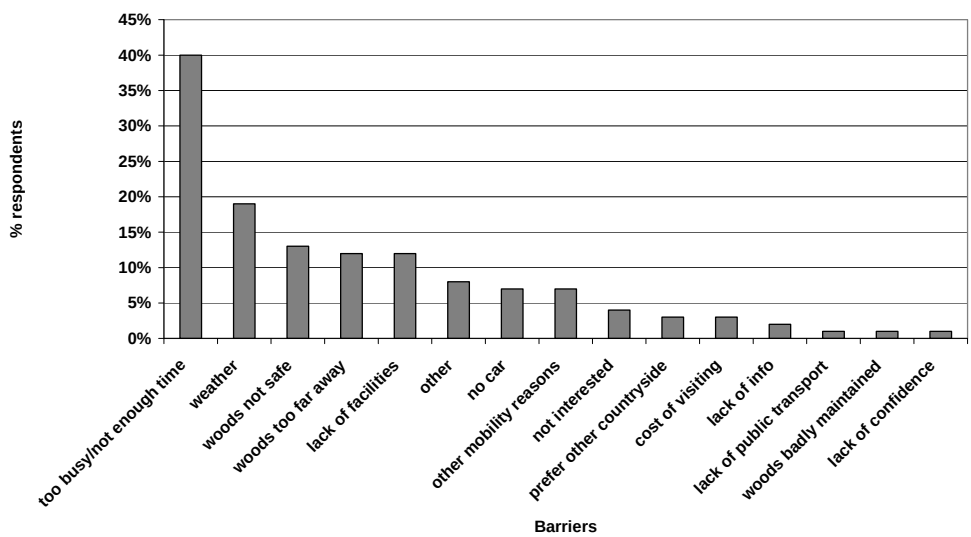
across the last three surveys reveals that 'Not interested in going', reasons relating to mobility ('Don't have a car', 'Other personal mobility reasons'), and distance ('Woods are too far away') emerge as the most important barriers (Figure 2.1).

Figure 2.1 Barriers to visiting woodlands in England, Scotland and Wales (non-visitors)



In other surveys (national (POF 2009, England only), woodland catchment or on-site), visiting respondents were asked to identify reasons for not visiting more often. The results (Figure 2.2) show that lack of time (40%), the weather (19%), safety concerns (13%), lack of facilities (12%) and distance (12%) emerge as important.

Figure 2.2 Barriers to visiting woodlands more often (visitors)



However, the fact that certain social groups are under-represented among woodland visitors prompts us to go beyond a simple quantitative analysis of barriers and to explore their social distribution. A chi squared test and cluster analysis were applied to the Single barrier (non-visitors) and Multiple barrier (visitors) datasets respectively to determine which barriers emerge as particularly significant ($p<0.01$ to $p<0.05$) for each social group.

Among non-visitors, mobility emerged as significant for women, older people (55+ years), C2DE, disabled people and white people. Distance (woods too far away) was an issue for BME people. Lack of a car emerged as significant for women, older people (65+ years), C2DE, disabled and white people. Men were more likely to be 'not interested', as were younger people (16–24 years), non-disabled and white people. 'Too busy' was an issue for 35–44 years age class, ABC1, non-disabled and BME people.

Among visitors, weather and lack of facilities emerged as significant for C2DE, women and white people. Distance (woods too far away) was an issue for ABC1, BME, women and 55+ years. Younger and older people, disabled people, women and C2DE were associated with a cluster of variables relating to mobility (no car + woods too far away + personal mobility). Men, younger age classes (16–54 years), ABC1 and people with no disability were more likely to be 'too busy'. Men and people with no disability were more likely to cite 'not interested'. 'Woods not safe' and 'lack of facilities' emerged as significant for people aged 55+ years and disabled people.

The results from the various qualitative studies, undertaken across the three countries, can be summarised as follows.

Age

Young people

Some teenagers view conventional activities like walking in woods as 'boring', but they also fear being labelled as trouble makers 'hanging about' in woods and feel victimised if 'moved on' by the police. In another study, young women talked about woodlands being 'out of bounds' when they were younger because of their parents' fears for their safety, resulting in lasting anxieties about personal safety in woodlands.

Middle aged people (35 – late 50s)

For urban residents in this age group barriers are related to fear of unknown spaces, of anti-social behaviour and of getting lost. Lack of information is an issue for many – not knowing where to go or what to expect at different sites.

Older people (60+ years)

Concerns about physical mobility and the need to be accompanied affect this group. In one study, respondents who had been bereaved felt less inclined to visit woodlands alone.

Gender

Women

Concerns about personal safety when visiting alone and safety of children were prominent, particularly in urban areas. Poorly maintained sites with signs of anti-social behaviour heighten these concerns. Travelling to sites can be problematic, especially busy roads without pavements and public transport for mothers with pushchairs.

Men

Male respondents were put off by lack of clear information about which places were accessible.

Socio-economic status

Low socio-economic status

One study found that respondents from low income households faced multiple barriers to accessing woodlands, with many relating to attitudes and general outlook. Many expressed low motivation, or stated that woodland visits were a low priority given the more pressing issues they faced. In deprived areas of Wales, local residents viewed forests as locations for anti-social behaviour and as 'wood factories' that were considered unwelcoming.

Disability

Lack of access to, access on, and information about sites are key barriers for disabled people. Transport issues are prominent, as many disabled people do not have access to a car and find public transport difficult. Stiles, gates, toilets and other forest provisions/features can also be unsuitable for wheelchair and scooter users. Disabled respondents emphasised the need for detailed information about access, and other facilities, preferably supported with photographs, so that they could choose appropriate woodlands and plan their visit. Some felt that site management can focus too closely on physical impairments to the exclusion of other types of disability.

Ethnicity

Some BME groups stated that visiting woods is simply not part of their cultural background. This can lead to lack of confidence to visit and low awareness of nearby woodlands. BME respondents stated that information is rarely available in their own language, or publicised through appropriate media channels. Cost was an issue for those from deprived communities. Pakistani women expressed reservations about using public transport without a chaperone.

Discussion and conclusions

Various categorisations of barriers have emerged from previous research. Through the review of research evidence presented in this paper, we have developed a revised and expanded typology of barriers (see Table 2.2) that accommodates sub-categories of physical and structural barriers, and offers an expanded and revised definition of socio-cultural, economic and personal barriers to capture the range of barriers that affect individuals, distinguishing between personal and social barriers. Table 2.2 also shows how the results of the quantitative and qualitative studies cited above map onto this revised typology.

Table 2.2 Revised typology of barriers to accessing woodlands and forests. The type group headings are shown in darker shading and bold type, with sub-types in lighter shading and bold italic type. V = Visitors; N-V = Non-visitors; Q = Qualitative research respondents

Barriers	Male	Female	Under 16s	16–24 yrs	25–34 yrs	35–44 yrs	45–54 yrs	55–64 yrs	65+ yrs	ABC1	C2DE / low income	Disabled	Not disabled	BME	White
Physical and structural barriers															
General/over-arching															
Weather		V									V				V
On-site															
Woodlands are badly maintained		Q													
Woods are not attractive/ unwelcoming											Q				
Lack of facilities		V						V	V		V	V + Q			V

Table 2.2 continued

Barriers	Male	Female	Under 16s	16–24 yrs	25–34 yrs	35–44 yrs	45–54 yrs	55–64 yrs	65+ yrs	ABC1	C2DE / low income	Disabled	Not disabled	BME	White
Woods are difficult to get around												Q			
Other forest users												Q			
All disability types not catered for												Q			
Off-site															
Lack of appropriate information	Q				Q	Q	Q					Q		Q	
Woods are difficult to get to		Q										Q			
Lack of/difficulties with public transport		Q										Q		Q	
Woods are too far away		V		V				V	V	V	V	V		V + N-V	
Socio-cultural and personal															
Personal characteristics, experience and abilities															
Don't have a car		V + N-V		V					V + N-V		V + N-V	V + N-V + Q			N-V
Concerns that woods are not safe		Q	Q					V	V			V			
Too busy/not enough time	V			V	V	V + N-V	V			V + N-V			V + N-V	N-V	
Low motivation											Q				
Lack of confidence														Q	
Lack of knowledge/ awareness														Q	
Don't want to visit alone								Q	Q					Q	
Prefer other areas of countryside															
Other personal mobility reasons		V + N-V		V				N-V + Q	V + N-V + Q		V + N-V	V + N-V			V + N-V
Not interested	V + N-V			N-V									V + N-V		V + N-V
Cost of visiting															
Fear of getting lost					Q	Q	Q								
Fear of anti-social behaviour		Q			Q	Q	Q				Q				
I feel like I don't belong														Q	
Conventional activities are boring			Q												
Adult interference			Q												

Table 2.2 continued

Barriers	Male	Female	Under 16s	16–24 yrs	25–34 yrs	35–44 yrs	45–54 yrs	55–64 yrs	65+ yrs	ABC1	C2DE / low income	Disabled	Not disabled	BME	White
Cost of visiting											Q			Q	
Social, cultural and economic															
Deprivation											Q				
Lack of cultural norm														Q	
Other															
								V	V						
Total number of barriers:	3	10	3	5	4	4	4	6	7	2	10	11	2	10	5

The synthesis presentation of results in Table 2.2 shows the variation in the number of barriers faced by different social groups. Disabled (11), C2DE/low income (10), females (10), and BME (10) emerge as those facing the greatest number of barriers. Barriers, just like woodland visits, are unequally distributed across society.

The results also enable a comparative analysis of the types of barrier faced by different groups. Disabled people, for example, are affected predominantly by access issues, whether physical and structural barriers (both off-site and on-site), or personal issues related to ability levels. Females are also affected by a range of physical and structural and personal barrier types, although issues to do with the physical 'offer' on sites (facilities, maintenance) and safety concerns are much more prominent. BME groups appear to be more susceptible to off-site physical and structural barriers, and several barriers relating to personal and cultural experience. The barriers facing C2DE/low income appear to be most evenly distributed across types and sub-types, implying the need for a multi-faceted approach to addressing exclusion for this group.

Our findings have a number of important implications for forestry policy and management in Britain. They illustrate the diverse range of barriers, and show that the vast majority of public experience of barriers is centred around issues that lie outside the conventional remit of forest management. If the Forestry Commission is to deliver improvements in equality of access to woodlands and forests, these findings highlight the need to think beyond physical improvements to existing woodlands and the establishment of new sites. Although important, what has been the dominant focus of policy and management in recent years will have limited impact in terms of improving accessibility across the social gradient.

The results also highlight gaps in evidence and future research needs:

- The low representation of young people (under 16s) in the dataset is not evidence that this group does not face many barriers, rather it reflects the paucity of research with this group.
- The expanded typology of barriers presented in Table 2.2 should now be included in population surveys to allow more comprehensive quantitative analysis of this topic.
- Research with excluded groups and relevant stakeholder organisations is needed to inform appropriate group- and place-specific responses to the barriers highlighted by this research.

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3. Are we creating problems for the future? Children, young people and the concept of 'nature-deficit disorder'

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Introduction

Societal views of children, the increased use of computers and television, concerns about the safety of children and 'stranger danger' all conspire to make it increasingly difficult for children and young people to spend time alone, or with others of their own age, in woods and wider nature. Because of worries of an obesity epidemic in children, fears over widespread mental ill-health and poor well-being, and climate change concerns there has arguably never been a better time to encourage children and young people out of doors to improve their well-being, gain an interest in the environment and be physically active.

'Nature-deficit disorder' is a term that was coined by Louv (2006) to argue that children are spending less time in nature and that this is leading to a range of behavioural problems. This paper outlines current evidence of the importance of contact with nature; it then highlights how views of children within society and the activities children undertake in their spare time are making it increasingly difficult for them to access woods and wider nature. Concerns about current trends in children's health, nature-deficit disorder and the extinction of experience are leading a range of organisations, such as the Forestry Commission, to encourage and provide opportunities for children to have contact with nature.

Children, woodlands and wider nature

Multiple studies (see, for example, Wells, 2000; Bingley and Milligan, 2004; Fjortoft, 2004; O'Brien and Murray, 2007; Lovell, 2009; Roe, 2009; Pretty *et al*., 2009) have found that woods and wider nature spaces are important for children as places to:

- undertake a range of physical activity;
- socialise with others of all ages;
- carry out free play and organised play;
- learn about risk in the natural environment;
- explore and gain an understanding of the environment around them;

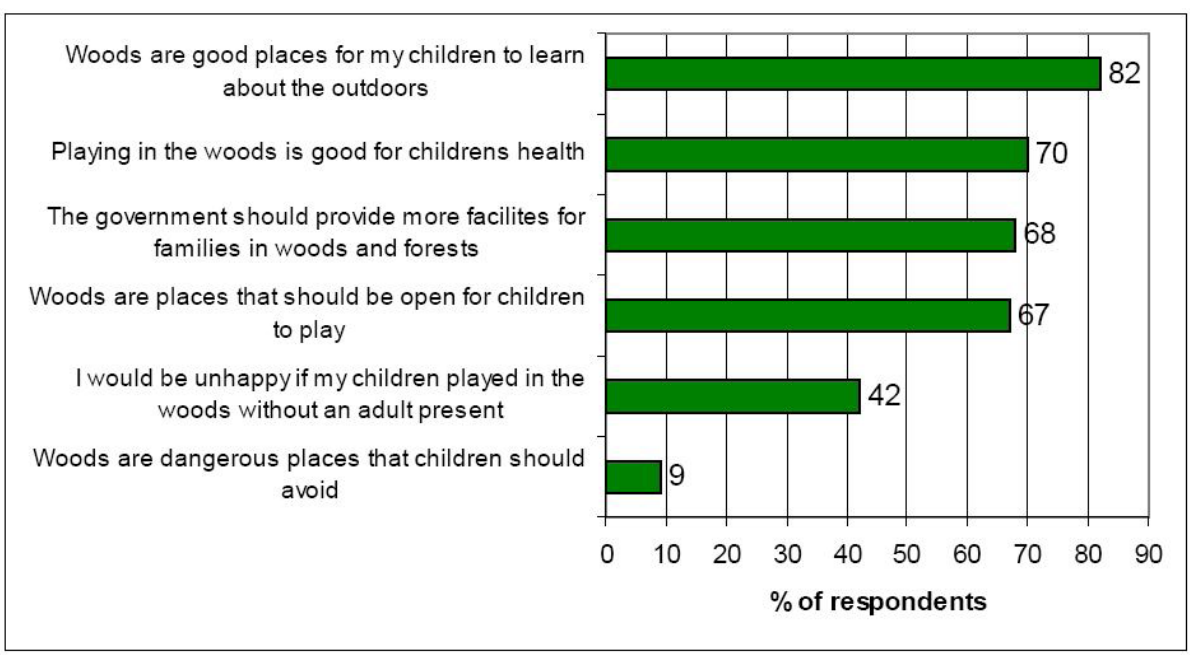
- improve social and personal development;
- improve cognitive function.

Getting involved in risky activities is an important part of children's learning and their drive to expand their independence and face physical challenges. There is much potential in woodland environments for free play and the Forestry Commission has been working to develop this through its Growing Adventure (Gill, 2006) study and activities. Playlink assessed some of the Forestry Commission's play areas in woodlands and highlighted the play potential of woods and trees and how structured play areas can be designed to lead on to free play in the wider woodland; they also suggested that play equipment need not be age bounded (Playlink, 2008). Forest School provides opportunities for children to have contact with woods as part of their school curriculum activities and provides opportunities for boys and girls to be physically active and become familiar with their local woodlands (O'Brien and Murray, 2007).

In the 2009 Public Opinion of Forestry survey, parents in the UK were asked about their level of agreement with a number of statements about children and woodland use (Forestry Commission, 2009; Figure 3.1). Woods were considered important by parents for learning, children's health and play, and the parents thought there should be more facilities available. However, just over 40% said they would be unhappy for their children to play in woodland without another adult present and 9% felt that woods were dangerous places that should be avoided by children.

In a study of a small woodland in London (O'Brien, 2006), children from two social housing estates described what they enjoyed about their local wood; this revolved around playing games and building dens (Table 3.1).

Figure 3.1 Level of agreement to statements about children and woods (%) (taken from Forestry Commission, 2009)



Base: All respondents with children under 15 years old (658)

Table 3.1 What children enjoyed about Peabody Hill Wood (taken from O'Brien, 2006)

Fun to play games
Friends and games
Because you get to run down the hill with your friends
It's fun to play about in
Hanging out in summer
You make a base (den) and travel and play with friends
Good places to hide, because you can play and run about
Lots of bases

Improvements have been noted in children with Attention Deficit Hyperactivity Disorder (ADHD) when they have contact with green space (Taylor *et al*., 2001). Children have shown significant increases in motor fitness when provided with a natural landscape to play in rather than a traditional playground (Fjortoft, 2004). Wells and Evans (2003) studied children living in highly urban and deprived settings and found that increase in the amount of vegetation near to their residence (including street trees and shrubs around buildings) was associated with strong benefits for children's cognitive functioning such as improved reasoning and remembering.

It seems that some children do get outdoors; for example, a study in Scotland in 2006/07 estimated that children in Scotland made a total of 11.6 million visits to Scottish woodlands (Edwards *et al*., 2008). However, there are also children who would like to get out more. A survey in Leicester of 1000 children found that 94% wanted to spend more time out of the house (Department for Transport, Local Government and the Regions, 2002) and one in Northamptonshire in which 80% of 9–16 year olds stated they preferred being outdoors to indoors. A survey by Natural England found that 85% of adults wanted children to play outdoors more often and 81% of children wanted more freedom to play outdoors (Natural England, 2009).

Angels or devils? Polarised views of children and young people

When considering what prevents children and young people from engaging with nature, a number of issues arise. Society has become increasingly concerned about protecting young children from harm; however, it has also become more disturbed by teenagers and so-called 'yob culture' and knife crime, thus creating a polarised view of children and

young people within contemporary society. Pretty *et al*. (2009) outline three stages of childhood based on scientific literature:

1. The 'first age' of 0–5 years, when children are dependent on their parents.
2. The 'second age' of 6–11 years, when children start to engage more with others.
3. The 'third age' of 12–18 years, when children start to disengage from their parents and seek independence.

In the first and second ages children are protected, nurtured and seen as innocent. This is reflected, for example, in the number of 7 and 8 year olds allowed to get to school by themselves, which has dropped from 80% in 1971 to 9% in 1990 (Grayling *et al*., 2002). Increasingly, the third age of childhood is seen as a problem with disruptive and potentially dangerous youths disturbing the adult population. This occurs for example through binge drinking; the average amount drunk by 11–15 year olds was 10.4 units per week in 2000, having risen from 5.3 units a week in 1990 (Department of Health, 2001). Anti-social behaviour orders, created in 1998 but to be reformed by the new government, are used to control the behaviour of young people in particular, and the mosquito (a device that lets off a high-pitched noise) is used to disperse groups of young people 'hanging out' in public spaces. This highlights a move towards increased surveillance and control of young people in society (Beunderman *et al*., 2007). These measures exclude them from public spaces because of the fear of adults who have specific ideas of what behaviour is acceptable in the public realm (Worpole, 2003).

Spare-time activities

When not in school and undertaking school-related work children have time to get involved in a range of other activities and pursue their own particular interests. In a survey of approximately 2000 children aged 5–16 years, results suggest they watch on average 2.8 hours of television per day, up from 2.4 in 2006, and 1 in 10 surveyed watched more than 4 hours a day (Childwise, 2010). Most of the children in the survey had a computer at home, and approximately 5.5 hours a day are spent in front of a screen: whether television or computer. Facebook and YouTube are girls' and boys' favourite websites and social networking is their main on line activity. Half of 7–16 year olds can now access the internet in their own room (Childwise, 2010).

A survey by Natural England found that children's favourite activities included playing at a friend's house or playing at home. A total of 80% of children said they were closely supervised when they played in natural spaces as opposed to 70% supervised in other places (Natural England, 2009).

We may conclude from the above that either children are not particularly interested in woods and nature or that there are a range of barriers that may prevent or make it difficult for them to go outside and the easier option for children and parents is to stay

indoors. For example, young people can feel victimised; they talk about being moved on by the police when 'hanging out' (O'Brien, 2006; Weldon *et al*., 2007; O'Brien and Morris, 2009). Young children at Forest School (O'Brien and Murray, 2007) can be unfamiliar and uneasy with woods when they first start their activities, if they have not had much contact with woods previously. Young women in Bingley and Milligan's (2004) study talked about woodlands being 'out of bounds' (unless accompanied by an adult) when they were younger and expressed more anxieties about woods than others who had been able to use woods freely when young. Young women were concerned about potential danger from unknown males.

Health and well-being: current trends

The previous two sections outline how children and young people's movements have become restricted and constrained through societal views, issues of control and technology development. However, concerns about children's health and well-being provide evidence that these trends could or should be reduced. According to the World Health Organization, by 2020 mental ill-health will become the second biggest cause of disease burden. Mental health problems are of concern in children, with 10% having a clinically diagnosed disorder (Department of Health, 2005). Other problems include emotional disorders (4%); conduct disorders such as anger and disobedience (6%); hyperkinetic disorders (2%); and less common disorders such as autism or eating problems (1%). Mental health problems are often higher in children whose parents have no educational qualifications or are unemployed (NHS Information Centre, 2009).

In terms of obesity and overweight, 30% of girls and 31% of boys are now in these categories. The trend has been increasing over the past 10–15 years and there are concerns that it will continue to rise and cause a range of problems such as type 2 diabetes, cardiovascular disease in later life and early mortality. One hour of moderate-intensity physical activity is recommended for children and young people per day; however, 37% of girls age 2–15 and 28% of boys are not meeting this recommendation.

Nature-deficit disorder and the extinction of experience

There is concern that lack of contact with nature has led to a decline in children's understanding of the natural world, especially in urban and industrialised communities (Pyle, 2001; Louv, 2006; Pilgrim *et al*., 2008). Ward Thompson *et al*. (2008) suggest that those who do not use woodlands when young will become adults who do not use these spaces, as they are not familiar with them. There are concerns that the current focus on climate change and global issues of deforestation is at the expense of studying local habitats and species, leading to disconnection, with few 'hands-on' local nature

experiences. These issues are leading to what Louv (2006) has described as 'nature-deficit disorder' and Pyle (2001) has termed the 'extinction of experience'.

Discussion and opportunities

This paper outlines the difficulties and obstacles young people face in modern society of using and enjoying woods and wider nature. However, there are a range of approaches, activities and developments being organised by the Forestry Commission and a range of partners that are encouraging children into woodlands. These include (in various parts of Britain) interventions, funded projects, partnership activity and infrastructure improvements such as:

- Forest School
- Forest Kindergarten
- Forest Clubs for teenagers
- Forest Education Initiative
- Den building days
- Adventure play areas
- Forest tots club
- Growing Adventure

Some of the above are focused on education and learning, others on free play and risk taking; they are all designed to enable contact with woodlands for different age groups. Natural England launched its 'One million children outdoors' programme in 2009 with the aim of introducing a million children to nature over three years. Life stage is important, as contact with nature for young children can be very important and enthusiastically engaged with through, for example, Forest School, while teenagers can describe natural spaces as boring. Teenagers may prefer more active and exhilarating opportunities such as the use of 'Go Ape' trails (a high wire forest adventure course). A framework for developing well-being produced by the Department of Health (2010) suggests that one of the five daily habits for well-being is to 'engage with nature' by using and enjoying it, and getting actively involved by growing plants or food or having contact with wildlife and pets.

Key issues and opportunities for the future include the following:

- Investigate how spaces can be designed to attract and benefit young people.
- Involve children in the development and design of spaces.
- Organise interesting and engaging activities.
- Provide opportunities for free play.
- Work with schools to incorporate opportunities into school activities, e.g. nature gardens, Forest School, etc.
- Outline the importance of improving gross motor skills and improving physical ability through activities in woods and nature.

- Engage with families and parents to outline the range of options available and how their children can benefit.

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4. Cultural and ecological well-being through art in forests

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This paper speaks about the place of culture in the forest landscape, the place of forests in the cultural landscape, and some aspects of what 'well-being' might mean in this context.

Imperatives for maintaining ecosystem services, including cultural services

Some forests have cultural significance merely because of a coincidence of location, with heritage interests for example. In other cases there may be more of a functional connection with the ecosystem, perhaps relating to traditional land management practices.

A third type of situation is where cultural interests **arise from** the ecological values: the particular ecological phenomena of an area may have given rise to sacred status, or the site may be an iconic source of inspiration for literature or visual arts because of its natural values.

This third category is an example of 'cultural ecosystem services'. Sustainable environmental management regimes nowadays have largely evolved into services-based models, and statutory environmental requirements to achieve favourable conservation status, or maintenance of ecological character, are now interpreted in ways that imply maintenance of relevant cultural services (both tangible and intangible).

This makes it meaningful to think in terms of a concept of 'healthy forests, healthy people', and one indicator of healthy people is cultural activity. Moreover, in current times there are additional reasons for looking more closely at 'non-consumerist' environmental values: economic valuation of course is very important, but more people now see the bigger picture of flawed growth models, and the research evidence that improving GDP does not improve people's happiness.

Art in and from forests, as a cultural ecosystem service

These issues were part of the background to the author's report *Artistic licence* (Prichard, 2008), which presented the first national review of the Forestry Commission's involvements in art, and discussed options for future strategy.
The report reviewed policy and strategic planning issues, and compiled a stock-take of the surprising variety of Forestry Commission arts activities all around Britain: this extends to 125 initiatives, covering all art-forms and spanning everything from local crafts to critically engaged conceptual art.

The review studied the outcomes and benefits, and it became clear that the Forestry Commission's art activities add in unique ways to people's awareness, understanding and valuing of trees, forests and woodland. Such activities help with re-assessing the relationship between nature and society, re-building some of the lost connections with the natural world and giving people new reasons for the forest to be relevant to their lives and well-being.

People's perception of landscape is very bound up with imagination and cultural narratives, and what comes to be seen as positive or negative is heavily influenced by artistic representations.

Art project outcomes have included positive impacts on education, awareness, social inclusion, sense of place and identity, creative enterprise, cultural expression, physical and mental well-being, environmental valuation, recreation and amenity, community cohesion and local economies. In addition, there is clearly the intrinsic creative merit of much of the artistic content of what is done, and this constitutes a hugely significant contribution to the contemporary cultural life of the nation.

So there is a range of different types of result. Someone who is drawn by the art can have their experience of the forest expanded. Someone who is drawn by the forest can have their cultural experience expanded.

A single poem or sculpture can bridge the gap between a community and its next door forest, and it can sum up a set of social aspirations, heritage and quality-of-life values for the nation as a whole.

Other papers presented here have explored the links between well-being and contact with nature. There is a similar body of research on links between well-being and contact

with art or creative expression. 'Art in forests' joins up a triangle of links between all three.

Art improving ecosystem management

The preceding comments illustrate the provision of services to people from forest-based art, but art can be a service to forest management as well.

Art projects which give people greater respect for forest values have helped in reducing problems such as litter, fire and vandalism. There is obviously a technical role for art in forest planning and design, and community arts projects can sometimes be the best way of consulting people about change. At a deeper level, however, a skilled aesthetic response to the environment can be a very accurate way to reveal some generalised truths of form and function, or interconnectedness.

Instead of collected facts or reasoning, a more intuitive sense of how things in nature come to be arranged the way they are, the constraints that operate, and the way that the dynamics of an organism interact with the forces of its environment, gives us an understanding about how things like wind, growth, fluids and so on behave. Even with abstract forms and patterns, we can have a strong sense of what seems 'right' or 'not quite right'. This is directly relevant to strategies for environmental sustainability, and being able to understand whether or not we are working with the grain of the realities of nature, and whether or not our strategies are in tune with its limits to tolerance of change. Perhaps this is cultivated better with aesthetics than it is with science.

Moreover, many of our supposedly objectively verifiable ecological values are in fact largely cultural constructs, and a matter of societal choice – even things like our notions of naturalness, native species, 'healthy systems', diversity, stability and so on. Sometimes these are dressed up in the wrong language.

Art framing/leading cultural adaptation to environmental change

Failings in the culture of language can be a cause of environmental mismanagement, and an obstacle to the re-framing skills that society needs for adapting to environmental change.

During the compilation of the Millennium Ecosystem Assessment (to which the author contributed), one of the most problematic debates concerned ways of expressing degrees of certainty; it is no coincidence that society more generally now seems completely to lack a sensible common language for understanding risk and probability.

Scientists and any other specialist disciplines work with conditioned codes and frames of reference that simply reach their limits at times of rupture. It is revealing to witness what diehard rationalists resort to when they are bereaved, or they fall in love, and perhaps that is not so different from the re-framing that is required when the rupture happens in the biosphere instead. Re-framing is not necessarily something that can simply be 'arranged'. It may often happen in least-expected, little moments, 'off-camera'; so as well as overt projects for it, the fostering of the enabling conditions for re-framing is every bit as important a part of the 'real work'.
The UK Arts & Environment Network (chaired by the author) was created by a constituency in the mainstream environment sector who saw a need to engage with the arts world and arts perspectives in a more organised way, precisely to grow this new resourcefulness by linking skills and insights across different disciplines.

Maintenance of ecosystems requires a mix of stabilising factors and destabilising factors. Contemporary management regimes have tended only to apply fixed rules for achieving constant yields, and we have forgotten to develop skills in indeterminacy, non-linearity and multiple timescales – and this is one reason why artists are now being used in environmental engineering project teams, for example, to add these ingredients.

This, however, must not be misunderstood as using creativity or inventiveness simply to find different types of 'techno-fixes'. The problem lies deeper, in the whole value system that goes with a paradigm of 'managing' the planet. What is at issue here is a much more fundamental shift in critical futures thinking, deeper cultural questioning and imagination.

The Copenhagen climate talks were a good example of the fact that irrational failures of global governance can not be solved with the same machinery that caused them in the first place. What is more, the limiting factors in that issue are not about science: they are about difficulties in integrating different value-sets, timescales and forms of wisdom, insufficient transparency about trade-offs, equitability, risk, precaution, and above all about failures of governance.

The KEA report for the European Commission on 'the impact of culture on creativity in the post-industrial economy' (KEA, 2009) discusses the ways in which new approaches for tackling social and environmental problems can be opened up from a cultural basis. It points out how absurd it is that culture still seems to lie on the fringe of the European project as a subsidiary competence, whereas in truth it is at the heart of our capacity for innovation and the development of new economic, social and environmental paradigms.

The Barca report on reform of EU Cohesion Policy (Barca, 2009) has called for interventions based on concepts of place-distinctiveness, and that is a potentially new avenue for the application of ecosystem-related cultural values to regional development goals.

It seems clear that we never needed these kinds of perspectives more than we do now.

It must also be true that a healthy society is one that can be inventive, imaginative and adaptive to change. That would be a proper definition of social well-being, and one important component of it is the triangle of evidence concerning links with forest ecosystems and with the creative arts. The Forestry Commission in particular has a key role to play in this.

It will be apparent therefore that this is not so much a matter of the role of art in communicating and influencing awareness of environmental issues; it relates more to art as a way of thinking and being, forestry bodies having a role in enabling it, and art having a direct role in forest management.

On one level, it could be said (culturally speaking) that the forest ***is*** the art, and the art ***is*** the forest!

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Economic perspectives on social valuation

5. Tools for sustainability impact assessment of forestry policies: what role for social science?

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Introduction

This paper explores the roles that social scientists at Forest Research are playing in the development of Decision Support Systems (DSS) for the forestry and land use sectors. Examples are given from three recent EU-funded projects, which focused on the delivery of complex, computer-based models that forecast the impacts of policy and management options on a suite of quantitative sustainability indicators. 'SENSOR' (2004–08) developed a 'Sustainability Impact Assessment Tool' (SIAT) to assess the likely impacts of European policies on the sustainability of land use at regional level across Europe (www.sensor-ip.org). 'EFORWOOD' (2006–09) developed a similar 'Tool for Sustainability Impact Assessment' (ToSIA), which focused on forestry-wood chains in Europe (www.eforwood.com). Most recently, 'Northern ToSIA' (2008–11) aims to operationalise ToSIA by applying it to regional case studies of forested landscapes in Scotland, Norway, Sweden and Finland (www.northerntosia.org).

Despite the considerable investment by the EU in DSS projects, levels of uptake and use remain low (Nilsson *et al*., 2008). This situation is not unique to the European Commission: the problem of 'non-use' has been recognised and analysed across a range of software and tool applications within and beyond the environmental sectors. In many cases, the determinants of successful uptake can be traced back to inadequacies in the quality of stakeholder engagement, in particular with potential end-users, during DSS development (e.g. Diez and McIntosh, 2009; Stewart *et al*., 2010).

This paper argues that the value of our contribution as social scientists to DSS development is being enhanced by efforts to contribute simultaneously to multiple roles, in particular: (a) improved understanding of the context in which the DSS would be used, (b) facilitation of stakeholder engagement throughout DSS development, and (c) development of methods to incorporate social and cultural values more fully into quantitative models.

Understanding the context

In 2002 the European Commission introduced a new integrated impact assessment (IA) system as a means to support the quality and legitimacy of EU policy-making. The system is presented in official EU documents as a depoliticised and discrete series of steps informed throughout by stakeholder consultations, and by objective analysis of policy options. Social research conducted by Forest Research as part of SENSOR showed how this technical–rational portrayal of IA departs from the reality as understood by many European Commission desk officers. Semi-structured interviews highlighted the fluid and iterative ways in which knowledge to support IA becomes available to policy-makers, and the political and subjective nature of the process. The normative framework of technical-rationality implicit in the IA system has been adopted more or less unchallenged by many EU-funded consortia commissioned to develop IA tools (with some notable exceptions). Modellers have tended to see tool development as a technical problem, part of the perceived linear relationship between science and policy, and stakeholders have tended to be kept at arm's length (Tabbush *et al*., 2008, cf. Owens *et al*., 2004).

Initially, during the SENSOR project, funders and researchers alike understood that SIAT would be used directly by Commission desk officers. As the social research and the modelling progressed, it became increasingly clear that desk officers were unlikely to use the tool directly on their desktops. Later, during interviews with Commission scientists, a picture emerged of quantitative models as part of a long-term research and development programme running in parallel to the policy-making process. The development and use of any given tool would not be linked to specific IAs, and therefore not bound by their timescales, but its outputs may occasionally surface as a policy proposal and its associated IA (Tabbush, 2009). Had this been understood earlier it might have helped the consortium focus on delivering for this specific user context, and on designing post-project arrangements for further tool development and maintenance.

Another insight that might have shaped the design of the project had it been realised earlier was the extent to which advanced computer-based tools need to be transparent in terms of their operation (i.e. the assumptions and calculations that the analysis is based upon), and not just in terms of how the outputs are presented, if they are to be trusted. Put simply, there must be no 'black boxes' in the model. In this sense transparency goes well beyond the way that it is understood within the Aarhus Convention, and promoted through the Commission's Secretariat General, i.e. 'freedom of information'. A related design requirement concerned the extent to which the tool can be adapted to use new data and knowledge (such as more accurate regionally specific 'response functions' that link levels of implementation of specific policy instruments with

changes to specific indicator values). During interviews, the tool was seen as inflexible and based on a 'pre-fabricated model chain', and populated with indicators and functions that may become irrelevant or out of date (Tabbush, 2009).

Stakeholder engagement processes

The key lesson from SENSOR and similar EU projects has been that the process of DSS development needs to be turned on its head: rather than designing sophisticated models largely in isolation or at a distance from their intended users, and then seeking a user and a problem that the tool can address, their design and development needs to unfold through a more or less continuous process of interaction between end-users and modellers. Some past projects have been overwhelmingly top-down, with infrequent stakeholder engagement that was superficial, inflexible and highly structured, which in practice is used primarily as a means to disseminate a pre-constructed tool to potential end-users. SENSOR was designed explicitly to avoid this problem, yet the scope for shaping the development of the tool was still limited because the main component models that came to comprise SIAT, and the conceptual framework in which they were used, had already been fixed at the proposal writing stage. As a result, the social research ran largely in parallel to the work of the modellers.

In current DSS development projects, including Northern ToSIA, a more interactive approach is being pursued, whereby scientists, end-users and other key stakeholders work together as partners. The approach is collaborative, reflective, emergent, flexible, iterative and systemic – principles which characterise action research and a family of related approaches such as cooperative enquiry, Participatory Learning and Action, collaborative learning, mediated modelling, and participatory GIS. Importantly the process is facilitated in ways that maximise opportunities for collaborative learning, including 'second order' (or 'double loop') learning which challenges the status quo and its implicit theoretical assumptions (Owens *et al*., 2004).

There are likely to be multiple opportunities for stakeholders to inform all stages in DSS development and implementation: to define the scope and objectives, identify scenarios and indicators, refine assumptions, test and validate model outputs, and evaluate policy options, ideally as part of a real-time decision-making process. Such 'participatory modelling' was taken a step further in SENSOR with the development of a Framework for Participatory Impact Assessment (FoPIA) and its implementation in six European case studies. Semi-structured interviews were conducted with stakeholders to develop scenarios for the impacts of EU policies and other drivers on land use at regional level. Then, the same stakeholders were brought together in workshops to identify and weight sustainability criteria of local importance and to use their judgement alongside other available evidence to assess how the predicted changes in land use would impact on those criteria, and hence evaluate the relative benefits of each scenario (Morris *et al*., in

press). The use of FoPIA in this way can help validate and inform the development of models such as SIAT by exposing discrepancies between its generalised assumptions and local expert knowledge. Similarly, the final SENSOR project evaluation proposed further work to design and test a combination of FoPIA and SIAT as part of a deliberative process to support multiple steps in a real-time IA (Tabbush, 2009).

Modelling social impacts

Efforts have also been made, especially as part of EFORWOOD, to broaden the range of social values modelled within IA tools by developing an indicator 'recreational value of forests' to reflect the considerable public benefits derived from visits to forests. An assessment framework was developed around a typology of five Forest Management Alternatives (FMAs) which lie on a continuum from non-intervention to intensive production forest management. Each FMA was broken down into four age classes, which together give a total of 20 possible 'forest stand types'. A recreational score on a ten-point scale was then derived for each stand type in four contrasting case studies across Europe using a Delphi methodology with experts in landscape preference research. The scores were then combined with outputs from the forest resource projection model, EFISCEN, to assess changes in total recreational score for each European country between 2005 and 2050. The approach was then demonstrated for different levels of implementation of the Natura 2000 policy (Edwards *et al*., 2011). A similar approach was later applied in the Northern ToSIA project to assess impacts of forest management scenarios at the individual forest level in the Cairngorms National Park (Pizzirani *et al*., in preparation). The recreational scores were also examined using conjoint analysis to determine the relative importance of each FMA, age class, and tree species type in explaining the differences in recreational scores across Europe (Edwards *et al*., 2010).

Conclusions

The multiple roles played by social scientists outlined above are seen to be mutually supportive. The ability to facilitate stakeholder engagement in ways that provide useful insights for the development of DSS is dependent partly on how well the researcher can understand the technical and scientific aspects of modelling as well as the institutional and political context of the end-user. Following an action research orientation, the interactive approach to DSS development outlined above works best with small and cohesive teams, with individuals playing more than one role, as leader, facilitator, end-user, modeller, and/or technical specialist. In this way, DSS development 'does not have to address the "gap" between knowing and doing that befuddles so many change efforts and "applied" research' (Reason and Bradbury, 2008: 1) and the prospects for successful DSS design and uptake can be greatly enhanced.

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6. Social perspective on the 'ecosystem services' approach: what roles do culture and identity play?

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Introduction

The 'ecosystem services' framework developed by the Millennium Ecosystem Assessment (2005) aims to show the value of natural ecosystems to human well-being. 'Ecosystem services' are the ways in which human well-being, indeed survival, depends on the natural 'web of life'.

The focus in ecosystem services work so far has been on the supporting and regulating services, and diverse provisioning services – particularly indigenous subsistence uses – as a counter to short-term commercial exploitation. A simple definition is: 'The provisioning, supporting and regulating ecosystem services keep us alive – the cultural ecosystem services make us human.'

Notes on the four forms of ecosystem service, including some author thoughts and comments, are given below:

- **Provisioning:** what we take from nature – food, fibre, fuel, shelter. Market goods with market prices – also subsistence and forage such as blackberries and rainforest fruits.
- **Regulating:** local or regional 'liveability' processes, such as air and water quality, 'natural air-conditioning', pollination, waste biodegrading, etc. These perhaps merge into the next point.
- **Supporting – ecological processes:** fundamental global and micro-scale 'life support systems' that maintain all life on Earth.
- **Cultural:** recognition by ecologists and economists that people derive important value from appreciating and experiencing nature. Sometimes described as intangible, non-material, or non-consumer services – but the supporting and regulatory services seem just as intangible and non-material, while many of the 'cultural' services are very much consumer market qualities with direct monetary value. Perhaps better called 'experiential' or 'subjective' services?

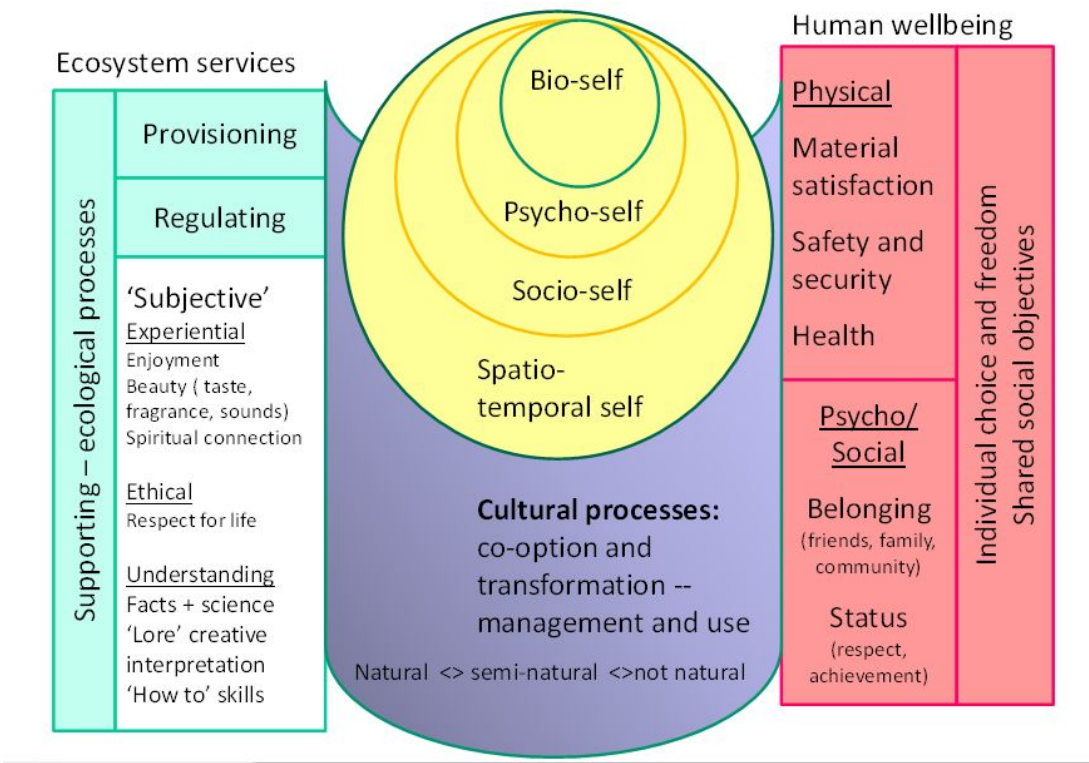
Problems with the 'human' side of the Millennium Ecosystem Assessment framework

The questions below arose during a discussion with social researchers working in environmental agencies:

- **What is 'culture' and how does it link to the natural world?**
- **Where does individual 'self', 'identity'** and thus diversity of subjectivity, ethnicity, circumstances and distributional equity issues, fit into the model?
- **Are the 'cultural' ecosystem services a coherent set**, or a ragbag that mixes qualities (aesthetics, spirituality) with activities (recreation, education)?
- **How should the boundary between 'nature' and 'culture' be drawn?** At what stage of human interference (or cultivation) does an 'ecosystem service' stop being nature and become culture?

Thought about these questions led the author to the framework illustrated in Figure 6.1. It introduces two 'modules' through which humans relate to nature: 'self/identity' and 'culture as process'. Interposing these allows what seems a more coherent 'subjective ecosystem services' box.

Figure 6.1 Suggested development of the human and cultural side of the ecosystem services framework (Judith Hanna 2010)



'Cultural' or 'subjective' services?

The Millennium Ecosystem Assessment use of the term 'cultural' seems to unhelpfully distort a key social science term, devaluing an important concept. Using the term 'subjective' services instead seems clearer. There seem to be three broad types of subjective relationship with nature: what we feel about nature, what we know or understand about nature, and the way we attach ethical values to nature.

1. **'Experiential' services:** emotional responses to nature, including the pleasure we get from beauty (visual, also auditory, taste and aroma). 'Emotion' is a word that scientists, policy-makers and practitioners try to avoid. We call it subjectivity, affect: we mean that many love nature as intensely as we fall in love, or love our children. Enjoyment and appreciation of nature inspire and motivate a vast range of recreational and creative activities. They also flavour practical interactions; for example choosing outdoor and environmental careers that deliver provisioning and regulating services.

2. **'Understanding' services:** cognitive knowledge we acquire and exercise about nature which includes not only scientific and factual information but also stories, pictures and other 'lore' that interprets and integrates facts with imagination, emotion and ethics – nature myths in all cultures, children's books. Nature knowledge also includes 'how to' skills we use to manage 'provisioning' and 'regulatory' services – what and when to harvest, avoiding flood risk – as well as how to paint landscapes, find our way with or without a map, recognise what is safe (to eat, to walk through) or just have the satisfaction of putting a name (and the lore that goes with it) to things we recognise. Understanding nature is the key to managing and using the whole complex of ecosystem services.

3. **Ethical services:** ethological studies suggest that being a social animal requires evolving a moral sense of sharing, reciprocity, fairness. Our innate ethical compass seems to include 'respect for life' – a sense that life is good, death is bad; that it is wrong to inflict pain and injury – and a feeling of relationship to other living entities. The basis for the concept of 'intrinsic value of nature' seems to sit here – a deep-seated ethical value.

A fundamental difference between all these subjective services and the other forms of ecosystem service is direction of relationship: we project subjective interpretations back onto nature as much as receive them from the natural world – a reciprocating relationship.

Self, identity and relationship with nature

Since Maslow's 'hierarchy of need' (Maslow, 1943), which is the basis for the 'components of well-being' module, expresses a concept of self, how does a separate 'self/identity' embedded-eggs module help? It is a reminder of the levels at which individual subjective and practical relationships with nature, and thus nature's value to individuals, will differ.

Psychological and **social** identity are core to social theory, but social science tends to neglect the implications of our biological nature: how sense of self is shaped and conditioned by the external environments in which we live. Perhaps this is precisely because these aspects of our selves have stronger connections to nature than to people-focused aspects of the 'social construction of reality'.

Biological self: humans are mammals, shaped by evolution, adapted to a very narrow range of temperatures. We are at the mercy of our biology: when we get ill, when we feel pain or discomfort, the simple but urgent nerve-messages of sentience override sapience. This is the level at which physiological and neurological responses to nature as relaxing or stimulating contribute to health and physical well-being.

Spatio-temporal: what surrounds us powerfully influences how we understand and feel about ourselves, about others we live among, the social identities and opportunities open to us. This is the level at which valued landscapes and features matter to us. There seem to be three aspects to self-identity from the natural environment contexts in which we live:

1. **Sense of place:** Feeling of 'home', of territoriality, of belonging to places we live, especially where we grow up, and continuing connection with places we visit. This is the level at which 'landscape' as a *gestalt* of all the elements that make up 'local character' matters to us. It seems also to operate as an immediate response to places: are they welcoming, pleasant, reassuring – or bleak, hostile, stress-inducing? We talk of 'putting down roots' and 'feeling uprooted' – metaphors explicitly identifying ourselves as plants. An ever-increasing body of work is developing powerful evidence on the impact of quality of place on individual and community well-being and health.

2. **Sense of heritage:** Sense of identity stretches over time: where we came from, claim to belong here, feeling of responsibility for the future of places that we belong to. Heritage is internalised history, what belongs to us of the grand parabolas of time and place, change and events – personal intersection with the big stories. Where we

spring from, what trace we leave for posterity, matters to our sense of self. Landscapes and place-names anchor these identity-stories in time and place.

3. **Biophilia:** people seem to feel innate affinity and fascination with other living creatures – that move and grow, that have their own volition. Feelings of kinship with the web of life are expressed in artistic, spiritual and mythic terms. It is, as noted earlier, fundamental to human ethical values. 'Biophilia' seems to be used as a basis of good parenting: pets, visits to zoos, animal story books, natural history programmes as family viewing.

Culture as process: co-option, transformation, management and use of nature

The social science definition of 'culture' is 'system of learned behaviours, norms, knowledge, technologies, etc. shared by members of a social group'. Many anthropological theorists have discussed 'culture' as the ways in which human societies differentiate ourselves from 'raw nature' (e.g. Levi-Strauss, 1983). The Millennium Ecosystem Assessment 'cultural services' box seems rather to view culture as 'how we entertain ourselves and keep the kids occupied'. During work on Natural England's *No charge* report (Natural England, 2009), economist Julian Harlow said rather exasperatedly: 'The way you are talking, everything is "cultural"'. Quite right – culture is how humans interact with both the natural and the human–social world; it filters and forms how we perceive, understand and value everything we encounter, and what we do in response.

One of the initial questions was how to draw the boundary between nature and culture. This paper suggests that chains of cultural processes apply as much to our interactions with the provisioning and regulating services as to activities based on the subjective interests and values we derive from nature, and that there are fuzzy gradients from 'natural' through 'semi-natural' to 'artificial', but no simple boundary.

Provisioning services: we farm or garden, applying knowledge and skills, e.g. what to plant, how we look after it, how to harvest useful crops. Up to the point of harvest, we act in the 'natural' realm – harvest puts the crop into a 'cultural' human realm, where we process it, apply rituals of trading, cuisine, dining. But without the natural basis, grasses of the *Triticum* genus, there is no flour, no bread – multiply from zero, and you have zero economic value.

Regulating services: likewise, we manage landscapes – e.g. adapting geomorphological contours to channel or hold, shed or soak up water. We plant trees for shade or aesthetics (or provisioning harvests), or cut them down.

The problem for economics is that the 'cultural' contribution, and the subjective values, knowledge, etc. that make it up, get subsumed into the economic value of the final provisioning or regulating product or service – thus rendering the subjective and cultural contributions invisible as distinctive value, and therefore as policy objectives.

'Cultural' or 'subjective' services: Just as gardening, farming and landscaping are culture-based human activities, so are activities undertaken to enjoy, or learn about, or philosophise ethically, about nature. Nature-based recreation, education and religion are not 'services' in themselves but culture-based activities: the actual services we get from the natural realm are pleasurable emotional and sensory responses, cognitive illumination and capabilities.

The subjective values we attach to nature have huge economic, often direct market, value: we pay enormous sums for beauty, and quality, and enjoyment, far more than we willingly pay for boring necessities. This does mean the well-off get more of them, and get to live in the nicest places with the best views. Evidence is accumulating that inequality of access to nature, as for other good things in life, results from economic inequality and exclusion and that enjoyment and interest in nature lie latent when scope to satisfy them is lacking. But much of nature is still free to enjoy, and to study and understand. For free public goods, participative and communal approaches based on ethical and subjective values and priorities are increasingly recognised as better than economic or monetary valuation approaches – particularly in a social world where economic disparities distort the meaning and value of money between rich and poor.

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7. Estimating aggregate amenity value of woodland views using spatial analysis

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Amenity values of woodland views can be evaluated from a number of perspectives including economic, social, historic, health and recreation. Reviewing current methods and approaches to valuing amenity woodland views, and green space generally, focusing on modern applied spatial geographic information system (GIS) techniques, is timely prior to further development and application of spatial valuation methods. The review revealed a paucity of nation-wide or large-scale valuations of street trees or woodland views in the UK based upon GIS analysis.

In particular, since earlier studies (Garrod and Willis, 1992; Garrod, 2002) on amenity value of woodland views for Great Britain, new spatial and demographic data allow for new methodology development and more precise valuation. Among other factors that motivate this research is the shift in government objectives (Forestry Commission) from an overwhelming concern with timber production to multi-objective forestry, where woodland is seen as delivering a stream of local benefits and ecosystem services. And, with continuing increase in the importance of these other benefits, the challenge of their valuation at different scales should be addressed. Additionally, the aggregate amenity value of woodland views represents a significant share of a total value of social and economic benefits of forests. One study (Willis *et al.*, 2003) reported a total value of social and economic benefits of forests in Great Britain of £1023 million (in 2002 prices), with the landscape component based on valuing woodland views from home and on journeys being the third largest (about 15% of total), after recreation and biodiversity benefits. Finally, one of the effects of forest ecosystem services is the potential impact of woodland views on property prices. This links benefits of woodland views to issues of national wealth and economic growth. From a national accounts perspective, housing is currently the largest single component of national wealth (56% in 2008 prices). The value of woodland views capitalised in the property prices and its input into the property price formation could therefore be very significant.

Informed by the review, the project builds upon analysis undertaken for the Forestry for People project (Edwards *et al.*, 2009) in Scotland. It further develops GIS viewshed methods (determine the locations visible to an observer) used in estimating amenity values of woodland views, and facilitates their application to datasets for other parts of

Britain. This research fills a gap in the methodology of amenity woodland views valuation by jointly using willingness to pay (WTP) estimates and applied GIS analysis for large geographic areas.

The objective was to develop a method of visibility analysis applicable to large-scale visual amenity estimations and to estimate the proportion of urban areas with woodland views for each urban centre. This proportion then serves as a proxy for the number of people with woodland views. The estimated number of households with views of woodland is combined with an estimated WTP from a previous study (Garrod, 2002) to yield an aggregate monetary valuation of woodland views.

The improved viewshed analysis methodology to determine urban areas with woodland views was developed and successfully applied, allowing large-scale valuation of amenity woodland views in Wales and the north of England. The large region in the north of England comprises two forest districts: Kielder and North West England. The region borders Wales to the southwest and is of comparable area, but with less woodland and a significantly larger urban area and population. The methodology gave consistent estimates of the aggregate value of amenity woodland views. The estimations yielded corresponding landscape values of £33 million and £56 million per year in 2007/08 prices for Wales and the northern region of England respectively, giving capitalised landscape values of £944 million and £1599 million for amenity broadleaved woodland views if a 3.5% discount rate is assumed. There are some interesting comparisons to be made. First, despite Wales having nearly 54% more broadleaved woodland than the northern region of England, the final aggregate value of the amenity broadleaved woodland views is nearly 70% higher in the northern region of England. This is so because of the second major ingredient in valuation process, namely the size and distribution of urban areas (Wales being relatively sparsely populated). For two similar regions in terms of area and forest cover, the expected conclusion is that the one with the larger urban population and more urban areas will be associated with a higher aggregate value for woodland views, with the estimated values illustrating the size of the difference in this case.

This methodology and its results provide country and regional forest agencies with a tool to aid in the assessment of multiple objectives in forest management. The tool has been found to be robust and effective. It could readily be used to value woodland views in other locations (given the necessary data) and is easily adaptable, with the possibility for a researcher to choose different parameter values at every step in the estimation process to fit the particular case study area.

The authors believe the method will prove useful to many forest researchers and agencies faced with balancing demands of multi-objective forest management. Estimates

of the amenity value of woodland views will help in considering potential trade-offs between traditional timber production objectives and other ecosystem services that woodlands provide.

For comparison, recent conservative estimates for woodland views imply capitalised values of up to £300 million for Scotland (Edwards *et al.*, 2009). An earlier study (Willis *et al.*, 2003) yielded capitalised values of about £540 million for Scotland and over £4 billion for Great Britain.

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Governance, policy and evidence

8. Constructing partnerships with state forestry: the British experience

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Introduction

Forest governance in Great Britain has experienced a transformation over the last twenty years. The state forest administration, the Forestry Commission, was established in 1919 to build up a strategic timber reserve, and has overseen a recovery from 5% to 12% woodland cover. As the pressure for self-sufficiency in timber has receded, and with a population of more than 60 million, priorities have shifted towards the provision of a broad spectrum of public benefits from Britain's woods and forests. This move to realising the multiple social functions of forests has seen the Forestry Commission develop a wide range of partnerships with other government departments, local government, community organisations and non-governmental organisations (NGOs) with an interest in woodland or environmental issues as well as environmental justice.

The evolution of partnership working and engagement with civil society within the Forestry Commission has strongly reflected wider trends and the general shift to partnership as a means of policy delivery in the UK since the mid-1990s. By the late 1990s as political administrations changed, New Labour was involved in a project to find a 'Third Way' of government, one that stepped beyond the traditional tension between choosing either market or public oriented approaches to enterprise ownership and the delivery of goods and services. The 'Third Way' that they promoted was concerned with creating a mixed welfare model of political economy (Kendall, 2000; Morris, 2000; Durose and Rummery, 2006; Powell and Dowling, 2006), or a political economy in which the third sector could 'offer choice and responsiveness in the delivery of public services [and] help promote local civic culture and forms of community development' (Giddens, 2000: 81, cited in Williams, 2002: 249). When the Labour government came to power in 1997, Scotland and Wales were offered through referenda the opportunity for their own governments. Forest policy and management was devolved to the new national administrations. Each of England, Scotland and Wales has developed its own national forest strategies, institutional structures and processes. Each of the three country strategies include statements about working in partnership and engaging with civil society as key to devolved forest governance and providing new benefit streams. As the Director General of the Forestry Commission said in 2002 'Forestry today is more complex and quality partnerships are more important than ever before, largely because

society has changed …. if there is a new or unfamiliar challenge it helps to work with others to bring their experience and knowledge to bear'.
A different pressure, which underlies a more strategic but less tangible drift towards partnership, is generated by the decentralisation of responsibilities for spatial planning. Instead of national budgets being set for woodland creation and management, allocations are made by regional and local governments, placing new and diverse demands for evidence and relationship on those responsible for woodland management. Again, these take different forms in each constituent country of Great Britain.

Research objectives and method

The objectives of the research were to:

- examine the evolution of the concept and practice of 'partnership' in these contexts;
- understand more about which kinds of partnerships and partnership working arrangements deliver Forestry Commission objectives;
- describe the factors which influence successful partnerships.

Particularly notable are the diversity of such partnerships arising as forestry moves into the less conventional spaces of 'urban forestry' including (in England) the Black Country Urban Forest, the National Forest and 12 Community Forests, and (in Scotland) the Central Scotland Forest. In Scotland and Wales a profusion of individual community woodlands has also arisen in more rural contexts, often through a history of adversarial relations evolving into horizontal partnerships, networks and associations between community organisations, which in turn have formed partnerships with the Forestry Commission.

The research method involved the collection and analysis (discourse and content analysis) of a number of datasets from England, Wales and Scotland. An initial scoping study was conducted in one location within England, Scotland and Wales. A total of 18 Forestry Commission staff and partners from two external organisations were interviewed using a common semi-structured interview checklist. A larger study of Forestry Commission England partnership working (Ambrose-Oji *et al*., 2010) included interviews with 33 individuals, 12 from civil society organisations, 3 from local authority partnership staff, and 18 Forestry Commission England staff from within the districts and regions. It also included the characterisation of 135 partnerships between the Forestry Commission England and other bodies in the form of a database. The final dataset was collected in a study of the National Forest Land Scheme in Scotland and new forms of partnership working emerging as a result of the new opportunities arising for community involvement (Lawrence, 2009).

The meaning and practice of partnership within the Forestry Commission

Most definitions of partnerships within the academic literature describe synergistic relationships between two or more organisations that are based on realising mutual benefits at a level beyond that which a single organisation could achieve alone (Macintosh, 1992 ; Greer, 2001). While this may be a commonly agreed key feature of partnerships, there continues to be much argument about the additional detail, and individual interpretations can differ quite dramatically (Glendinning *et al*., 2002; Roberts *et al*., 2002; Dowling and Powell, 2004; Powell and Dowling, 2006). Three different approaches to characterising partnership within the literature emerge as important in the context of this research. These are frameworks focusing on: the features of partnership describing power and relationship in terms of equality, mutuality and collaborative advantage; organisational form and the degree of sharing and mutuality (see for example Stoker, 1998); or the overall objectives of the partnership (see for example Macintosh, 1992).

As the following quotes show, the interpretations of partnership across the Forestry Commission recognise a number of different ways of characterising these relationships. In the first place a range of partnership relationships with different degrees of power-sharing can exist even within a single partnership arrangement but these asymmetries are not as important as agreed roles; there was a strong opinion that mutuality and equality in objective setting and working relationships was crucially important; and that systemic co-ordination, i.e. shared working practice and procedures were vital at different scale levels. In summary, the meaning of a partnership needs to be communicated and agreed among all parties within the partnership relationship.

> *There are different kinds of partnerships, they work differently, you know higher level stuff which is about influencing, and other partnerships which are about delivering real interventions …. but they have something in common and that is a degree of equality in how things are decided and organised …. you can't have a partnership with a dominant organisation …. it's something else then …. I'm sure a dictionary definition of partnership has something to do with equality and equal power*
> (Forestry Commission England)

> *What it means to me is genuine commitment of people to a common objective. It is about ownership, it's about building buy-in …. everybody agreeing on what's the key agenda and moving to deliver that agenda*

(Forestry Commission Scotland)

A real partnership is not just delivering one thing it's delivering a range of services over a long term and within that long term it is delivering specific projects …. and it will always be looking at developing community involvement, recreation, attending to harvesting jobs … so it will be doing its ongoing core work as well. There are different sorts of partnerships, there are professional partnerships right down to community partnerships. You might need a range of relationship types to get this to work in any one partnership
(Forestry Commission Wales)

Characterisation of partnership types and policy delivery

The partnerships that the Forestry Commission is involved with can be divided into four distinct types according to aim/objective:

- **Strategic** partnerships are about forward-looking, high impact relationships involving integration into governance and decision-making processes. There are ties to the work of Regional Forest Frameworks, to local authorities and local authority partnerships, and to regional development and planning fora.
- **Policy delivery** relationships are those concerned with a direct and explicit set of actions designed to deliver against a specific policy target. It is true to say that most, if not all, partnerships and relationships contribute to policy objectives. However, there are a particular set of partnerships where this is an explicit aim of partnership working.
- **Operational** partnerships and relationships are more to do with the day-to-day operations of the Forestry Commission. They are relationships that focus on organising activities and actions closely linked with the management of the public forest estate as well as the Commission's function as a grant aiding body.
- **Networking** partnerships and relationships may be formal or informal and are about sharing of information, communication and maintaining institutional contacts. They may also have associated sets of actions and delivery roles.

It is important to note that the boundaries between the categories are not always clear cut in practice. There are some partnerships, projects, programmes and activities that overlap between categories depending on the aims of the partnership and the way the partnership is defined. This is very evident in the partnerships concerned with policy delivery. These tend to cut across 'strategic' and 'operational' relationships.

Factors affecting success

There was little evidence to suggest that the form of the partnership, the way it is defined or constituted, was the most important feature of success. It is the fundamental principles of building good relationships and partnerships that emerge as more important. Relationships need to be objective driven, and the form of the relationship or partnership that is best suited to the delivery of these will vary from case to case. There was more evidence showing that in terms of achieving Forestry Commission objectives the best results were related to the type of organisations included in partnership relationships and what additional social capital and assets they could build as a consequence. Organisations with a dual scale of operation (i.e. a national strategic presence as well as a local operational capacity) were particularly successful partners. Organisational size was important too. There are generally much higher levels of engagement with medium-sized charities than with other sectors of civil society. There are 'medium' levels of engagement with larger and smaller charities, as well as trusts and professional organisations. The lowest levels of direct engagement are with community groups and those organisations which form part of what Pearce (2003) describes as the community and self-help sectors of the economy. The marginal costs of working with this segment of civil society are very high. Partnership working with medium-sized organisations was so successful because they had the capacity to transform and accommodate Forestry Commission objectives and build in shared working practices as well as maintaining effective communication.

Conclusions

The political and economic context in which the Forestry Commission currently operates is very fluid. The new coalition government has emphasised 'Big Society', localism and the greater inclusion of communities and civil society organisations as a fundamental route to governance. Partnership working is likely to continue as a delivery mechanism for strategic forest policy objectives, and the role of civil society and business partners is likely to increase in each of the three countries of Great Britain, albeit in different forms. Opportunities exist for developing new service delivery models with organisations that have the features of success. The Forestry Commission could find new roles creating space for innovation and entrepreneurship and facilitating productive relationships between representatives from the third sector and civil society at multiple scale levels for maximum impact. Partnership working with communities may take different forms in Wales and Scotland where actual and proposed changes to forest land ownership arrangements open new forms of governance with lower marginal costs of engagement. The future provides an interesting landscape for the development of forest partnerships in the years to come.

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9. The evolution of community woodlands in Scotland, Wales and England

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Introduction

The development of community woodlands in Great Britain is a highly diverse and dynamic situation. In this paper we focus particularly on 'community woodlands', rather than the broader and overlapping area of 'community forestry', which in Great Britain is often interpreted as nearly synonymous with 'urban forestry'. Community woodlands, defined as specific woodlands managed to some extent by a community group, are a more worldwide phenomenon, and by focusing on their emergence in Scotland, England and Wales we can compare this experience with international parallels.

Our paper is based on two years of research, to compare activities in the three countries. The authors of this paper are based in government and non-government organisations which are closely associated with the emergence, networking, technical support and organisation of community woodland groups, and have reviewed and summarised this experience. In 2009 we reviewed this experience (Calvert, 2009; Lawrence, 2009; Pollard and Tidey, 2009; Wilmot and Harris, 2009). This paper summarises those studies, and complements another paper which compares the policy developments around community forestry in the three countries (Lawrence *et al.*, 2009).

As theoretical context, we start from the well-known 'common property resource theory' of Ostrom and colleagues (e.g. Gibson *et al.*, 2000) which characterises key features of successful community resource management. From this has evolved an analysis which proposes 'three generations' of community woodlands (Lawrence, 2007):

- 'First generation' – structural factors such as tenure and formal roles and relationships.
- 'Second generation' – social equity and benefit-sharing.
- 'Third generation' – socio-ecological sustainability through adaptive forest management.

After outlining the experience of Scotland, Wales and England over the last twenty years, the paper focuses on key issues under each of these 'generational' headings and considers whether the model applies to the British experience.

An overview of community woodlands in Great Britain

Because there is a range of definitions of 'community woodlands', numbers can only be estimated. Various sources enable us to do this (see Table 9.1), and suggest that there are at least 600 community woodlands in Great Britain.

Table 9.1 Estimated numbers of community woodlands in the three countries of Great Britain

Country	Source	Number of community woodlands
Scotland	Community Woodland Association members http://www.communitywoods.org/	160 member groups
	Community woodland groups (Edwards *et al*., 2009)	138 community groups 13 500 members
England	Tidey and Pollard (2010)	about 300
	Community Forests http://www.communityforest.org.uk/	Originally 12 (currently 7)
Wales	Community woodland groups helped by Cydcoed programme (Owen, 2008; Wilmot and Harris, 2009)	about 160

Key events in each country are listed in boxes 1, 2 and 3.

Box 9.1. Scotland: significant dates in the development of community woodlands

1980s Central Scotland Forest Trust
1987 First community woodland purchased (Wooplaw)
1991 Reforesting Scotland campaigning organisation founded
1992 Assynt Crofters Trust
1996 Borders Forest Trust
1998 Laggan Forest Trust

1998	Ownership of state forest land devolved to Scottish Government
2000	Scottish Forestry Strategy
2001	Scottish Land Fund established
2003	Land Reform Act (and community-right-to-buy)
2003	Community Woodland Association
2005	National Forest Land Scheme (NFLS) (Forestry Commission Scotland)
2005	Woods In and Around Towns (WIAT) (Forestry Commission Scotland)

Ongoing: policy reviews, development of NFLS and WIAT

Box 9.2. Wales: significant dates in the development of community woodlands

1988	Oldest example of community woodland (local authority owned) identified in Wilmot and Harris (2009)
1993	Coed Cadw (Woodland Trust Wales) employs community forest officers
1994	Forest Enterprise supports community woodlands in some parts of Wales
1998	Ownership of state forest land devolved to Welsh Assembly
2001	Cydcoed programme (EU funding for community woodlands)
2007	Forestry Commission Wales forms 'Woodlands for People' programme
2008	Llais y Goedwig community woodland association established
2009	Forestry Commission Wales Pathfinder projects to explore new partnership models on public forest land

Box 9.3. England: significant dates in the development of community woodlands

1974	Oldest community woodlands established (Pollard and Tidey, 2009)
1991	Community Forests programme started
2002	Woodland Trust sets up Community Woodland Network
2004	Government funding for the Community Forest programme ended
2007	The Community Forests become financially independent
2007	Quirk Review on Community Management and Ownership of Assets
2008	North East Community Forest goes into administration

Evidence for three generations?

Scotland

First generation issues have been influenced by the Land Reform Act (2003), which gives communities the right to buy estates which come on to the market. However, this is not the only influence. Many other models of community ownership or management have

evolved, through negotiations between local groups, funders and landowners. Some of these possibilities have become more concrete and are formalised in schemes and guidance.

Second generation issues are reflected in debates about definitions of community. The definition used in the 'community-right-to-buy', which is based on residence within certain postcodes, is now widely used but does not meet with universal approval. Some see it as solving the problem of equitable rights and full participation, while others see it as a bureaucratic solution which can be used to aggravate differences within and between communities.

Third generation issues relate to the use of knowledge from different sources. Because many of the models of community forestry in Scotland are economic, forestry knowledge is often subcontracted outwith the community. The Community Woodlands Association provides regular training on species choice, harvest and thinning control, and notes that in fact this is the most straightforward way to provide support to communities. Community members' comments reflect learning:

> *we have learnt an awful lot about how you look after a managed forest which none of us I don't think had ever really done or thought about*
>
> *we've picked bits from the Forestry Commission but with the best will in the world none of us are ever going to become foresters*

Wales

First generation issues are represented by a broad range of tenure arrangements including owning, leasing, verbal agreement and formal agreements with Forestry Commission Wales, local authorities or private landowners. The study by Wilmot and Harris (2009) demonstrates the diversity of structures chosen for community organisations including cooperative, charity, trust and company limited by guarantee.

Typical second generation issues are revealed in conflicts over benefit-sharing, and over management decisions. The groups represent a wider range of definitions of 'community' than in Scotland, and include cooperatives . Some tensions have arisen between groups wishing to move towards timber and woodfuel production, and Forestry Commission legislative constraints relating to health and safety, and the Forestry Act (1967). A new 'pathfinder' programme is testing out new models for partnerships to overcome these constraints. A new Welsh community woodland association, Llais y Goedwig, was established in 2009 with 24 full members. Further organisational development is seen in the coalitions of Cydcoed projects (e.g. Ebbw Fach trail).

In relation to third generation issues, the Coed Lleol partnership and Llais y Goedwig organisation representing community woodland groups in Wales have recently organised a series of training events on woodland management.

England

The picture in England is less clear, because of the number and diversity of groups, and the lack of any national movement. The original 12 Community Forests, established in 1991–93, are peri-urban partnerships to promote tree planting and management for landscape and community regeneration. They cover large areas which include community woodlands. There are many other examples of community groups owning or managing woodlands in England.

The study by Pollard and Tidey (2009) is the first attempt to document this diversity. It shows that tenure is highly varied. For example, in their detailed survey of 23 woodlands managed by 22 groups, they found the following distribution of landowners:

- local authorities – 11
- the groups themselves – 5
- Woodland Trust – 3
- private landowners – 3
- Forestry Commission – 1

Of the 18 groups which did not own their community woodlands, 7 had formal management agreements with the owners. However, only 2 of the 11 groups working on local authority sites, had formal agreements.

Second generation issues were less in evidence in the English community woodlands sampled, and this appears to be related to the fact that most groups were motivated by a concern to conserve or protect a local woodland, for biodiversity, recreation or education. Production and economic use were not listed by any of the groups, as significant motivations. A few were producing beanpoles and firewood as a by-product from coppicing and other woodland management tasks. Some of the most frequent types of conflicts reported, therefore, were with local authorities in relation to tree felling and perceived failure to protect 'special places'.

In terms of third generation issues, relating to sustainable management, there was generally a greater demand for advice than for funds. Respondents reflected on low awareness and use of management or planting grants, and heavy reliance on 'people we know' for advice. Relatively little knowledge sharing or silvicultural experimentation is being conducted.

Conclusions

These three studies show that, while the characteristics of these three generations are all present in the evolving patterns of community woodlands in Scotland, Wales and England, they do not necessarily follow each other in the same progression as has been observed elsewhere.

The most important component of first generation issues, tenure, is particularly complex in Great Britain for historical reasons. It has further evolved with devolution and (in Scotland) land reform. Within the options available to them, community woodland groups have developed a range of informal and formal approaches to management, partnership, leasing and ownership. The roles of third sector organisations, and government agencies, have co-evolved with the community woodland sector. In Scotland, ownership and partnership are important modes of community woodland; in Wales, partnership is still more common than ownership, and in England (where the number and range of community woodland groups is still unknown) informal arrangements with local government or other owners are common. In all three, there is a sense that ownership is not always the ideal tenure arrangement.

Furthermore, the funding arrangements and options for purchase, project support and technical advice have all changed repeatedly in both Scotland and Wales. With changing criteria, large amounts of paperwork, and the requirements of health and safety legislation, there is a sense of 'running to stand still' among communities trying to develop their community woodland assets.

This co-evolution of governance mechanisms, including tenure and decision-making processes, makes the separation of 'first' and 'second' generation issues less distinct than situations observed in other countries.

Furthermore, the third generation mode of community woodlands, with adaptive sustainable management, is distinct and evolving in an interesting way in Great Britain. We have shown ways in which technical and location-specific knowledge about woodlands is accessed, exchanged and developed. This is an important area for future work, which would benefit from research linking it to the governance issues discussed earlier. Power-sharing and relationships between the woodland group, the wider public, local and national government, and peer networks, affect the generation and application of knowledge.

This is supported by some interesting examples of policy learning. In Scotland and Wales, the community woodland associations and networks have had a key role in

working with committed individuals in government agencies, to bring about policy change and create new options for community ownership and power-sharing. This situation is still very dynamic and continued learning and adaptiveness will be needed as suitable models emerge, and support the integration of woodlands into sustainable lifestyles across Britain.

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10. Measuring the impact of social forestry interventions

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Anyone involved in developing green-space projects will be familiar with the need to adequately demonstrate their effectiveness. For the third sector, this is a time-consuming, costly and at times a seemingly fruitless exercise.

The requirement to demonstrate value for money to funding stakeholders and in particular the health sector in a way that meets with their stringent requirements is beyond the scope of most small projects. Existing monitoring tools are too cumbersome, or require detailed processing and significant numbers of participants to reveal any meaningful data.

Recently, Small Woods has been trialling a system known as Quantitative Benefit Analysis (QBA) through its Social Forestry Project Wye Wood in Herefordshire. The system is required to be easy to use by both client and project officer, and give meaningful results that are acceptable to the health professionals Wye Wood works with.

Wye Wood offers health improvement and training opportunities to individuals referred from Community Mental Health teams, GPs, the Probation Service and schools. Participants learn woodland skills such as coppicing, green wood crafts, hedge-laying, walking and camp cooking in a supported safe environment.

As an individual passes through the programme, they are given several opportunities to progress, including becoming a project volunteer, gaining qualifications or becoming involved in the social enterprise.

The theory behind QBA is that it establishes a baseline for each client, covering physical health, mental health, social functioning and readiness for training or employment.

With QBA each competency is scored out of 100. Scores are then plotted against milestones, enabling both project officer and funder or referring partner to see how an individual is progressing. It had been intended that the score should be divided equally by four giving a competency grouping A–D, with A hitting the target in that competency level fully and D demonstrating low attainment as defined by each project.

The original intention of the QBA model was for individual projects to establish their own milestones against these four well-being/competency dimensions, then using a combination of self-reported health data, and observation over a period of time, demonstrate the distance and direction an individual travelled since joining the programme.

The rationale was that a project would be able to go to a funder and demonstrate in percentage terms how far an individual was likely to progress per intervention or programme funded.

However, Wye Wood in consultation with its referring partners, realised that this was easier said than done, as the level of research behind each milestone was beyond Small Woods' capabilities and that if each project was to write its own milestones, confusion could once again reign – as a sector we needed parity.

The project Health Development Worker recommended SF36, a self-reporting online form that records the first three dimensions: physical and mental health and social functioning. SF36 is known, understood and accepted in the health sector, particularly among occupational therapists.

Participants complete the form, with assistance if required, on arrival at the project. This system is repeated every three months and progress tracked accordingly. Until recently, when the project was funded to purchase a laptop, this was a time-consuming paper exercise reliant on participants taking forms home and completing them in their own time, so the results are not as comprehensive as they will be from now on.

By plotting the scores directly on a graph from the SF36 results we are beginning to be able to plot average project progression.

An unexpected outcome of this process was that it has enabled the Health Development Worker to implement a programme of regular reviews; something that was difficult to justify with previously adopted measuring tools which all required significant time-consuming data collection and processing to draw out any useful conclusions.

With this information the programme can be altered according to the needs of the client. The client is also able, at a glance, to see how they are progressing, or not, and to discuss any issues they may have. Where appropriate this is also discussed with the referring agency.

For example, a professional lady, known as client 'A', was referred to the project to assist her recovery following a breakdown in her mental health which had culminated in her being admitted to hospital as an in-patient.
'A' needed assistance in re-building her confidence and in re-socialisation, She also needed activities to assist her in re-structuring her life and in alleviating her anxiety as she recommenced work on a 'gradual return to work' basis.

When 'A' came to the project her baseline scores were: Total SF36 **Score 56**
- Physical Health 72
- Mental Health 29
- Social Functioning 63

At three months: Total SF36 **Score 41**
- Physical Health 52
- Mental Health 28
- Social Functioning 25

At six months: Total SF36 **Score 58**
- Physical Health 71
- Mental Health 36
- Social Functioning 25

During the three-month review process it was noted that the score had dropped. Discussion during the review found that 'A' had returned to work and was, as a result, more anxious and less physically active. She was having difficulty coping and was beginning to demonstrate some worrying behaviour. These findings were fed back to her Care Coordinator who was then able to discuss the issues in her next treatment session.

By working closely with client, referrer and project officer, the evaluation process was able to pick up a problem and help to resolve it effectively. Although the scores appear low in some areas, 'A' is now happily back in full-time employment as a result of increased support need identified by Wye Wood.

The forth competency dimension relates to readiness for training and employment. Thus far, Small Woods has not been able to find an appropriate system to evaluate this element, and again writing one in-house is beyond the technical competence of the organisation on its own. Additionally we have ascertained that understanding an individual's readiness for training or employment comes from the close monitoring of the first three dimensions. If those scores are understood, the progression options are clear.

It is worth noting that the '*New horizons*' mental health initiative (HM Government, 2009) emphasises the need to look at an individual's training, volunteering and employment potential from the outset rather than relying on wellness to determine their readiness.

Even if an individual is not as well as would have been demanded by previous thinking on employing someone with a mental health problem, Wye Wood has demonstrated, in the case of client 'A', that meaningful employment is possible with the correct support structures in place.

Wye Wood is working in partnership with Herefordshire Mental Health service to establish progression pathways from the social forestry core participants programme into Wye Wood Social Enterprise volunteer programme.

As patients progress into volunteering they may be graded as having a high, medium or low dependency. It is hoped that this will also assist the project in getting funding agencies to agree levels of financial support required to keep an individual meaningfully occupied on the project, thus enabling them to gain and retain an acceptable level of health.

Some individuals will never progress to employment as we perceive it, but given enough time, significant numbers of others can and are being supported into further training or employment.

If QBA is to be used as originally conceived it has become clear that more in-depth piloting is needed together with research funding backed by a university. Work needs to be undertaken to ensure the model is accepted by potential users/referring agencies. For this to be effective it needs to work across a range of potential clients (health, education, probation, etc.). In the meantime, Wye Wood has determined that in using the SF36 model and breaking down scores into the first three competency dimensions it has a very useful monitoring tool which is accepted by local health professionals.

As a sector we need to respond effectively to '*New horizons*' and encourage the health sector to listen to what we are able to offer, or, if they continue to have a problem accepting our data, tell us how to evaluate what we do in a way that is acceptable to them and their commissioners.

QBA was commissioned by Small Woods in 2008 with support from a range of funders and has been trialled and further developed by Kate Lawes, Kate Tudge and Katie Eastaugh. Full details on QBA and its use are available from Small Woods (www.smallwoods.org.uk).

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11. New virtue in virtuous forests: community woodlands in Scotland a decade on

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Introduction

Discursive claims for virtue are a key feature of the way in which people and communities valorise their local woodlands. These have been a key part of campaigns by communities for the establishment of their community woodlands since the early days of the community woodlands movement in Scotland.

This paper revisits research undertaken by the author into community woodlands in Scotland nearly a decade ago (1999–2001). That research resulted in the publication of a paper titled 'The virtuous forest: woodlands, community and identity in Scotland' (Evans, 2002) which, in part, looked at the discursive claims made by proponents in the constitution of their community woodlands. Nearly ten years on, the nature of what is 'virtuous' has changed as the sector has developed, as have the skill and venues used by proponents to claim virtue for their woodlands. This report addresses these new virtues based upon in-depth case studies conducted by the author in Scotland eight years later.

What is 'virtue'?

To a human geographer, landscapes are constantly produced by the interaction of physical environments and human activity. In this case, woodlands can be seen as 'landscapes'. According to Roland Barthes (1973), among others (Gregory, 1994; Castree and Braun, 2001), landscapes can be seen as *signs*. That is, they symbolise something. This immediately raises the question of what it is that is *signified.* 'Virtues' are positive human values which are signified by particular landscape formations – in this case, those of community woodlands. Furthermore, virtues belong to both the land and to the people who invest that value. Virtues are not static, however; they are always *enacted* by people who engage in various activities which are relevant to a particular landscape.

Landscape, discourse and meaning

In many ways, 'a landscape is a cultural image, a pictorial way of representing, structuring or symbolising surroundings' (Cosgrove and Daniels, 1988). Landscapes are

also, of course, material artefacts. Biological organisms and physical environments cannot be factored out of the making of place. Nevertheless, a landscape is something which is constructed by human inter-*action*: interaction between humans, and between humans and the physical environment. Landscapes are more than the product of isolated material processes – the shapes they become, what occurs within them, and the human and non-human lives within them are strongly constituted out of human beliefs, representations, norms and endeavours. It is in this sense that we can call a landscape a *discursive formation*.

Discourse and discursive formations

Discourse is not just about words, but about meanings. Discourse is 'The vast network of signs, symbols and practices through which we make our world(s) meaningful to ourselves and others' (Gregory, 1994: 11). A *discourse*, therefore, is the system of meanings out of which a discursive formation is constituted. From the study of semiotics, the term points to meanings formed or *signified* by a sign or symbol. The relationship between a sign, and what is signified, is socially constructed, that is, constructed and re-constructed through social acts, and can have little, or indeed nothing to do with the original content of the material sign.

A *discursive formation* is a constellation of meanings which emerge out of collective representations – representations performed in the inhabited life-spaces of communities, communities which may be local or extra-local to the discursive formation. Discursive formations are *iterated*. That is, each time a formation is iterated, its particular set of meanings is constructed anew, and so discursive formations are always in flux. Discursive formations are the constellations of meanings – meanings of existence, entitlement, relationship and power which are constituted out of *acts* of representation, iteration and interaction (Giddens, 1984). Discourses are the stuff of social action. Social structures do not exist as independent entities but are iterated through the *praxis* of social actors (Giddens, 1984). *New virtues in community woodlands* are the positive meanings attached to certain woodlands as a result of *discursive interventions* by certain groups.

Virtues 2001

At the beginning of the decade some communities made discursive claims which justified their applications for both permission to buy woodlands, and for loans and grants to fund those purchases. These claims of virtue included: 'This forest is the forest of our children's heritage'; 'This forest is the forest of our ancestors'; 'This forest is the forest for our children's future'; 'This forest is the forest of local economic development'; and 'This forest is a forest of biodiversity'. Through the use of these claims of virtue, many community woodland groups were successful in accessing land and the funds to

purchase it, as well as funds to plant trees, develop paths and other assets. At the time there was, of course, a sense of 'making it up as we go along', a sense of being pioneers in what was a new endeavour in Scotland.

Virtues 2010

A decade on, the community woodland movement is well established in Scotland. The number of community woodlands continues to grow and the creation of the Community Woodland Association (CWA) marked a key moment in its growing maturity as a sector. In 2008–09, in collaboration with Dr Alex Franklin of Cardiff University, I undertook a study for the Forestry Commission investigating the social benefits as part of the Economic and Social Benefits of Forestry for People in Scotland research project (for more details see Evans and Franklin, 2008). What follows was generated by that study.

New virtues 1 – health and well-being

New research points to the value of green spaces, and in particular, woodlands, in the promotion of health and well-being (Newton, 2007; Weldon and Bailey, 2008). Much of this literature comes not from the field of forestry, but from the fields of medicine and psychology. The Forestry for People in Scotland Social Benefits study (Evans and Franklin, 2008: 109) found that:

Forests and woodlands are spaces for new healthful activity.

- They are of particular value in the campaign to counter growing obesity and over-sedentary lifestyles.
- Social referral to forest access programmes is a small, but growing phenomenon.
- Forest walking is highly popular, both in formal groups and informally around other activities. Walking in forest environments encourages participants to sustain their active lifestyles.
- The kind of social activity which takes place in events such as woodland walking programmes has a positive effect for mental health. It is of particular value for people suffering from anxiety disorders and depression.
- Community forest and woodland spaces constitute ideal vehicles for new health partnerships which focus on improving lifestyles and levels of activity.

Furthermore, there has recently been the creation of local Health and Well-being partnerships in Scotland, which invest in 'preventative medicine', focused around improving lifestyles. Some community woodlands and some Forest Enterprise Community Officers have become very successful at accessing some of these new funds. And, when they do, they make claims of new virtues of health, fitness and well-being.

New virtues 2 – partnership

Partnership working was key new finding in Forestry for People in Scotland Social Benefits study. The research found that, compared to 2001, there was increased capacity to support partnership working across a range of social benefits provision. This included partnership with others such as the local authority, the local health trust, the local educational authority and local archaeology groups. There is a growing impetus for local and other authorities in Scotland to work in partnership, and this was taken advantage of by different community woodland groups.

Another new phenomenon was the new role of Forest Enterprise community development officers. Working with communities they help develop proposals which will attract funding to develop the community woodlands. This represents a considerable change in the reputation of Forest Enterprise officers, at least in the eyes of many community woodlands, as formerly their main role was to manage harvesting in efficient ways which often left the community with clear-felled areas and no local employment. The Forest Enterprise officers who were interviewed in the Forestry for People Social Benefits study showed great skill in building partnerships and in supporting and enabling community woodlands. They brought forest expertise to new communities, particularly in the highly urbanised Central Belt.

Whether coming from the community woodlands themselves, or in concert with Forest Enterprise officers, the claims of virtue revolved around how the presence of a community was often the gateway for accessing funds, both capital and operating funds, which could achieve the outcomes of both the communities and the partners they were working with. The latter includes the Forestry Commission, local authorities and other local service providers.

New virtues 3 – community assets

Over the last decade, the idea that communities have assets has taken hold and become quite a mainstream position. By assets, it is meant the categories of things, material and intangible, which are included under the model of Asset-Based Rural Community Development (ABRCD) (Evans, 2006). ABRCD suggests that for true sustainable development to occur, the communities involved must bring assets to the 'development table' which are recognised and valued by all partners. In this way, the communities can 'take ownership' of the development. Over the past decade, community woodlands have increasingly functioned as the pivot around which communities develop a wide range of activities and provide a wide range of benefits.

Some urban/rural differences in new virtues

In urban areas, we found social enterprises to be primarily delivering services, especially health and well-being. These were often key partners in developing community woodlands. Furthermore, urban regions featured dense networks among other local service providers, often instigated by the providers rather than service users. Key to these partnerships was their primary focus on addressing multiple deprivation, which features so strongly in Scottish cities.

In rural Scotland, we found that the social enterprises involved with community woodlands primarily deliver identity resources and local economic development benefits. This is because in rural areas deprivation is not concentrated as highly as in cities. Rural communities have a different set of needs, which shape what they use their woodlands for, and thus the kind of virtues which they claim for them. Community woodlands were part of dense networks among local enterprises, social and private, more widely distributed through the local region. They deliver economic opportunities and identity resources more widely across the region than do their urban counterparts. Plus, discussions with community woodland actors in the rural areas show that they are redefining 'who' the local community is to a wider spatial scale.

Overall, it can be said that across the urban/rural continuum, community woodlands deliver both similar and different social benefits. They directly address differing needs of differing communities. They still remain a pivot around which communities organise to meet their respective needs. This relative success brings its own challenges, however. Some challenges which have emerged over the decade include how to plan for a transition to sustainability – that is, from support from grant funding to reliance upon trading revenue. Also, given the length of time for which many community woodlands have now existed, there are issues about how to replace the pioneering cohort with new members and officers. Growth brings challenges about how to keep the focus on local people, local needs and local priorities. And, as ever, given that so much success has come from a bottom-up approach to development, how can that focus be retained?

Conclusion

There have been three major sets of new virtues in the community woodland scene in Scotland since 2001. These are:

1. Increased skill and professionalism in community woodlands
- in research
- in project management
- in political presence (CWA).

2. New virtues of health and well-being – community woodlands as key partners in delivering these services.
3. The changing role of Forest Enterprise and the Forestry Commission more generally, not only to encourage, but also to enact change in concert with communities.

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Appendix

A copy of the full conference programme and programme can be found here:
Conference programme and abstracts (PDF-1331)

Available presentations in alphabetical order by title:

- Access for all? Barriers to accessing woodlands and forests in the UK (PDF-1863K)
  Dr. Jake Morris *et al.*, Forest Research
- Are we creating problems for the future? Children, young people and the concept of 'nature deficit disorder' (PDF-3632K)
  Dr. Liz O'Brien, Forest Research
- "Are you in or out?" How working in woodlands can help build communities (the example of Offenders & Nature schemes) (PDF-783K)
  Claudia Carter, Forest Research & Aaron Pycroft, University of Portsmouth
- Branching out : greenspace on referral (PDF-1888K)
  Hugh McNish, Forestry Commission Scotland and Neil Wilson, NHS Greater Glasgow & Clyde
- Britain's lost wood culture (PDF-37K)
  Dr. Gabriel Hemery, CEO Sylva Foundation
- Constructing partnerships with state forestry, the British experience (PDF-777K)
  Dr. Bianca Ambrose-Oji *et al.*, Forest Research
- Cultural and ecological well-being through art in forests (PDF-3053K)
  Dave Pritchard, UK Arts and Environment Network
- "Dangerous" urban trees and community health and safety (PDF-957K)
  Dr. Norman Dandy, Forest Research
- Diversity at Sherwood Forest District (PDF-3359K)
  Jo Lindsay, Forestry Commission
- Ecosystem services and human culture (PDF-874K)
  Judith Hanna, Natural England

- Estimating the aggregate amenity value of woodland views using spatial analysis review and application (PDF-655K)
  Dr. Vadims Sarajevs, Forest Research
- Evaluating stress relief in urban green and open spaces: Does perceived naturalness make a difference? (PDF-3206K)
  Anna Jorgensen and Edward Wilson, University of Sheffield and Agnes van den Berg, Wageningen University
- Forest Kindergarten: a natural approach to developing health and wellbeing and learning in young children (PDF-1427K)
  Karen Boyd, Forestry Commission Scotland
- Forest landscapes: affective embodiment, identity and materiality (PDF-968K)
  Dr. Owain Jones, Countryside and Community Research Institute
- Forest Policy. Negotiating tradeoffs - who's in charge? (PDF-822K)
  Alec Dauncey, Bangor University
- From network to neighbourhood: Easterhouse and its position within the GCV Green Network (PDF-1670K)
  Max Hislop, GCV Green Network Partnership
- Governance, multifunctional forestry and economic literacy (PDF-391K)
  Bill Slee, The Macaulay Land Use Research Institute
- How trees attract tourists
  Prof. Hervey Gibson, Cogent Strategies International Ltd (PDF-526K)
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