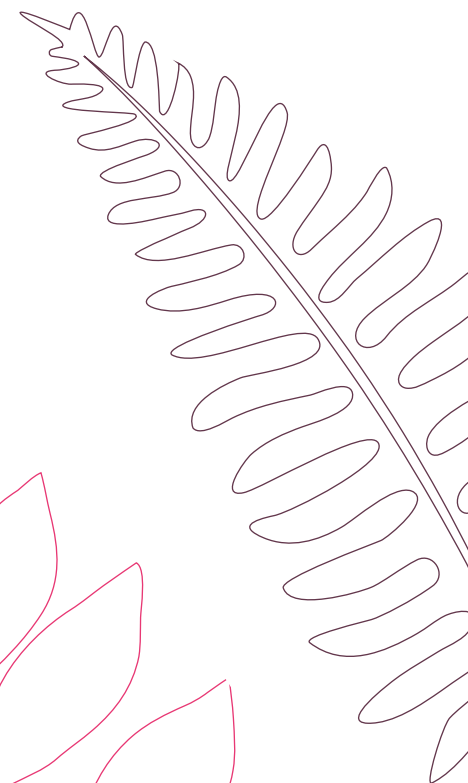**2017** BRITISH
WOODLANDS
SURVEY

Shaping the Future of Forestry:

Report of the British Woodlands
Survey 2017

Respondents

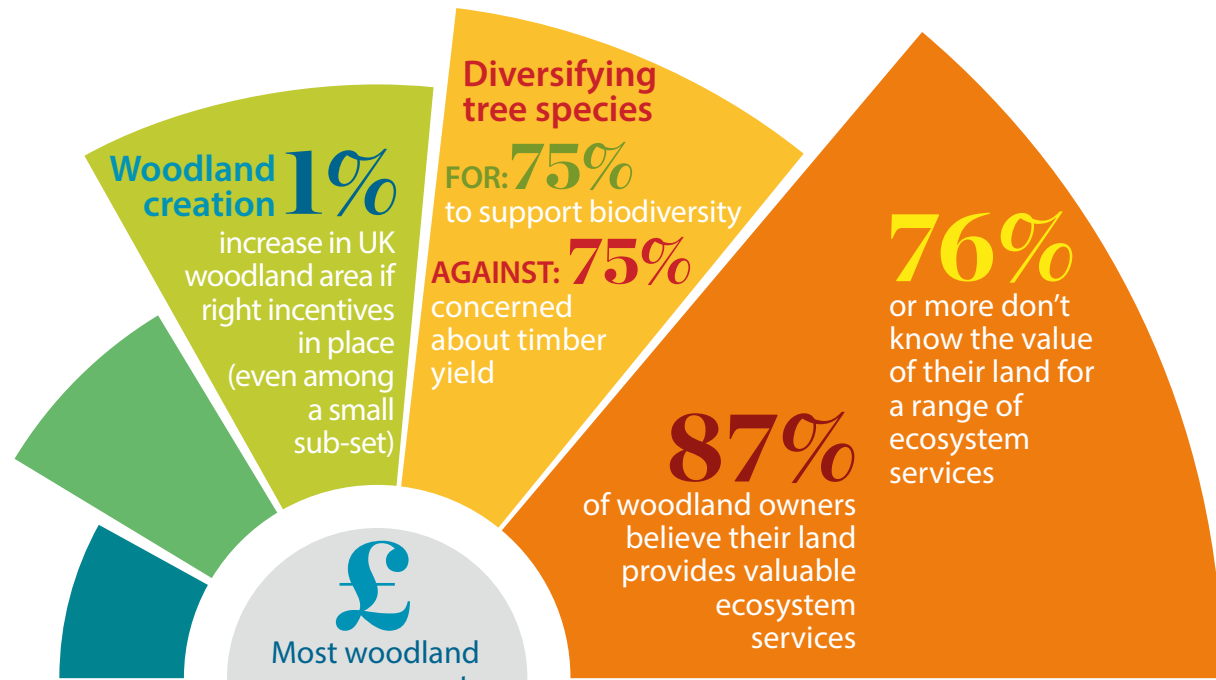**1,630** People across UK

180 Forestry agents

660 Woodland owners

645,370ha Woodland represented

1/5 of all uk woodland area

Woodland creation 1% increase in UK woodland area if right incentives in place (even among a small sub-set)

Diversifying tree species

FOR: 75% to support biodiversity

AGAINST: 75% concerned about timber yield

£ Most woodland owners report financial loss over last five years

76% or more don't know the value of their land for a range of ecosystem services

87% of woodland owners believe their land provides valuable ecosystem services

1/3 England interested in helping devise future forestry strategy

8 Wales fold increase interest in collaborating to share profits

1/3 Scotland in favour of rewilding

No. **1** theme: **Social attitudes**

2 Climate change adaptation
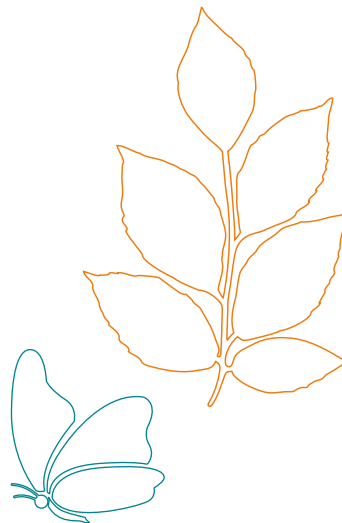
3 Pests and diseases

No. 1 woodland owner motivation Protecting/ improving nature

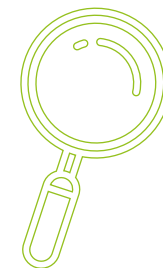**Two thirds** of woodland owners provide public access

Majority think society values woodland most for its wildlife

Biosecurity

Only **13%** woodland owners offer disinfecting facilities

Pathogens **76%** people observed damage in last five years

2017 BRITISH WOODLANDS SURVEY

www.sylva.org.uk/bws

Contents

Acknowledgements

About the British Woodlands Survey

The British Woodlands Survey (BWS) gathers evidence about Britain's woodlands and those who care for them. The BWS aims to provide an evidence base on which future policies and practice can be developed. BWS2017 is the first repeat survey in a five-year cycle of major surveys intended to explore broad themes (the first survey taking place in 2012). In the intervening years two national surveys explored specific themes. The BWS is co-ordinated by Sylva Foundation. For more information visit: www.sylva.org.uk/bws

Citation

Hemery, G., Petrokofsky, G., Ambrose-Oji, B., Edwards, D., O'Brien, L., Tansey, C., and Townsend, M. (2018). Shaping the future of forestry: Report of the British Woodlands Survey 2017. 34pp. www.sylva.org.uk/bws

Executive summary

We adopted a '360-degree' research method for British Woodlands Survey 2017, whereby stakeholders were engaged in designing the survey, providing data, and reviewing outcomes. Forty-eight workshop delegates ranked priority themes provided by 221 respondents in an initial survey, for UK countries: England, Scotland and Wales. Overall, *Societal attitudes* ranked highest, followed by *Climate change adaptation,* and *Pests and diseases.* Within countries, additional top-ranking themes included: for England, *Tree Planting* and *Timber Production;* for Wales, *Private woodland owner engagement;* and for Scotland; *Profitability and Natural capital.*

The main survey, based on these themes, was conducted online during summer 2017. Responses were received from 1,630 people, distributed across the UK. The majority of respondents (660) were private woodland owners, who together with 180 forestry agents, controlled 3,629 woodland properties covering 645,370 hectares. The response represented 28% of all private sector woodland area in the UK (2.30Mha), and one-fifth of the total UK woodland area (3.17Mha).

Woods and Society: Respondents recognised the high value held among wider society of woodlands as places important to wildlife; and those with the aim of improving biodiversity recognised that their management practices were strongly influenced by the general public. Half of respondents believed that human health and well-being was a social good, yet only a minority (17%) considered financial incentives a factor in social good-related management activities.

Value and Economy: The majority of woodland owners and agents reported a financial loss in woodland profitability over the last five years, stating that this represented no change, while one-fifth reported making a profit. *Natural capital* ranked sixth as an overall theme, yet there was considerable uncertainty about the term and the services we derive from it ('Ecosystem Services'). Conversely a large majority (87%) considered their land provided valuable ecosystem services, but did not know, or were uncertain, about its economic value. A majority were uncertain about entering into a binding contract to provide ecosystem services in return for an income. Questions exploring roles and relationships across the woodchain revealed limited relationships among timber growers, whilst timber buyers and harvesting contractors had the widest reach. A small proportion of respondents currently belonged to any form of co-operative but there was significant interest in belonging to one in future.

Environmental Change: Respondents were strongly motivated to diversify tree species in order to support *Biodiversity* (76%) and *Forest health* (72%). *Timber yield* was the strongest motive against (75%) tree species diversification. There was strong awareness of environmental changes observed in woodlands in the last five years, particularly for *Pathogen damage* (76% observing change), and *Vertebrate pest damage* (48%). In making provision for environmental change, woodland owners were most likely to have acted to control or minimise effects from vertebrates, and in sourcing tree planting material. To promote biosecurity most respondents considered risks when acquiring planting stock, yet a minority provided cleaning and disinfecting facilities, either for visitors (6%) or for those working in their woodland (13%).

Skills, Training and Knowledge Transfer: Woodland owners stated a strong preference to receive *Advice from an onsite advisor* over any other type of support, whilst *Printed information* was least popular. Some groups were more likely to seek *Information online*. Overall, most respondents felt that their views were poorly represented in policy formulation, development of practice guidance, and in the setting of research priorities, although professionals and businesses felt better represented, especially among members of Confor and the Institute of Chartered Foresters.

Woodland Creation: Tree planting received a medium rank (9 of 17) in England and Scotland. 57% of respondents had not planted trees in the last five years, while among those who had planted, 45% stated that grant income had been an incentive. Among those willing to consider more tree planting, *Complexity of regulations, Lack of grant aid* and *Threats from deer/squirrels* were the greatest disincentives. In terms of the type of any future planting, Restocking would make up the largest area (42%), followed by *New planting on existing land* (40%), and *Land purchased for the purpose* (17%). Woodland owners indicated that if the right incentives were in place (in declining importance: *Grant aid, Viable source of other income,* and *Free/low-cost advice),* then the total area 'offered' for tree planting would amount to 26,218ha, representing a 1% increase in the UK's woodland area, even among a relatively small sub-set of owners. In terms of tree species choice, the majority of respondents were confident about which species were suitable for land they own or manage, and did not rely on any sources of advice. A minority (18%) had consulted the Ecological Site Classification (ESC) tools. Six tree nursery businesses responded to the survey, some indicating they were considering diversifying the range of species traded in the next five years by up to 25%. Nursery respondents believed that *Grant aid* would have the greatest impact in encouraging tree planting, followed by a *Viable source of income* for woodland owners in future.

England: Of the 511 respondents answering one or more questions relating specifically to England, 60% were woodland owners. Of those who had received funding, people were on average satisfied with the advice received from Forestry Commission England, but more neutral about advice received from Natural England and the Environment Agency. Questioned about the vision for forestry in England, only *Nature conservation* was considered well integrated, *Environmental protection* adequately integrated, while *Agroforestry, Agriculture, Horticulture* and *Urban green space* were thought poorly integrated. More than one-third of people were interested in helping devise a future forestry strategy for England, preferring to do so online.

Scotland: Responses were received from 192 people to questions relating specifically to Scotland, of these 40% were woodland owners and 32% forestry professionals. Half of all respondents declared they had read the Scottish Forestry Strategy, but there was less familiarity with the National Planning Framework, and Low Carbon Economic Strategy. Similar to England, respondents considered *Agroforestry, Agriculture, Horticulture* and *Urban green space* to be poorly integrated landuses in the vision for forestry in Scotland. One-third of responses were in favour of land reform, while the main personal motivations for changing landuse in the future were (in declining importance): *Environmental enhancement, Income generation, Environmental protection,* and *Land value.* One-fifth of respondents stated they had managed land for rewilding in the past, yet more than one-third stated they were likely to in future.

Wales: About one-half of the 162 respondents answering questions relating specifically to Wales were woodland owners. In terms of familiarity of three key policies, the majority of respondents were only aware of the Environment (Wales) Act. Little change between current and future potential landuse was reported by respondents for *Managing floods* and *Producing food,* yet there was a 54% fall in aspiration for creating more woodland cover in the next five years. A majority collaborated to *Share knowledge and expertise,* while only one-third collaborated to *Achieve economies of scale in woodland management,* or to *Control pests and diseases.* There was an eight-fold increase in those willing to collaborate with others in future to *Share profits.*

Introduction

Since its launch in 2012 (Nicholls *et al.,* 2013), there has always been an intention to repeat the main British Woodlands Survey (BWS) on a five-year cycle, with smaller surveys on specific themes in-between. Hence, the BWS2017 is the first of these repeat main surveys, offering researchers an opportunity to measure changes in awareness, action and aspirations among actors in the British woodland sector in this five-year period.

In forestry this is a short timescale but in fact there have been a number of very significant immediate and anticipated impacts affecting governance, our economy, the environment, and wider society, for instance: BREXIT and planning the replacement of the Common Agriculture Policy (CAP); devolution and the publication of separate forestry strategies for countries in the UK; increasing land and timber values; the continuing increase in the number and distribution of pests and pathogens; and the launch of the Tree Charter.

Science can be criticised all too easily as being remote from the 'real world' and as a consequence, of failing to hear the views, or meet the needs, of practitioners. For BWS2017 we developed a new method which saw many more stakeholders involved in helping design the shape of the survey, even before we solicited people's views of key issues and gathered data. As a result, we can be confident that the results from BWS2017 are not only interesting and revealing, but highly attuned to the perceptions and therefore the current needs of the sector.

Research method

A novel approach was adopted for the 2017 British Woodlands Survey whereby stakeholders were repeatedly engaged in the design and delivery of the survey, from setting the main themes through to interpreting its results; an approach we termed '360-degree research'. The method consisted of five main phases (Figure 1) co-ordinated by a steering group comprising the authors of this report. The reasoning behind the methodology was: 1) to enable all stakeholders to have a say; 2) to ensure the survey themes were current and fit-for-purpose; and 3) to ensure the research was tightly focussed thereby avoiding an over-expansive and unbound survey.

Figure 1 *The five main phases adopted in BWS2017 to support the '360-degree' research method.*

Phase I – Proposing priority themes

In **Phase I** we identified a shortlist of priority themes of current interest to the forestry sector in Great Britain. A set of ten priority research questions developed in 2008 (T10Q: Petrokofsky *et al.,* 2010), which had gained some policy and research traction, were mapped on to themes and adopted as a starting list. Stakeholders were asked to order these according to their importance in a short online survey in 2016, and also suggest new themes which could be added to (or replace) the original ten themes. Stakeholders were engaged directly via email following individual expressions of willingness to take part during BWS2015 (Hemery *et al.,* 2015). In total 221 respondents took part in the Phase I online survey in which 50 new themes were identified and coded using keywords developed iteratively. The seven most frequently occurring themes were added to the original ten, resulting in 17 new main themes (detailed below).

Phase II – Prioritising GB themes and identifying country themes

In **Phase II** we held a series of four workshops during 2017, two in England (Oxford and Grantham in February), and one each in Wales (Machynlleth in February) and Scotland (Edinburgh in March). The aim of these was to facilitate a group of stakeholders in prioritising the themes of the future survey.

Forty-eight delegates took part, self-selected from those taking part in BWS2015 or in the Phase I survey. The aim was for delegates to prioritise the list of 17 themes for Great Britain, with each workshop identifying its own shortlist of 10 priority themes. In addition, each workshop focused on issues of country importance (England, Wales and Scotland) by identifying a further three themes of importance, if necessary outwith the seventeen themes. Attendance ranged from 10 to 14 people. Table 1 shows representation among the workshops by self-described sector. While these breakdowns indicate the range of participants, it is also worth highlighting there were multiple identities and opinions expressed by participants within each type, as well as differences in individual level of engagement in workshop discussions.

Table 1 *Workshop (Phase II) participants by sector and country/region.*

Participant sector	England Oxford	England Grantham	Wales	Scotland	Total
Landowner	4	3	3	4	14
Forestry business	2	1	2	1	6
Forestry professional	0	3	1	1	5
NGO	2	2	3	3	10
Other	1	1	1	1	4
Research	1	0	2	2	5
Government	1	0	2	1	4
TOTAL	11	10	14	13	48

Social scientists from Forest Research undertook two different research exercises during the workshops, namely:

i.   Active Listening which was used to collect additional detailed evidence about issues concerning different kinds of participants, and the reasoning behind their ranking decisions;

ii. Process Evaluation achieved by documenting and assessing participant comments about the workshop process through the use of evaluation forms and Active Listening notes.

The qualitative evidence collected during the Active Listening was organised around six research topics. These topics were informed by a series of 51 qualitative semi-structured interviews conducted in late 2016 and 2017 with selected woodland owners and managers, across the United Kingdom who had responded to the 2015 BWS survey. These topics related to issues that had arisen during discussion about their woodland and forestry practice, and different perspectives expressed by different types of woodland owners/managers. This evidence, along with the Active Listening data, added additional insights around the priorities of small woodland owners, as well as the other stakeholders involved in the BSW2017 methodology.

The evaluation evidence provided a rapid technique to identify any refinements to the workshop methodology which could be applied at subsequent workshops. The data also contributed to the 360-degree evaluation process, helping to learn and assess the effectiveness of the approach adopted, and adapt the methods accordingly.

The outcomes of the Phase II workshops demonstrated wide differentiation among them for some themes, for example low priority was given to *Tree planting* in Wales, while consistently strong support was expressed across all workshops for other themes (Table 2 and Figure 2). To ensure balance across the countries the results from the two English workshops were combined; first by taking a mean rank between the two and then reassigning a rank from 1-17. No attempt was made to take account of differences in numbers at the four workshops: the results of each one stand as the single outcome.
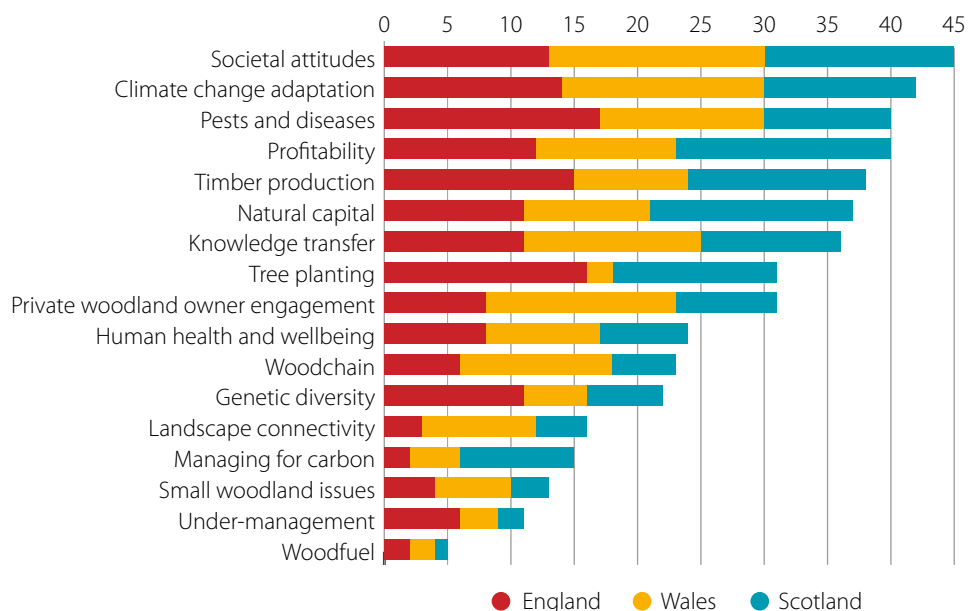
Table 2 *Results of themes ranked at the four workshops. The combined ranking, 'ALL', was calculated from the four workshops excluding the 'England (combined)'.*

Rank	Oxford	Grantham	England (combined)	Wales	Scotland	ALL
1	Pests and diseases	Pests and diseases	Pests and diseases	Societal attitudes	Profitability	**Societal attitudes**
2	Climate change adaptation	Timber production	Tree planting	Climate change adaptation	Natural capital	**Climate change adaptation**
3	Knowledge transfer	Tree planting	Timber production	Private woodland owner engagement	Societal attitudes	**Pests and diseases**
4	Tree Planting	Societal attitudes	Climate change adaptation	Knowledge transfer	Timber production	**Profitability**
5	Profitability	Under-management	Societal attitudes	Pests and diseases	Tree planting	**Timber production**
6	Human health and wellbeing	Profitability	Profitability	Woodchain	Climate change adaptation	**Natural capital**
7	Genetic diversity	Small woodland issues	Genetic diversity	Profitability	Knowledge transfer	**Knowledge transfer**
8	Timber production	Private woodland owner engagement	Knowledge transfer	Natural capital	Pests and diseases	**Private woodland owner engagement**
9	Natural capital	Natural capital	Natural capital	Human health and wellbeing	Managing for carbon	**Tree planting**
10	Woodchain	Climate change adaptation	Human health and wellbeing	Landscape connectivity	Private woodland owner engagement	**Human health and wellbeing**
11	Private woodland owner engagement	Genetic diversity	Private woodland owner engagement	Timber production	Human health and wellbeing	Woodchain
12	Societal attitudes	Woodchain	Under-management	Small woodland issues	Genetic diversity	Genetic diversity
13	Managing for carbon	Human health and wellbeing	Woodchain	Genetic diversity	Woodchain	Landscape connectivity
14	Landscape connectivity	Landscape connectivity	Small woodland issues	Managing for carbon	Landscape connectivity	Managing for carbon
15	Woodfuel	Knowledge transfer	Landscape connectivity	Under-management	Small woodland issues	Small woodland issues
16	Small woodland issues	Woodfuel	Managing for carbon	Tree planting	Under-management	Under-management
17	Under-management	Managing for carbon	Woodfuel	Woodfuel	Woodfuel	Woodfuel

Figure 2 *Theme priority results across four workshops (two England workshops combined) showing contributions by each workshop.*

Table 3 *Themes ranked during Phase II, showing those ranked in the top ten for all three countries (1-8), additional themes ranked in the top ten within one or more countries (9-14), and themes specific to each of the three countries (unranked).*

Theme	England	Wales	Scotland
Societal attitudes (1)	██	██	██
Climate change (2)	██	██	██
Pests and diseases (3)	██	██	██
Profitability (4)	██	██	██
Timber production (5)	██	██	██
Natural capital (6)	██	██	██
Knowledge transfer (7)	██	██	██
Private woodland owner engagement (8)	██	██	██
Tree planting (9)	██		██
Human health and wellbeing (10)	██	██	██
Woodchain (11)		██	
Genetic diversity (12)	██		
Landscape connectivity (13)		██	
Managing for carbon (14)			██
Skills, education and training	██		
Governance	██		
Funding and policy to integrate forestry in wider landscape	██		
Vision for English forestry	██		
Landuse change		██	
Knowledge transfer		██	
Small-scale collaboration		██	
Landuse change			██
Delivery of woodland expansion			██
Scottish landuse strategy			██
CAP reform			██

Of the 17 main GB themes, eight were prioritised within the top 10 for all three countries (Table 2). Six themes (ranked 9-14 overall) were ranked within the top 10 for one or more country, providing a further three themes for England and Wales, and one for Scotland. Three themes (15-17) were excluded from the top 10 at all four workshops, these being *Small woodland issues* (15), *Under-management* (16), and *Woodfuel* (17), and thereafter excluded from further GB-level consideration in the 2017 survey design.

In addition to the 17 themes, delegates at each workshop identified a further three (Wales) or four (England and Scotland) themes for each country, unconstrained by the themes already discussed and prioritised (Table 3).

Workshop delegates were also asked to identify up to three key aspects for their prioritised themes, with the intention that these would help researchers frame key questions under each theme.

Phase III – Advisory Committee

For Phase III (Figure 1) we formed an Advisory Committee and convened a workshop with 19 delegates, largely self-selected (but balanced to achieve broad sector representation) from those people who attended the country workshops, along with the steering group and stakeholders representing key sector bodies including NGOs and government bodies. The aim of the Committee was to help translate the findings from the Phase II workshops into an agreed questionnaire survey. At the Advisory Committee workshop, held in April 2017, the delegates were asked to consider the key aspects identified in the earlier Phase II workshops under each of the themes, at both GB level and country level. They were presented with matrices which included the themes with relevant aspects identified under each, already coded according to three main contexts: i) Awareness; ii) Action; and, iii) Aspiration, that had been used successfully in the BWS in 2012 and 2015. The 'AAA contexts' were used to ensure we had fully considered different cognitive stages among stakeholders, from general awareness through to practical action and intended future action and/or perceived barriers to future action.

The final stage in Phase III was to use these matrices to frame questions which addressed as many of the themes and aspects as possible according to the three AAA contexts. Content analysis of the Active Listening evidence from Phase II provided a summary of stakeholder concerns, reasoning and concepts. The findings were presented to the Advisory Committee and used as part of this final stage in Phase III to: i) help validate and clarify some of the detail of the themes; and ii) ensure the framing of questions and

language used reflected the full range of stakeholder perspectives and understanding. The findings of the Active Listening were supplemented with relevant insights drawn from the qualitative interviews conducted previously with BWS2015 participants, and findings from the process evaluation conducted during each workshop.

These discussions informed the preparation of the questionnaire survey. A final draft was shared with members of the Advisory Committee to enable edits and contributions to be made before its launch.

Phase IV– Main Survey

The survey was open to participants for 12 weeks (July – September 2017). People were invited to participate in a structured online survey, built in LimeSurvey, an open-source survey tool (www.limesurvey.org). A bilingual (Welsh-English) introduction was prepared for respondents taking the survey in Wales, but the survey itself was presented only in English on the advice of attendees at the Welsh workshop in consideration of cost. It was designed to operate on desktop computers as well as mobile devices such as phones and tablets. It was hosted online by Sylva Foundation at www.sylva.org.uk/bws.

The survey consisted of 132 questions in 24 groups, organised within three main sections:

- **Section 1 –** personal data and information allowing categorisation of landownership/business (to allow routing through Section 2);

- **Section 2 –** questions relating to the eight GB-wide themes;

- **Section 3 –** questions relating specifically to England, Wales or Scotland.

Open responses in BWS2017 were analysed through the use of text analysis based on counts and the grouping of key themes by different types of survey respondent.

Analysis was conducted using the statistical programme *R*, requiring the following *R* packages: Base *R* package (*R* Core Team, 2016); Package "car" (Fox and Weisberg, 2011) – ANOVA; Package "ggplot2" (Wickham, 2009) – graphics; Package "lsmeans" (Lenth, 2015) – least-square means; Package "multcompView" (Graves *et al.,* 2016) – least-square means lettering; Package "nnet" (Venables and Ripley, 2002) – multinomial logistic regression.

The statistical methodology applied to the data was determined by the type of response variable considered. For woodland area response, data were transformed to normalise the response using the most appropriate Box-Cox transformation ($x^{0.101}$) and analysed using standard ANOVA approaches (*F*-tests), with post hoc multiple comparisons (Bonferroni-corrected multiple comparisons).

For responses that were ordered and categorical (but that did not (in general) follow the rule of proportional odds), the data were analysed using multinomial logistic regression in *R* (multinom() in the nnet() package). The significance of predictors were determined based on the likelihood-ratio chi-square test statistics from the analysis of deviance (car() package). Post hoc tests were used to estimate differences between categories, correcting for multiple comparisons using Bonferroni's multiple comparisons test.

For responses that were yes/no, data were treated as binary in a generalised linear model with binomial errors and logit link function. The significance of predictors were determined based on the likelihood-ratio chi-square test statistics from the analysis of deviance (car() package). Post hoc tests were used to estimate differences between categories, correcting for multiple comparisons using Bonferroni's multiple comparisons test.

Across all statistical methodologies, a more conservative significance value of $p<0.01$ was used to account for the risk of type 1 error propagation, given the large number of potential predictors applied to the same response. Predictors were applied as individual main effects only, due to limitations in sample size (given the number or predictors). For aims and memberships, post hoc results were averaged across all categories, as individuals may have had multiple aims and memberships. This averaging impacts on the predicted proportions in the post-hoc tests versus the actual proportions for each aim and membership.

For "aims", data were recoded as binary responses, such that an individual who originally scored 8,9,10 was recorded as a 1, and all other scores as a 0. This allowed more streamlined analysis of the effects of aims as a predictor. For advice options (response variable), data were grouped into three categories (0-2, 3-7, 8-10) to simplify the output of the analysis.

Phase V – Interpreting and contextualising results

Once the responses of the survey (Phase IV) had been statistically analysed (mainly summing data by respondent type for each question) and interpreted, the findings were circulated to the delegates in the country workshops, who were first engaged in Phase II. Stakeholders were asked to contribute towards two main aims:

1) to consider the results presented for their country of interest and to suggest further ways of combining data in analyses that would provide greater (*e.g.* data filtered by landownership typology, or area managed etc.), and;

2) to ask questions raised by the results, which, if analysed further, could generate insights for policy or practice in their country of interest.
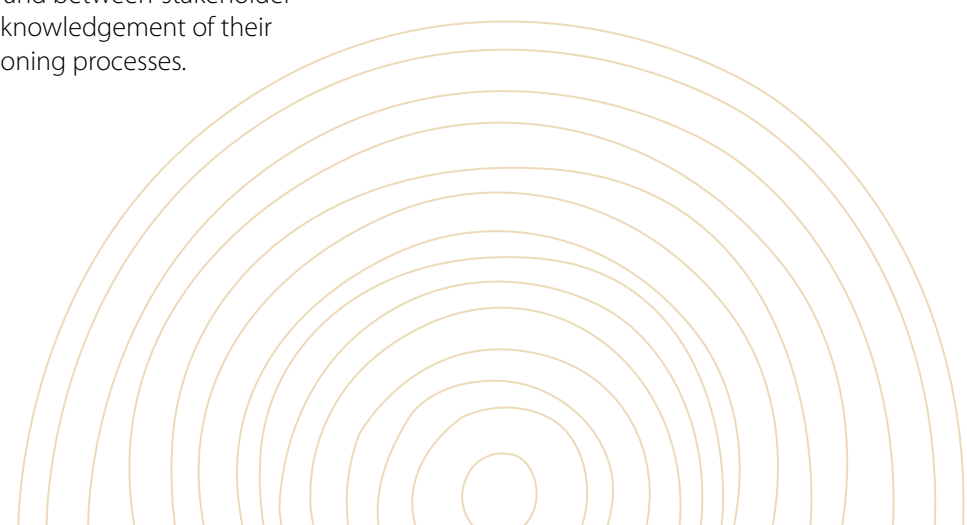
The questions that stakeholders raised were then taken up by the steering group, so that, where possible, further exploration of the country-specific data produced a more detailed and contextualised set of national level analyses addressing these areas of concern.

The Active Listening notes and insights from the additional woodland owner interviews described under Phase II were used as part of the contextualisation process to help explain between-country and between-stakeholder differences through an acknowledgement of their specific contexts and reasoning processes.

Limitations of the survey:

In conducting this type of survey research, there are a number of considerations to take into account when interpreting the findings. The main considerations are:

1. The data reflects the views only of those who participated in the survey. As part of the analysis, we tested the extent to which respondents were representative of the wider community of private woodland owners and managers, although we recognise that there are always those who do not or cannot engage.

2. The survey was only available to those willing to respond online (desktop computers or mobile devices).

3. Although the survey took on average 19.5 minutes to complete (median 11 minutes), many respondents spent considerably longer on it. In some of these cases, survey attrition (lower response rates towards the end of the survey) was apparent. Randomising questions was not possible because of the complex routing devised to offer different questions to different types of respondent.

4. The results analysed are those received from respondents; with minor exceptions where there were obvious discrepancies, no attempt was made to verify data reported.
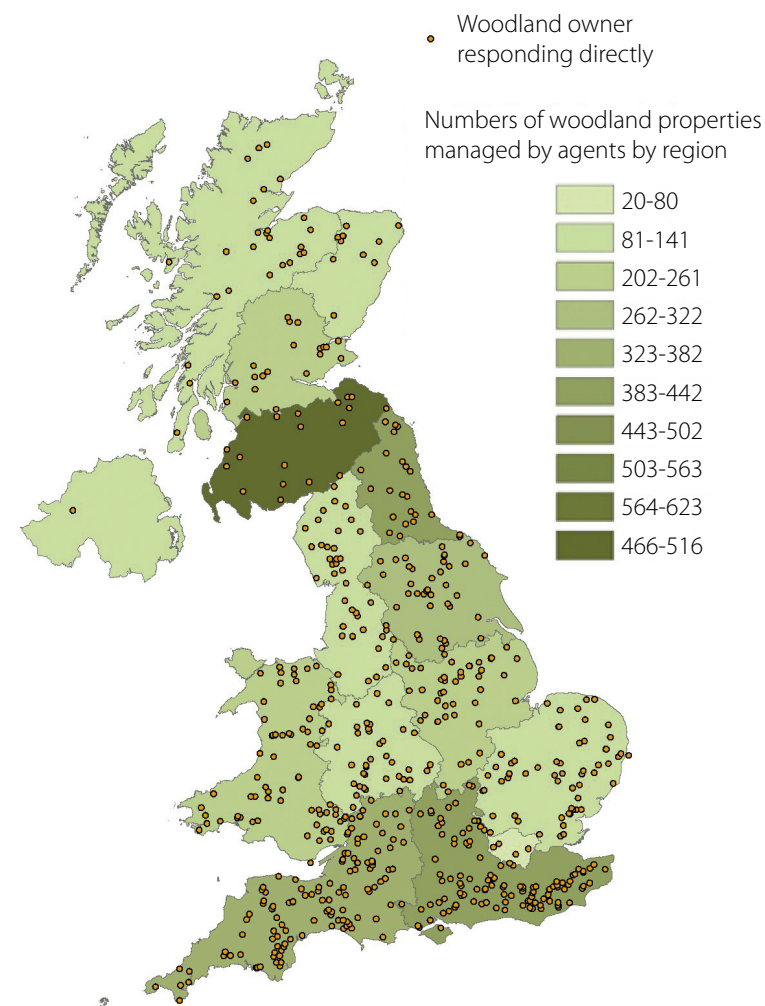
Results

We present first the characterisation of **RESPONDENTS** to the survey overall, and, if they owned or managed woodland property, the characterisation of that woodland. The next section deals with the **MAIN THEMES (GB),** and lastly three sections present results for the country themes for **ENGLAND, SCOTLAND** and **WALES.**

As reported for **Phase II – Prioritising GB themes and identifying country themes** in the Research Method (above) eight themes were common to all three countries of Great Britain. In the survey questionnaire **(Phase IV– Main Survey)** a number of GB themes were amalgamated into 'super-themes' to improve logical flow for respondents, and these are used to present the results (numbers denote theme rank). One specific section relating to tree nursery businesses is included under Woodland creation. Country names are added where the theme was important to more than one country, but not UK-wide. Themes of importance to only one country are not numbered.

WOODS AND SOCIETY	• Societal attitudes (1) • Human health and wellbeing (10)
VALUE AND ECONOMY	• Profitability (4) • Timber production (5) • Natural capital (6) • Woodchain (11)
ENVIRONMENTAL CHANGE	• Climate change (2) • Pests and diseases (3)
SKILLS, TRAINING AND KNOWLEDGE TRANSFER	• Knowledge transfer (7) • Private woodland owner engagement (8) • Skills and training (England)
WOODLAND CREATION	• Tree planting (9 – England and Scotland) • Genetic diversity (12) • Tree nursery issues
ENGLAND	• Governance, policy and funding • Vision for forestry in England
SCOTLAND	• Scottish landuse policies and strategies • Landuse change and reform
WALES	• Policy development in Wales • Landuse change • Small-scale collaboration

Figure 3 *Map illustrating the location of woodland owners responding directly to the survey, and the number of woodland properties managed by agents by region.*

Woodland owner responding directly

Numbers of woodland properties managed by agents by region

	20-80
	81-141
	202-261
	262-322
	323-382
	383-442
	443-502
	503-563
	564-623
	466-516

Respondents

Characterisation of respondents

FREQUENCY AND DISTRIBUTION

The total number of survey respondents was 1,630 distributed across the UK (Table 4 and Figure 3), 932 of whom said they owned or managed woodland. 660 declared themselves to be woodland owners, either of single (447) or multiple (213) properties (Figure 4).

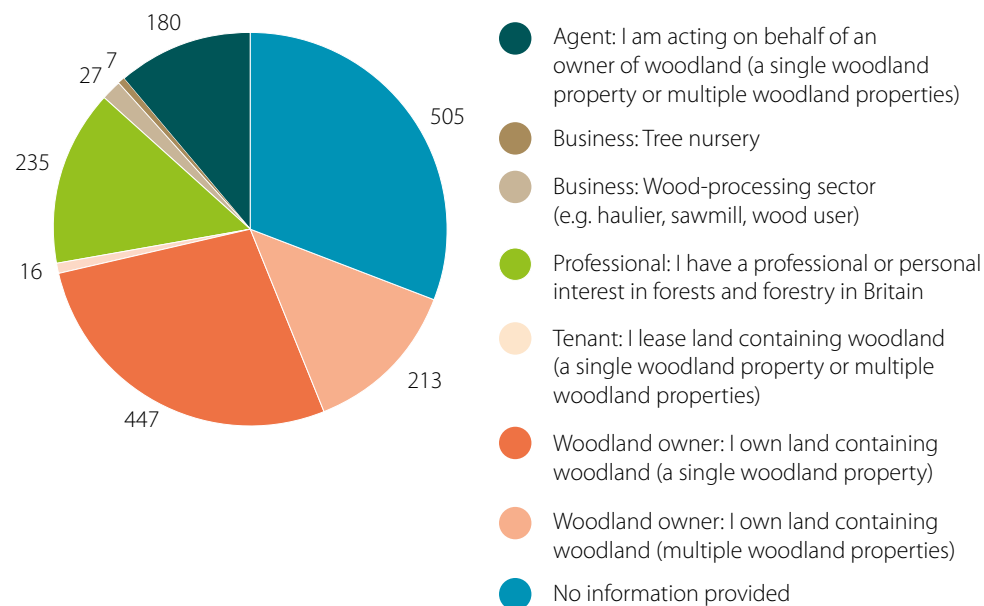**Table 4** *Geography of responses by number of woodland properties owned or managed.*

Country	Agents properties managed		Owners (including tenants)	
	n	%	n	%
England	1,715	57.4	498	77.2
Scotland	1,008	33.7	74	11.5
Wales	142	4.8	70	10.9
Northern Ireland	122	4.1	1	0.2
Other			2	0.3
Total	**2,987**		**645**	

Most woodland owners and tenants provided location data (645; Table 4). A majority of woodland owners (77%) owned/managed properties in England, with approximately equal representation in Scotland (11%) and Wales (11%).

The majority of woodland properties managed by Agents (Table 4) were also in England (57%), with a stronger representation in Scotland (34%) than in Wales (5%) and Northern Ireland (4%). The greatest number of Agents' properties in a single region was in South Scotland (623; Figure 3). These figures should be interpreted with caution, however, because they almost certainly included cases where respondents recorded their total number of managed properties in the location of their headquarters, rather than distributing them across the regions, as the survey intended. There was a very low response from Northern Ireland.

Figure 4 *Distribution of typologies among the 1630 responses to the BWS2017 survey.*

- Agent: I am acting on behalf of an owner of woodland (a single woodland property or multiple woodland properties)
- Business: Tree nursery
- Business: Wood-processing sector (e.g. haulier, sawmill, wood user)
- Professional: I have a professional or personal interest in forests and forestry in Britain
- Tenant: I lease land containing woodland (a single woodland property or multiple woodland properties)
- Woodland owner: I own land containing woodland (a single woodland property)
- Woodland owner: I own land containing woodland (multiple woodland properties)
- No information provided

In addition to *Woodland owners, Tenants,* and *Agents* a number of other respondent typologies were recorded. 235 tree and forestry *Professionals* responded to the survey (Figure 4), who self-categorised themselves as representing: *Forestry industry* (26%); *NGO community organisation* (15%); *Public sector – central/devolved government* (14%); *Public sector – local government* (7%); *Research institute* (3%); *University research* (7%); *International organisation* (1%); *Other* (19%). The remaining 8% identified themselves as *No professional involvement in forestry (personal interest).*

Responses were received from 34 Businesses (Figure 4): 7 represented *Tree nursery businesses;* 27 operated in the *Wood-processing sector.*

The survey software reported 505 'respondents' who did not identify their sector (Figure 4). Their responses are not included in this report, as was made clear at the start of the survey with the inclusion of the following statement:

"Please note that if you leave this at 'No answer', you will not be able to scroll through the whole survey. Some sections will not display. We will not count entries without a category in our analysis."

The most likely reason for this seemingly high number is that it represents people who were browsing the survey before either completing it fully or deciding against further engagement.

The number of questions answered by each respondent varied due to a number of factors, including the options provided within the routing of the survey, the fact that most questions were optional, and 'survey fatigue' leading to attrition (*i.e.* respondents not completing the entire survey). Detail concerning the number of responses attributed to data analysed are provided where necessary.

Characterisation of woodlands
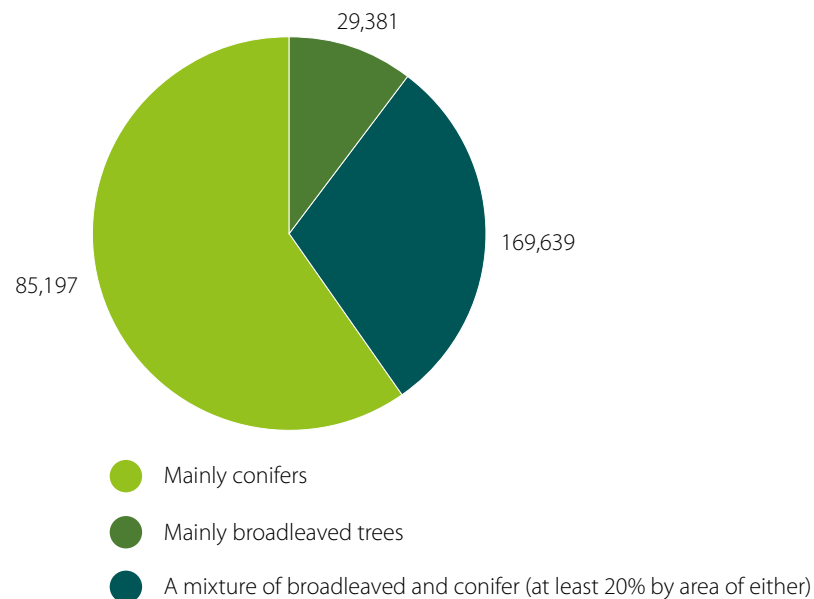
WOODLAND AREA
The sampling of BWS2017 represented an area of woodland, managed by owners or their agents, equalling 645,370ha, which represents 28% of the area of all privately-owned woodlands in the UK (Forestry Commission, 2017a).

114,119ha (17.5%) woodland area represented in the sampled was owned by 603 respondents (median area 8.1ha); the remainder was managed by 208 respondents on behalf of others.

WOODLAND TYPE
The majority (169,638ha; 60%) of the woodland area owned/managed by all respondents was *Mainly conifers* with a mean size of 587ha (Figure 5). However, the median size was 12ha indicating the influence of a small number of very large estates on the overall woodland area. Among private woodland owners alone, *Mainly broadleaved trees* were more frequent (49.4%) followed by *Mainly conifers* (41.7%) and *A mixture of broadleved and conifer* (8.8%).

Figure 5 *Woodland type by area (ha) provided by 678 respondents.*

- Mainly conifers
- Mainly broadleaved trees
- A mixture of broadleaved and conifer (at least 20% by area of either)
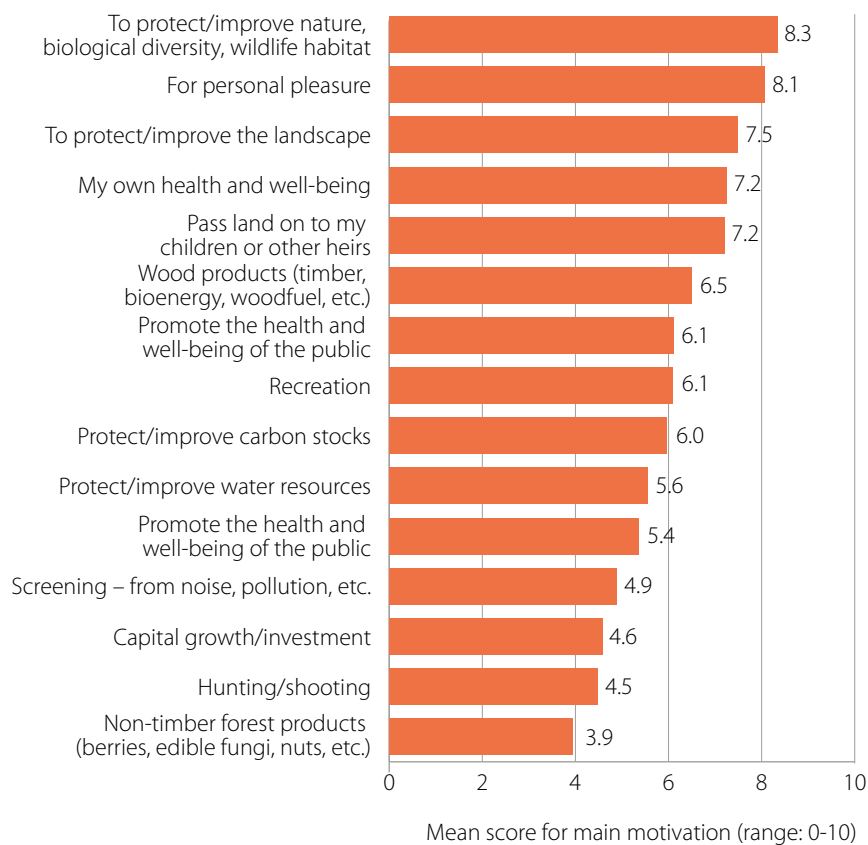
OWNERSHIP TYPOLOGY
Ownership type was classified according to 11 categories following Nicholls *et al.* (2013). These differ from those adopted in the National Inventory of Woodland and Trees (Forestry Commission, 2003), and the current National Forest Inventory (Forest Research, 2017), but have been used consistently within the British Woodlands Survey series, and their origin can be traced back to work first undertaken in the 1960s.

Personal non-agricultural owners represented the majority (46%) of respondents; the second most frequent (31%) respondent type being *Personal agricultural*. The remaining 22.7% was made up of the other nine typologies, among them the largest proportion was *Charity* (6%) and *Agricultural business* (4%).

AIMS FOR WOODLAND

Woodland owners were asked to indicate the relative importance of their aims for their woodland, each scored between 0-10. Figure 6 summarises the results, which are shown as mean scores for each motive. *Protecting/ improving nature or biological diversity* was ranked as the most important motive, with a mean score of 8.3, closely followed by *Personal pleasure* (8.1). *Wood products (timber, bioenergy, woodfuel, etc.)* scored 6.5, while the motivations scoring lowest in importance were Hunting/shooting (4.5) and Non-timber forest products (3.9).

Figure 6 *Motives for owning woodland (n=686) from not important (0) to important (10), showing mean score.*
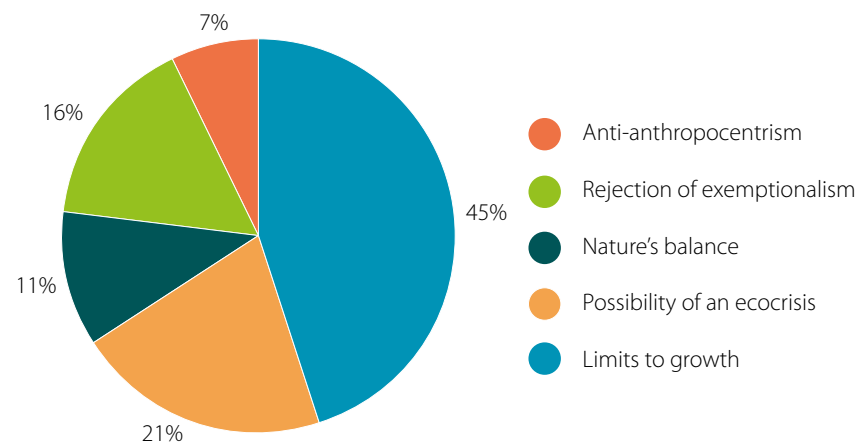

Mean score for main motivation (range: 0-10)

ECOLOGICAL ATTITUDES

All respondents were asked whether they agreed/disagreed with a series of statements based on the New Ecological Paradigm (NEP) scale developed by Dunlap *et al.* (2000). This is a well-established scale used by researchers to assess people's underlying ecological worldviews. It provides 15 statements (termed 'items') distributed across five discernible, but interrelated, facets: *Anti-anthropocentrism;* the *Fragility of nature's balance;* the *Rejection of exemptionalism;* the *Possibility of an ecocrisis;* and, the reality of *Limits to growth.*

The distribution of responses across the five facets is shown in (Figure 7): a majority (46%) agreed with items categorised under the reality of Limits to growth. Among the 587 complete responses, 92% of all respondents tended to a proecological world view (they agreed strongly or very strongly with the proecological items and disagreed with items suggesting that people have 'dominion' over the Earth and/or will find technological solutions to ecological problems). In BWS2015 (Hemery *et al.,* 2015), NEP coding was applied post hoc to respondents' comments; using that method 54% appeared to have proecological beliefs. While results from the two different methodologies cannot be directly compared, there may be an indication that concerns about threats to the earth have risen sharply amongst those associated with British forestry. Differences among respondent typologies and geographies will be explored in subsequent research.

Figure 7 *Categorisation of respondents (n=426) according to five facets of the New Ecological Paradigm scale (Dunlap et al., 2000).*

Main themes (GB-wide)

Woods and society

This section reports results for Societal attitudes (1) and Human health and wellbeing (10).

SOCIETAL ATTITUDES (1)

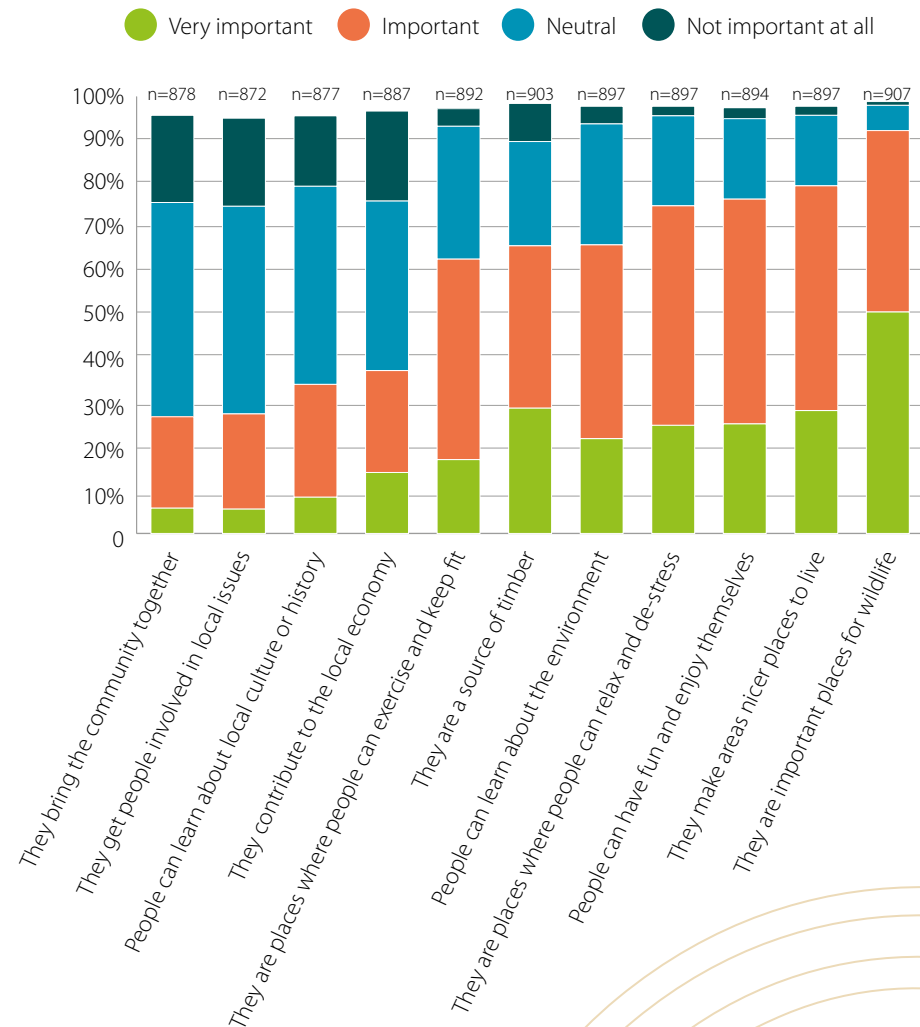#### Perceived importance of British woodlands

All woodland owners were asked how much importance, in their opinion, society as a whole attaches to 11 statements regarding British woodlands (Figure 8). There were significant differences across the different statements for all respondents *(LR χ2 = 2,586, df = 30, p<0.0001),* with *'They are an important place for wildlife'* being perceived as very important by 51% of respondents, significantly higher than all other factors. Factors related to bringing the community together, local issues, culture/history tended to be perceived as less important.

There were significant differences by respondent type for a number of factors considered as potentially important by society, with professionals tending to score all factors as more important, and business owners (wood processing) tending to score the factors as less important.

ACTIVITIES IMPACTED BY SOCIETAL ACTIVITIES

The same respondents were asked whether perceived societal attitudes had affected four pre-selected woodland management activities in their own woodland (Figure 9). There were significant differences by management activity *(LR χ2 = 189, df = 6, p<0.0001),* with societal attitudes encouraging Planting trees significantly more than the other three activities *(Felling trees; Recreation;* and, *Providing access). Felling trees* and *Providing access* were reported to have been less influenced by societal attitudes than other activities.

Figure 8 *Perceived importance of British woodlands among woodland owners and managers for 11 different public benefits.*

Figure 9 *Impact among woodland owners and managers of perceived societal attitudes on four management activities.*

There were significant differences *(p<0.01)* by respondent type, with business (wood processing) respondents tending to report that societal attitudes had less influence on their management activities compared with woodland owners.

There were significant differences *(p<0.01)* by woodland objectives/aims: those with aims strongly (8+) related to improving biodiversity and promoting health and wellbeing, tended to report their activities as being influenced by the general public compared to those who did not report strong aims in these categories (<8).

Free text comments from agents *(n=25)* highlighted their concerns about people disliking change, not understanding the need for felling and the impact of felling on visual amenity. Deer control and pesticide application activities were also mentioned as being affected by societal attitudes. Comments from 48 woodland owners were short and wide ranging but some key points included concerns about dogs and dog walkers disrupting wildlife, conservation designations and constraints, anti-social activities, trespassing, and publics concerns about shooting and culling.
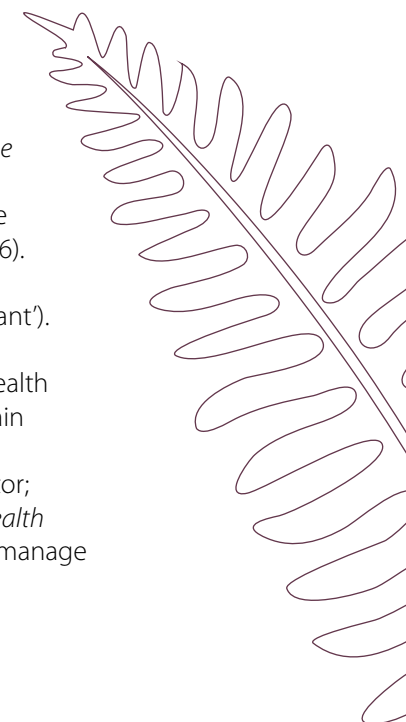
As one woodland owner stated:

"Unfortunately few walkers seem to respect our coverts/plantings and will let dogs run wild during all, including breeding, seasons. We do however welcome the Scout; Brownies and Adventurer groups".

HUMAN HEALTH AND WELLBEING (10)

Respondents answered questions concerning the provision of public access to woodlands owned or managed: 66% of respondents who owned or managed woodland provided access across their land due to statutory access, 48% provided permissive paths, and 72% provided access by arrangement with users (many respondents provide different types of access in their woodlands). A large minority did not provide any access (34%). Multiple responses were possible for this question, but the few instances of respondents apparently misinterpreting a *'No'* answer to the statement *I provide no access* to record that they provided no access were discounted and the slight ambiguity of the question is noted for future iterations of the survey.

Owners and agents were asked how beneficial they believed it was for people to be in woodland to gain potentially five specific benefits: *Improve physical fitness; Reduce risk of heart problems; Improve mental health; Reduce stress;* and *Improve sense of well-being.* These were new questions intended to provide evidence that can contribute to the debate linking green space and human health and well-being (Clarke and Wentworth, 2016). All measures were considered important, with median scores between 6-8 (where 0 was 'not important'; and 10 'very important').

Woodland owners who had indicated that considerations of health and well-being were important aims were asked whether certain factors had influenced their management choices. Of the 493 responses, only 17% considered *Financial incentives* to be a factor; 58% managed their forests to reflect their belief that *Human health and well-being was a social good*, while 16% do not specifically manage for human health and well-being.

Value and economy

This section reports results for Profitability (4), Timber production (5), Natural capital (6), Woodchain (11), and Small-scale collaboration (Wales).

PROFITABILITY (4)

The majority (54%) of woodland owners and agents reported that the woodland they owned or managed had made a financial loss over the previous five years (to July 2017), with a slight reduction in loss during the last financial year (52%); 20% reported making a profit in the last five years (21% in the last year alone). Overall, 71% expressed a view that profitability remained unchanged over the last five years, whilst 21% reported an improvement. These figures may show a continuation of the very small upward trend noted in British Woodlands Survey 2012, where: 64% reported a loss over the previous five years and 61% for the last financial year, while also in 2012 13% reported making a profit in the last five years (15% in the last year alone).
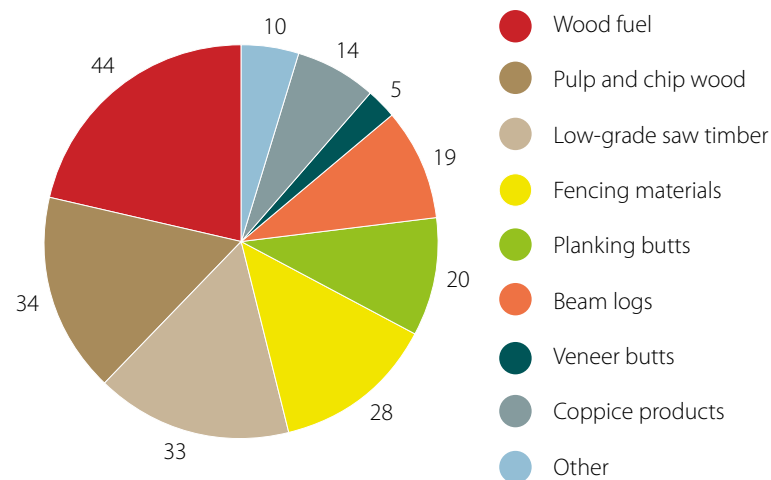
The same respondents were questioned about any non-timber services that provided an income in the last five years. The majority (57%) reported that they had not received any income. The service providing the most common income was *Shooting* (21%), followed by *Recreation* (12%); *Education* (9%); *Tourism* (6%); and least common (both 5%) were *Filming,* and *Woodland activities (e.g. woodturning).*

TIMBER PRODUCTION (5)

Woodland owners were asked what products they had sold from their woodlands in the last five years. Of 622 respondents, a small majority (56%) had sold products from their own woodland (*e.g.* fuelwood, timber, undergrazing). A large minority had not sold any products (37%).

Among those who indicated that they had sold timber products a wide diversity was reported, with the main products being *Wood fuel, Low-grade saw timber, Pulp and chip wood.* A minority of 2% had sold *Veneer butts* (Figure 10).

Figure 10 *Range and proportion of timber products sold by woodland owners (n=622).*

- Wood fuel
- Pulp and chip wood
- Low-grade saw timber
- Fencing materials
- Planking butts
- Beam logs
- Veneer butts
- Coppice products
- Other

Woodland owners, agents and professionals were asked their opinion about the quality of information available on timber markets. Half of respondents (total *n=723*) thought it was adequate or better (2% *Very good;* 10% *Good;* 38% *Adequate),* the remainder considered it *Poor* (36%) or *Very poor* (14%).

Respondents were asked to indicate on a scale from 0 (not important) to 10 (very important) the importance of a number of factors that constrain the marketing of timber. *Availability of an appropriate market* was judged most important (average score 8.1, median 9), while *Availability of a skilled workforce,* and *Cost of production* were also viewed as important (averages 7.2 and 7.4, median 8). *Technical knowledge of the product* and *Poorly-developed markets* were both viewed to be of medium importance (median 6).

NATURAL CAPITAL (6)

Despite Natural Capital ranking as the sixth theme overall, researchers recorded considerable uncertainty about this term and the term 'ecosystem services' among delegates during the workshops held in **Phase II – Prioritising GB themes and identifying country themes.** In an attempt to qualify awareness and understanding among respondents to the survey, definitions of the two terms and their relationship were provided in the survey the form of a diagram (Figure 11).

Figure 11 *Definitions of Natural capital and Ecosystem services, and their relationship, provided to survey respondents.*

The Earth's stocks of natural assets:

• *Abiotic*
  – *geology, soil, air, water*

• *Biotic*
  – *all living things*

A range of services from Natural capital which make human life possible:

• *Provisioning*
  – *food, fibre, fresh water, genetic resources*

• *Regulating*
  – *climate, hazards, noise, diseases and pests, water/air/soil quality*

• *Supporting*
  – *soil formulation, nutrient cycling, water cycling, primary production*

• *Cultural*
  – *spiritual enrichment, cultural heritage, recreation, tourism, aesthetics*
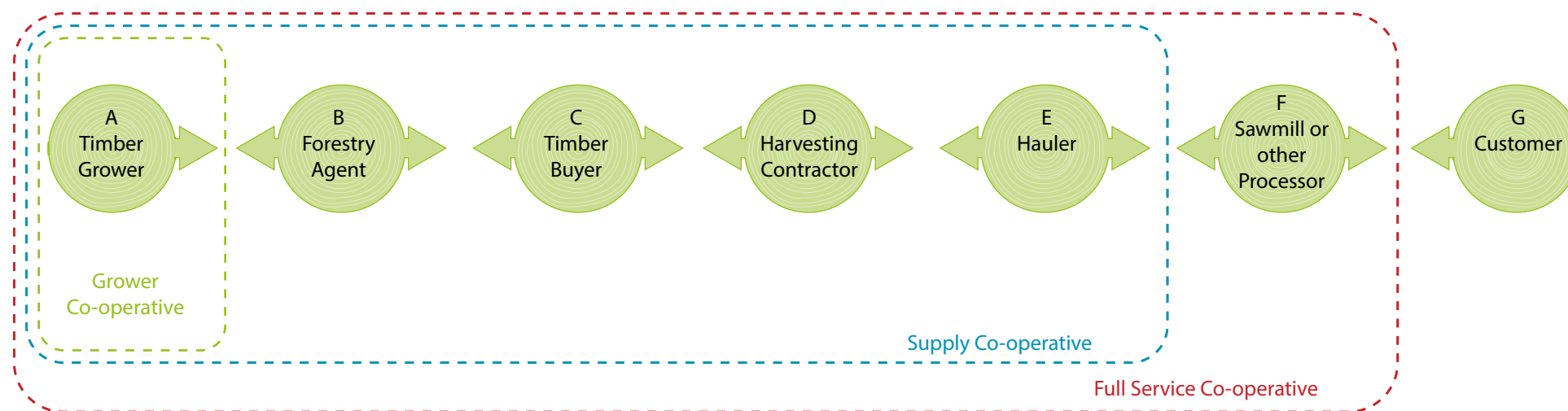
Respondents (*n*=803) were asked whether these definitions 'altered their understanding', to which 60% answered *No;* 22% *Yes;* and 18% *Unsure.* Among woodland owners responding to this question (*n*=586) we then asked 'Do you think your land provides valuable ecosystem services?', to which a large majority (87%) answered *Yes;* while 3% responded *No;* and 10% *Unsure.* Respondents were asked whether they thought they should be paid to provide these services: among 560 responses received 42% answered *Yes,* while 27% answered *No;* and 31% were *Unsure.*

We asked owners and agents (*n*=451-470, depending on sub-question) whether they knew the economic value of their land for any of the following ecosystem services: pollination; soil erosion protection; water flow regulation; cultural; carbon storage/sequestration; and recreation. In all cases, the majority of respondents did not know or were uncertain (range 76-85%).

Respondents were further asked whether they were willing to enter into a binding contract to provide ecosystem services in return for an income. Of the 589 respondents, 37% answered *Yes,* while 20% answered *No,* and 43% were *Uncertain.*

Figure 12 *The idealised woodchain, as depicted to survey respondents, including six roles (plus customer) and three different co-operative models.*
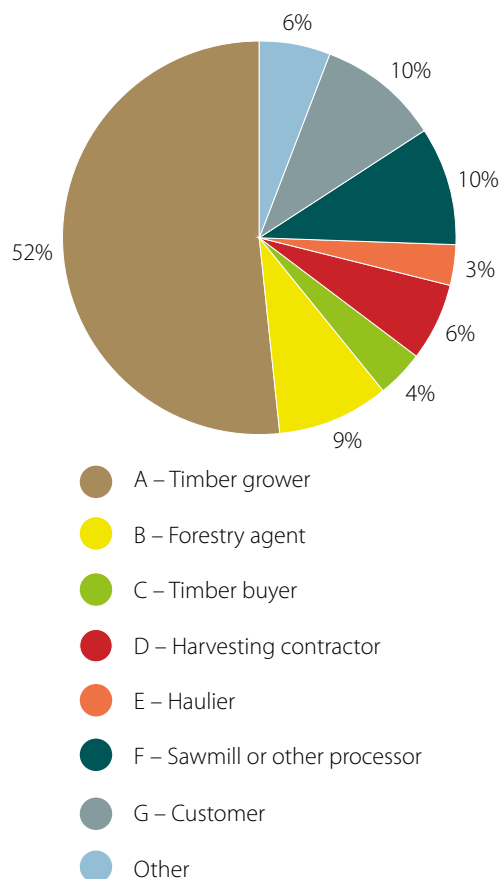

WOODCHAIN (11)

Respondents were asked to define their role(s) within an idealised woodchain depicted by a simple diagram (Figure 12). As illustrated in Figure 13, the majority (51%) of 444 respondents classified themselves as a *Timber Grower (A),* while all other roles in the woodchain were 10% or less, with *Haulier (E)* represented by the least number of respondents (3%;). Unsurprisingly, 31% reported having multiple roles in the chain.

In this idealised woodchain, there were discrepancies between responses from different pairings, in that for many respondents the relationship was not reciprocal. For instance, 11% of *Timber Growers* reported having regular transactions with *Timber Buyers* (row A / column C; Table 5), whereas 50% of *Timber Buyers* report the same with *Timber Growers* (row C / column A; Table 5). This is almost certainly due to the preponderance of growers in the survey sample (owners and agents acting for owners) and should not be interpreted as representing a national trend. Generally, *Timber Buyers* and *Harvesting Contractors,* in the centre of the idealised woodchain, reported the greatest reach.

In the same idealised Woodchain (Figure 12) we indicated three cooperative models: a *Grower co-operative; Supply co-operative;* and *Full Service co-operative.* Up to 266 people answered this question. Only 16 currently belonged to a *Grower co-operative;* 14 to a *Supply co-operative;* and 6 to a *Full service co-operative* (from *Timber Grower* (A) to *Sawmill* (F); Figure 12). On average there were eight times as many people who were interested in belonging in future to any of the three co-operative models as currently belong to any of three co-operative models.

Figure 13 *Proportion of respondents' roles in an idealised woodchain.*

- A – Timber grower
- B – Forestry agent
- C – Timber buyer
- D – Harvesting contractor
- E – Haulier
- F – Sawmill or other processor
- G – Customer
- Other

Table 5 *Distribution of 'regular transactions' as percentages among different actors in the wood chain. Percentages are colour coded to highlight >40% (dark-brown); 30-40% (mid-brown), and; <30% (light-brown).*

	A Timber grower	B Forestry agent	C Timber buyer	D Harvesting contractor	E Haulier	F Sawmill or other processor	G Customer
A – Timber grower	15	30	11	35	16	17	25
B – Forestry agent	39	36	50	48	34	29	38
C – Timber buyer	50	56	47	56	56	56	59
D – Harvesting contractor	33	27	29	45	33	42	58
E – Haulier	32	36	32	54	29	39	64
F – Sawmill or other processor	25	35	41	48	33	33	54
G – Customer	30	28	24	32	20	26	41

Environmental change

This section reports results for Climate Change (2) and Pests and Diseases (3).

CLIMATE CHANGE (2)
Woodland owners were asked questions which aimed to identify action and awareness relating to environmental change. A number of these questions were repeated from the BWS2015 survey.

SPECIES DIVERSITY
The United Kingdom Forestry Standard or UKFS (Measures 18, 23, 25, 26, 27, 28, 29; Forestry Commission, 2017b) provides guidance concerning a diverse range of tree species in order to increase resilience in the face of environmental change. Among 614 owners and managers, 51% would consider diversifying the range of species in their woodlands, although 33% would not, and 16% of respondents were unsure. The strongest motives for

diversifying (*n*=341) were *Biodiversity* (76%) and *Forest health* (72%). Motives against diversifying were strongest in connection with *Timber yield* (75% against diversifying). Numerous short statements were provided by respondents about being motivated by the need to respond to climate change to protect wildlife and biodiversity, to lessen risk and protect investments, and to ensure continuation of certain kinds of products.

Woodland owners/managers also answered questions about species choice and genetic diversity in relation to tree planting. See: Genetic diversity (12).

People were asked if the woodlands they owned or managed were mainly monocultures (broadly defined as >50% as a single species) and to state the main species. Of the top five species, *Oak* was most frequent (28%); followed by *Sitka spruce* (26%); *Scots pine* (12%); *Ash* (9%); and, *Sweet chestnut* (9%).
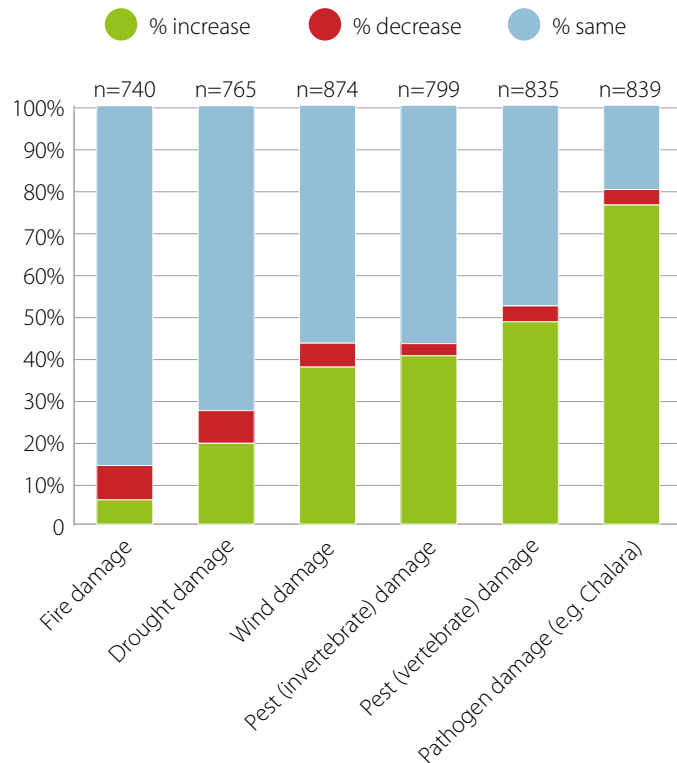
AWARENESS OF ENVIRONMENTAL CHANGE

All respondents were asked about environmental changes observed in woodlands generally (*i.e.* not only those they were responsible for). There were overall significant differences in perceived environmental changes *(LR χ2 = 1155, df = 10, p<0.0001):* post hoc tests indicated that individuals were significantly more likely to report increases in pathogen damage versus all other threats (Figure 14). *Fire damage* was least likely to be perceived as increasing. The number of respondents ranged between 740 and 870, depending on the sub-question.

There were significant *(p<0.01)* differences by respondent type for *Pest (invertebrate)* and *Pathogen damage,* with professionals more likely to have perceived that these threats increased over the past five years versus single woodland owners.

There were no significant differences in perceived changes by country or region.

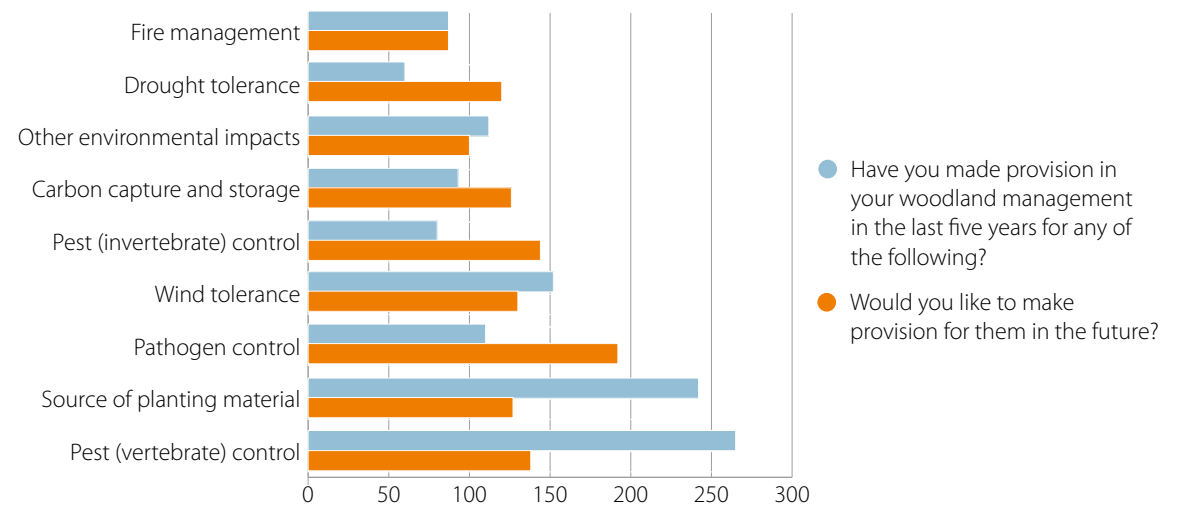**Figure 14** *Environmental change perceived by all respondents.*

Data for one environmental change *(Pathogen damage)* was compared between the 2017 and BWS2015 survey (Hemery *et al.,* 2015) responses concerning observations of an increase in damage. While owners showed increased awareness (47% in 2015; 52% in 2017), among agents and professionals there was a dramatic reduction from 84% to 19%, and 89% to 25%, respectively of respondents reporting awareness of damage.

MAKING PROVISION FOR ENVIRONMENTAL CHANGE

There were significant differences in provisions made for environmental change by kinds of threat. Individuals were significantly more likely to have made provision for *Vertebrates*, and in *Sourcing planting material,* than other threats. There were significant differences by respondent type across many of the threats. Professionals tended to be less likely to have made provisions for different threats than woodland owners and agents.

In some cases, there were clear differences between current provision and a desire to make future provision for environmental change (Figure 15). Compared to current provision there was a large reduction in the number of respondents who would like to take action in the future for *Pest (vertebrate) control* and *Source of planting materials*. There was a large increase in those intending to make future provision for *Drought tolerance* and *Pathogen control.*

Figure 15 *Positive responses to current and intended future provision for a range of environmental change impacts among survey respondents.*
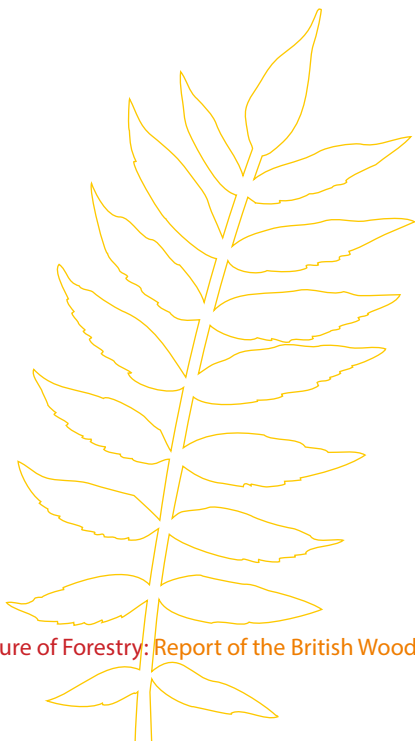
PESTS AND DISEASES (3)

Biosecurity

In relation to biosecurity, 514 owners and agents reported that they implemented at least one from a choice of five measures to address biosecurity (Table 6). A majority *Considered risks while acquiring planting stock* but for the other four measures only a minority reported any positive action. In the case of *Providing cleaning and disinfecting facilities,* for both workers and visitors, a very small minority were taking positive action. A majority (60%) undertook more than one measure; only 2% implemented all five measures.

Table 6 *Five biosecurity measures defined by the United Kingdom Forestry Standard and proportion of respondents taking action to address them.*

Measure	%
Consider risks when acquiring planting stock	62.5
Consider risks when moving woody materials (*e.g.* bark, timber, etc.)	41.8
Provide site information for visitors	13.2
Cleaning and disinfecting facilities for people working in the woodland	12.6
Cleaning and disinfecting facilities for visitors	5.7

Skills, training and knowledge transfer

This section reports results for Knowledge transfer (7), Private woodland owner engagement (8), and Skills and Training (England).

KNOWLEDGE TRANSFER (7) AND PRIVATE WOODLAND OWNER ENGAGEMENT (8)

A series of questions explored how private woodland owners and agents draw on advice and exchange knowledge.

TYPES OF ADVICE

Perceptions of the usefulness of different types of advice showed significant differences *(LR χ2 = 79.3, df = 8, p<0.0001)* across options *(Advisor on site; Advice from other woodland owners; Online information; Local workshop events; Printed information, and; Other)*. Individuals gave an *Advisor on site* a high score (8-10), significantly more than any other option. *Printed information and guidance* received the lowest proportion of high scores.

Sample sizes restricted analysis by respondent type to agents and woodland owners only. There were significant differences for *Local workshops* and *Online information,* with single woodland owners scoring these types of advice both more positively than multiple woodland owners.

There were significant differences in scores for advice options by respondent memberships *(p<0.01)*. For example, members of the Small Woods Association were more likely to score *Local workshops* and *Online information* more highly *(LR χ2 = 12.6, df = 2, p<0.01)* than members of other organisations.

SOURCES OF ADVICE

There were significant differences in the use of different sources of advice *(LR χ2 = 1,351, df = 8, p<0.0001)*. *Magazines/books* and *Web-based sources* were most likely to be used; *Woodland initiative/project* and *Directly employed agent/forester* were least likely to be used.

Sample sizes restricted comparisons by respondent type to woodland owners, professionals and agents. Agents tended to be more likely to use different sources of advice versus other respondent types, particularly with regard to more formal sources of advice.

There were significant differences *(p<0.01)* by membership for many of the sources of advice. Members of the Institute of Chartered Foresters and Royal Scottish Forestry Society tended to be more likely to use more formal sources of advice *(e.g.* employed/external foresters/woodland officers) than non-members.

There were significant differences *(p<0.01)* by woodland objectives/aims for many of the sources of advice. Individuals with strong hunting/shooting aims and those promoting the health of the general public tended to be more likely to use more formal sources of advice *(e.g.* employed/external foresters/woodland officers).

Respondents were asked to provide information about their membership of a number of organisations (Table 7).

Table 7 *Respondents' membership of organisations (n=810).*

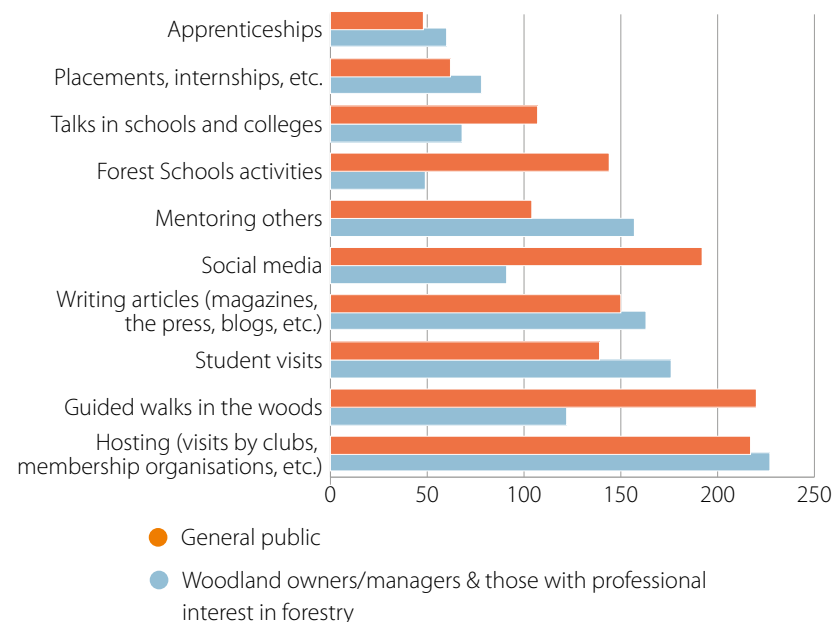| Membership organisation	No. respondents
Royal Forestry Society	252
Country Land and Business Association	226
Confor	191
Woodland Trust	171
Small Woodland Association	146
Institute of Chartered Foresters	140
Small Woodland Owners Group	128
National Farmers Union	125
Royal Scottish Forestry Society	74
Royal Institution of Chartered Surveyors	51
Woodland Heritage	42
Forestry Contracting Association	22
United Kingdom Forest Products Association	6
Horticultural Trades Association	4
Farmers' Union of Wales	2
Tenant Farmers Association	2
Other	183
multiple memberships	459

SHARING KNOWLEDGE WITH OTHERS

We explored how respondents shared their knowledge with others. Among woodland owners and agents there were clear differences between how knowledge was shared with other owners and the general public (Figure 16), some more to be expected *(e.g. Guided walks)* than others *(e.g. Social media).* There were significant differences in the methods used to share knowledge with forestry owners/professionals, with *Hosting visits* by *clubs or membership organisations,* and *Student visits,* being the most popular methods. There were significant differences in methods used to share knowledge with the general public, with *Guided walks* and *Hosting visits* being the most popular methods.

Businesses and professionals were significantly more likely to adopt apprenticeships than woodland owners.

There were significant differences in the methods used by respondent type to share knowledge with the general public. For example, businesses, agents and professionals were significantly more likely to use social media than woodland owners.
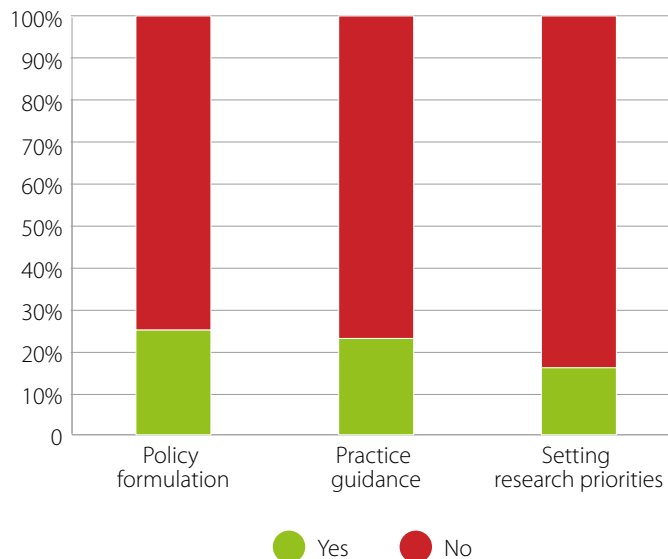
Figure 16 *Frequency of approaches (number of responses) for sharing knowledge by woodland owners and agents with: General public, and Woodland owners/managers.*

- ● General public
- ● Woodland owners/managers & those with professional interest in forestry

ENGAGEMENT WITH POLICY, RESEARCH AND PRACTICE

Overall, the majority of respondents (*n*=953) felt their views were very poorly represented in three areas identified in the online survey (Figure 17): *Policy formulation* (75%); *Development of practice guidance* (77%), and; the *Setting of research priorities* (84%).

Figure 17 *Respondents' engagement with policy, practice and research, answering: 'Do you feel your views are represented in any of the following arenas?'*

There were significant differences across the three categories regarding individual's views being represented *(LR χ2 = 21.8, df = 2, p<0.0001),* with a significantly greater proportion of respondents reporting that their views were represented in policy formulation and practice guidance versus setting research priorities.

There were significant differences *(p<0.01)* across all three categories by type of respondent, with businesses (wood processing), professionals and agents reporting that their views were represented significantly more often than woodland owners.

There were significant differences *(p<0.01)* across all three categories by membership, with members of Confor and Institute of Chartered Foresters tending to report that their views were represented significantly more than non-members.

Analyses of free text responses to this question further revealed that among 174 comments regarding policy development Confor was mentioned 19 times and Llais Y Goedwig received 12 mentions. Many comments suggested that policy is geared towards large-scale commercial forestry, not the needs of smaller woodland owners. In contrast, there was also a view that economics and timber growing were not well-represented in policy formulation.

Relating to research priorities the open comments demonstrated a general recognition of the importance of research, but fears were expressed relating to a reduction in research funding which could have a negative impact on the sector. There were many comments recognising the work done by Forest Research, but some contrasting views about the utility of some of the research it undertakes, and the way research topics are prioritised. The few comments relating to university research questioned its relevance to small woodland owners.

SKILLS AND TRAINING (ENGLAND)

Although an England theme, questions related to *Skills and Training* were offered to all respondents. The range of people employed in woodlands is reported in Table 8.

Table 8 *Number of people employed in woodlands owned or managed by respondents (n=533).*

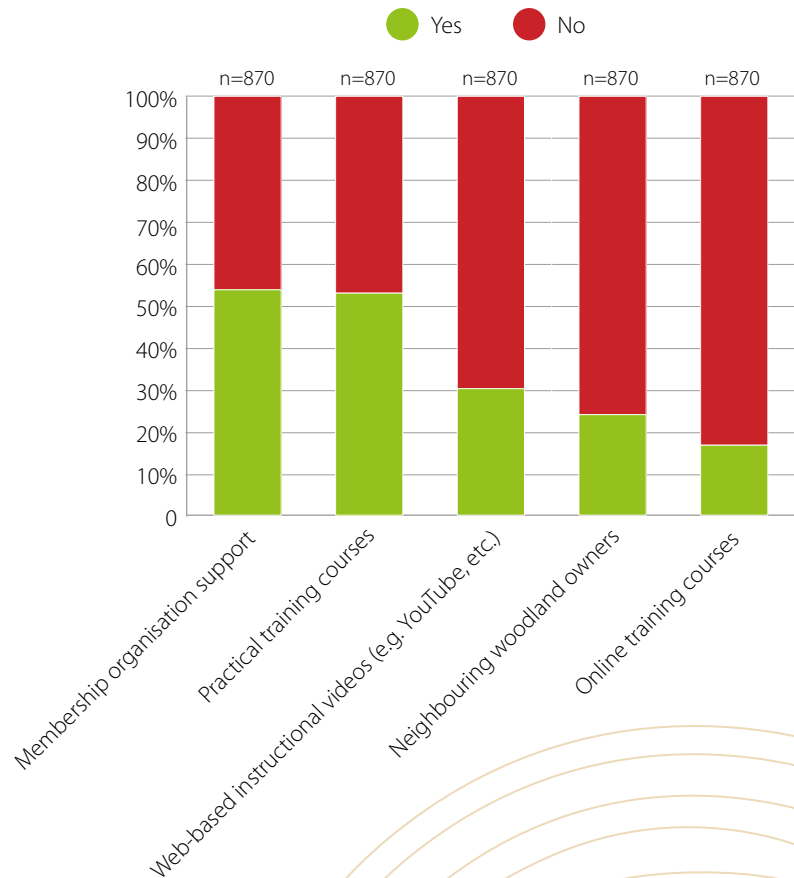|	Total	Mean	Max
Full-time staff (pay roll)	740	2.75	400
Part-time staff (pay roll)	206	0.78	60
Yourself, family and friends (non-payroll)	894	2.11	10
Contractors	807	2.49	75
Volunteers	1833	7.11	258

Of 58 respondents who answered a question exploring any difficulty recruiting skilled workers in the last five years, a majority (59%) had experienced some difficulty.

WHICH SKILLS WERE MISSING?

Respondents were asked how they maintained and improved their own skills and knowledge. *Membership of organisations* and *Practical training courses* were more popular than *Web-based videos, Neighbouring woodland owners,* or *Online training courses* (Figure 18).

Figure 18 *Methods adopted by 870 respondents to maintain or improve their own skills and knowledge, where 'Yes' confirms that a method is adopted.*

Woodland creation

This section reports results for Tree planting (9 – England and Scotland), Genetic diversity (12), and Tree nursery questions.

TREE PLANTING (9 – ENGLAND AND SCOTLAND)

Tree planting activities and intentions

Woodland owners were asked *Have you planted any new woodland in the last five years?* Of the 460 owners questioned, 57% had not planted. 193 owners specified that they had planted 5,375ha in the last five years, with a mean size of 28ha (median 2ha). A large minority (45%) of these stated that *Grant income* had been an incentive, while *Free* or *low-cost advice* was less of an incentive (13%), and a *Viable source of income* lower still (4%).

Woodland owners were asked about factors discouraging them from planting new woodland. Among 262 respondents, other than either *Having enough woodland* (40%) and *All of my existing land is already planted* (37%), the greatest barriers were *Complexity of regulations* (19%); *Lack of grant aid* (17%); and *Threat of damage from deer/squirrels* (16%). Only 1% of respondents thought that *Lack of contractors* was a limiting factor.
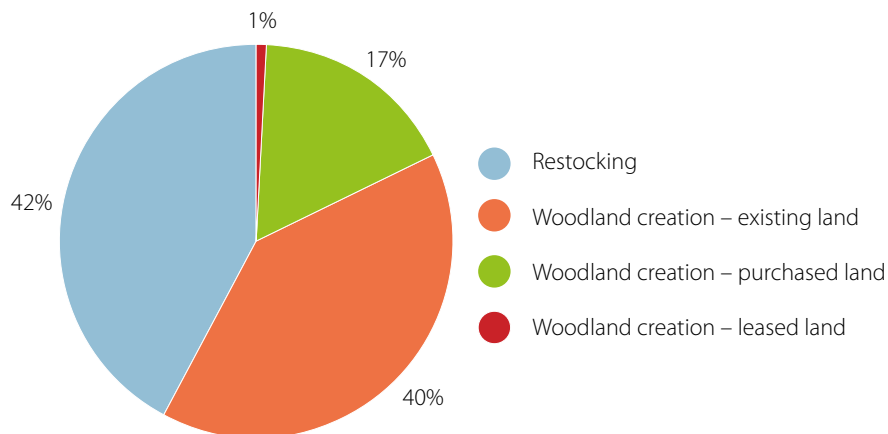
Asked if they were likely to plant trees in the next five years, among the 474 respondents 55% said *Yes,* 20% *No,* and 25% were *Uncertain.* The total area specified as being considered for future planting was 13,150ha (Figure 19): *Restocking* made up the largest area (5,502ha; 42%) followed closely by *Woodland creation* on *existing land* (5214ha; 40%). *Land purchased for tree planting* made up 17% of the area, and *Leased land* just 1%.

Approximately half (51%) of respondents (*n*=485) stated that *Grant aid* (levels unspecified) would encourage them to plant new woodland. Other factors included a *Viable source of income* (37%) and *Free or low-cost advice* (26%).

Woodland owners were asked if the incentives that they indicated would encourage them to plant woodland were put in place, how much land would they potentially have for the creation of new woodland in the next five years. The total 'offered' was 26,218ha with a mean of 114ha and a median of 6ha among the 230 respondents. Among these 230 respondents, the total existing woodland area they owned was 44,761ha, with a mean size of 195.5ha (median 8.0ha). Of those who provided their location, 79% of respondents were in England, 9% in Scotland, and 12% in Wales. A majority (60%) of the 230 respondents owned woodland properties 10ha or less in area.

The 26,218ha of new planting 'offered' would represent a 0.83% increase in the UK's woodland area (3.17Mha; Forestry Commission, 2017a). Given the relatively small number (230) of respondents to this question, this would be potentially a significant contribution to the UK's woodland cover. Extrapolating these figures to the remainder of survey respondents, let alone the entire sector, would be speculation, but this encouraging response certainly merits further investigation.

Figure 19 *Areas of land (hectares) available for future tree planting by reafforestation (Restocking) and three approaches to afforestation (existing; purchased; leased).*
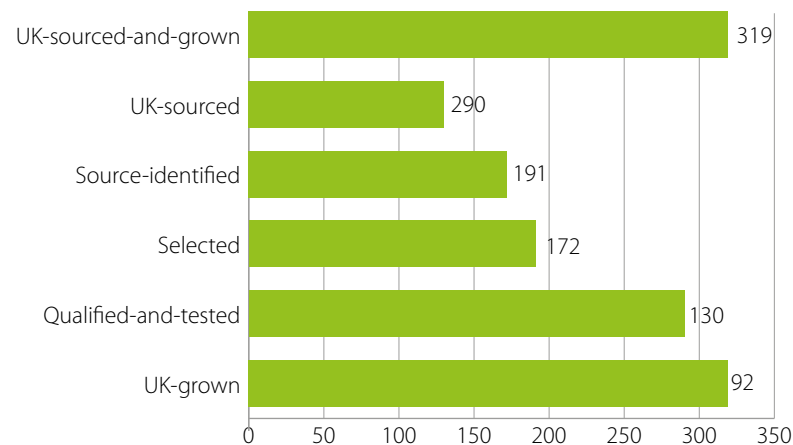

SOURCING OF PLANTING MATERIAL
Woodland owners were asked, *If you plan to plant trees in the next five years, which (if any) of the following categories of tree material are you likely to consider specifying?* Categories were selected from Forest Reproductive Material (FRM)

and UK Sourced and Grown (UKSG). Among the 675 respondents the most popular categories were *UK-sourced-and-grown* (319 respondents), followed by *UK-sourced* (Figure 20). There was low interest (92 respondents) in *UK-grown* material alone, *i.e.* the source of plant material was considered more important than where its progeny were raised.

Figure 20 *Categories of tree material likely to be specified by woodland owners and managers for planting schemes in the next five years. Numbers refer to count of responses.*

GENETIC DIVERSITY (12)

Species choice
Among 443 respondents 83% stated that they knew which species were suitable for land they own or manage, 15% were uncertain, and only 2% did not know.

Asked about sources of information on species suitability, among 485 respondents 57% used no sources, while 18% referred to the *Ecological Site Classification tools* (ESC); 13% the Royal Forestry Society's *Species Profile Project,* 7% the *Right Trees for Changing Climate database;* and 6% *Silvifuture.*

Of the free text comments made (*n*=58) knowledge was accessed through friends and other woodland owners, from forestry professionals, from a range of organisations including the Woodland Trust, Wildlife Trusts, and from Forest Research research briefings and other outputs.

TREE NURSERY BUSINESSES

Characterisation of tree nursery businesses

A total of six tree nursery businesses responded to targeted questions, concerning species choice and provision of advice to customers. Three of these had an annual turnover of less than £0.5M; one had a turnover in excess of £1.5M.

Nursery business were asked whether they were considering diversifying the number of species to be traded in the next five years. Among the four questioned respondents, one answered that it was likely to increase the number traded by 11-25%; two were likely to increase the number by 5-10%; and, one did not expect to change the number. No nursery businesses chose options to increase the number of species by 26-50% or >50%.

Three nursery businesses confirmed that they provided provenance information to customers. Asked which new species on their stocklist they were likely to trade in greatest volume in future, one nursery responded that it "Depends on what we can locate". One stated that they hoped to return to selling common ash (*Fraxinus excelsior*). Two nurseries provided lists of species of future interest (Table 9).

Tree nursery businesses were asked if any of a number of pre-selected factors would encourage owners/managers to plant new woodland. The strongest view among Nursery businesses was that *Grant aid* would have most impact (82%), followed by a *Viable source of income* (76%). There was no clear agreement that *Free or low-cost advice* would have any impact.

Nursery businesses were asked which sources of advice concerning species suitability they had accessed when providing advice to customers. None of the pre-selected options provided were most used, with personal knowledge dominating comments. The *Right Trees for a Changing Climate Database* was mentioned by two respondents; with one mention each for the *Royal Forestry Society Species Profile*

Table 9 *Combined list of species likely to be traded in future by two Nursery businesses.*

Latin	Common name
Abies alba	*European silver fir*
Abies amabilis	*Pacific silver fir*
Cedrus atlantica	*Atlantic cedar*
Cedrus deodara	*deodar*
Crataegus laevigata	*Midland hawthorn*
Cryptomeria japonica	*Japanese red cedar*
Larix larcinia	*tamarack*
Picea glauca	*white spruce*
Picea pinaster	*maritime pine*
Picea sitchensis	*Sitka spruce*
Pinus peuce	*Macedonian pine*
Prunus insititia	*damson*
Sequoia gigantica	*giant redwood*
Sequoia sempevirens	*coast redwood*
Ulmus carpinifolia	*field elm*
Ulmus glabra	*wych elm*

Project and *Silvifuture* website. No respondents used the *Ecological Site Classification,* although it should be noted this is intended more for site owners/managers. Two businesses relied on their own experience and observations, one commenting:

"With 30 years' experience in woodland planting I have my own knowledge which I would like to publish"

Nurseries were asked about factors discouraging potential customers from creating new woodland. The impact of Common Agricultural Policy (CAP) was considered the greatest barrier (Table 10).

Table 10 *Counts of factors considered to be discouraging tree nurseries' potential customers from creating new woodland.*

Factor	Number
I am concerned about impact on CAP payments	6
Complexity of regulations relating to grant aid	5
Lack of knowledge of what to do or needs doing	5
All of my land is farmed and I do not want to plant it with trees	4
I have enough woodland	3
Lack of grant aid for what I want to do	3
Regulations (*e.g.* Environmental Impact Assessment)	3
Threat of damage from deer and/or squirrels	3
Devaluation of the land	2
Lack of contractors to do the work	2
Poor prospect of an income from business activities	2
All of my existing land is already planted	0
Expenditure comes from taxed income	0

Nurseries were asked to score the importance of their customers' aims when planting trees. *Personal pleasure* was rated highest, followed closely by *Wood products, Capital growth/investment,* and *Screening from noise, pollution, etc.* Owners themselves, by contrast, had ranked the last two rather low, although *Personal pleasure* was second highest. Nurseries thought that *Non-timber forest products, Hunting/ shooting,* and *Protect/improve carbon stocks* were of lowest importance to their customers, the first two of which matches the low rankings assigned by owners.

England

Two themes identified as priorities for England, Tree planting (9 – England and Scotland) and Skills and training (England), were offered to all respondents across GB. Respondents answered questions under two themes specific to England: *Governance, policy and funding, and; Vision for forestry in England.*

Characterisation of respondents

511 respondents answered at least one question relating to a section dealing with priorities for England. Of these 60% were woodland owners (including 1% tenants); 20% forestry professionals; 17% agents, and; 2% businesses (2% wood-processing sector, and; <1% tree nurseries).
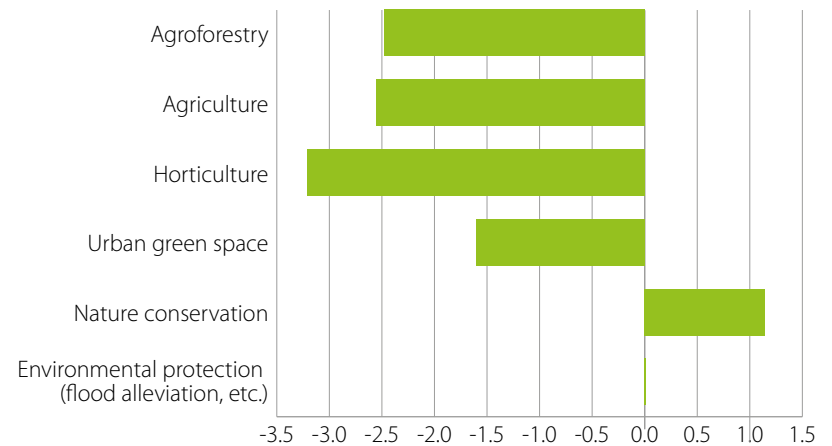
Governance, policy and funding

Respondents reported that they had received funding (*n*=132) and advice (*n*=135) from FC England. On a scale ranging from -5 *(Very dissatisfied)* to +5 *(Very satisfied)* respondents were satisfied (mean 1.6, median 3) with the advice received.

Neutral opinions were expressed for advice received from Natural England (*n*=82, mean -0.1, median 0), and the Environment Agency (*n*=45, mean 0, median 0).

Vision for forestry in England

374 people responded to at least one of a series of questions about the extent to which they thought six main landuse categories were integrated into the vision for forestry in England, from *Not integrated at all* (score -5) to *Very well integrated* (score +5). The results (Figure 21) demonstrate that only *Nature conservation* received a significant positive score (1.1), while *Environmental protection* had a neutral score (0.01). *Agroforestry, Agriculture, Horticulture,* and *Urban green space* were all thought to be poorly integrated (≤-1.6).

Figure 21 *Respondents' views about the extent to which six landuse categories are integrated into a vision for forestry in England: where -5 is 'not integrated at all; and, +5 is 'very well integrated'.*

Asked what other areas needed to be addressed in future policy, there were 149 comments on a very wide range of topics, often representing contrasting views. For example, some calling for more financial support while others sought advice in managing woodlands without grants. It is beyond the scope of this report to present further analyses, but it is hoped that future research will explore these.

About one-third of respondents (total *n*=401) were interested in helping co-devise a new forestry strategy for England, and 40% were interested in helping evaluate a new strategy. The preferred method for any future participation in shaping a vision for forestry was *Online* (48%), followed by *In-person meetings/workshops* (39%), with a minority preferring *Post* (11%), and 2% *Other* methods.

Scotland

One theme for Scotland (Woodland expansion) was offered to all respondents across GB under Tree planting (9 – England and Scotland). Respondents answered questions specific to Scotland relating to *Scottish landuse policies and Strategies,* and *Landuse change and reform.*

Characterisation of respondents

A proportion of respondents (*n*=192) answered at least one question relating to a section dealing with priorities for Scotland. Of these 40% were woodland owners (including 1% tenants); 32% forestry professionals; 22% agents, and; 6% businesses (5% wood-processing sector, and; 1% tree nurseries).
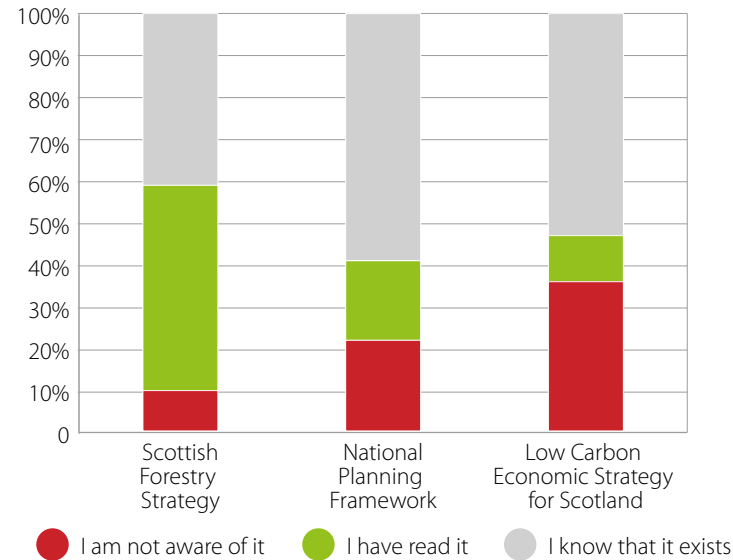
Scottish landuse policies and strategies

Respondents answering questions related to Scotland were asked about their familiarity with three key policies: *Low Carbon Economic Strategy for Scotland; National Planning Framework* and; the *Scottish Forestry Strategy* (Figure 22). The majority of respondents were familiar with the two former policies/strategies, while approximately half (49%) of all respondents reported they had read the Scottish Forestry Strategy (Figure 22).
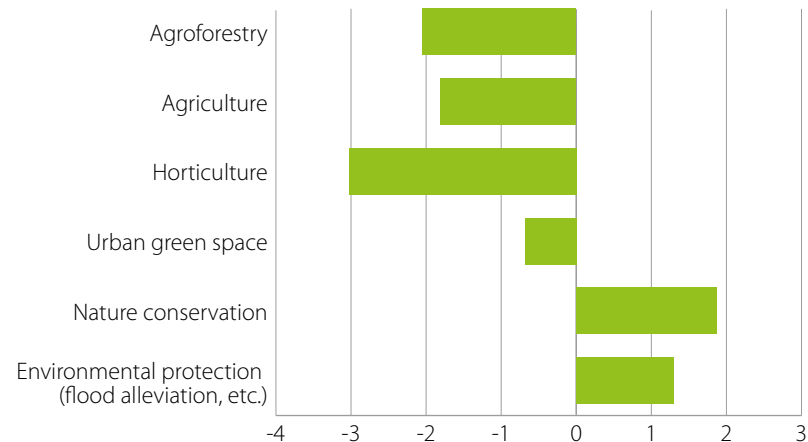
Respondents (*n*=119) were asked about the extent to which they thought a number of main landuse categories were integrated into the vision for forestry in Scotland, from *Not integrated at all* (score -5) to *Very well integrated* (score +5). The results (Figure 23) demonstrate that *Nature conservation* and *Environmental protection* received positive scores (≥1.3), while *Agroforestry, Agriculture, Horticulture,* and *Urban green space* were all considered to be poorly-integrated (≤-0.7).

64 respondents answered a question exploring whether current landuse policies had affected their forest management decisions. 41% had not been affected, 39% somewhat affected, and 20% strongly affected.

Figure 22 *Awareness among respondents of three key policies for landuse in Scotland.*

- 🔴 I am not aware of it 🟢 I have read it ⚪ I know that it exists

Figure 23 *Respondents' views about the extent to which six landuse categories are integrated into a vision for forestry in Scotland: where -5 is 'not integrated at all; and, +5 is 'very well integrated'.*
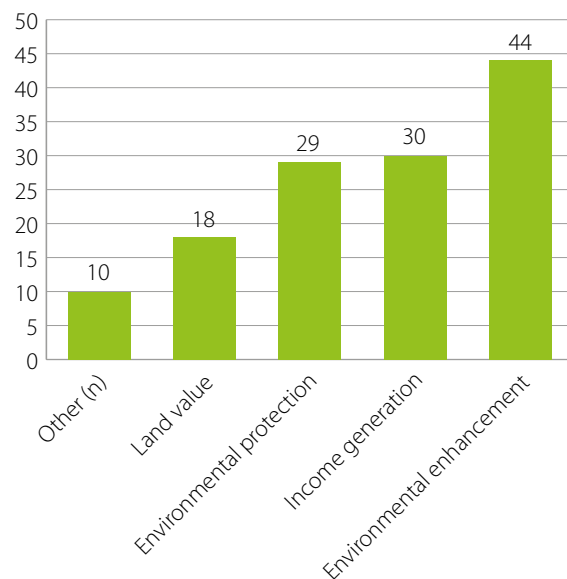
Change and reform

62% of respondents (*n*=141) stated they were in favour of land reform. The question attracted 58 comments. A number of woodland owners (*n*=10) agreed with some sort of reform to reduce the inequity of a few owners having large areas of land, and felt that more smaller-scale ownership and community ownership would be more equitable and democratise ownership. Others had concerns about reform or felt more detail was needed regarding what sort of reform would take place (*n*=7). There were few comments from agents with one respondent stating reform was overdue, while a small number of others had reservations or were not sure what the benefit would be. Professionals seemed to be in favour of reform to support landscape changes and to provide more flexibility and opportunity for land management.

Comments were received on land use policy affecting management decisions in Scotland. An agent mentioned that conservation designations informed management, while a wood processor was concerned that there should be more recognition of the amenity value of commercial forestry. A small number of owners had a range of views with one stating that species selection was informed by land use policy, wanting greater emphasis on the commercial use of indigenous species. Another woodland owner felt required to plant broadleaves which they felt had no commercial value.

Of the 35 people who responded positively to the series of questions on their personal landuse changes, 71% had made changes in respect of *Forestry*, and 49% for *Game management/shooting,* compared with fewer than 6% for *Agroforestry.*

Asked about main landuses likely in the next five years, for a property they owned or managed (49 respondents provided information), the same two land uses, *Forestry* and *Game management/shooting* dominated. In terms of the

Figure 24 *Respondents' motivations (counts) for landuse change in Scotland.*
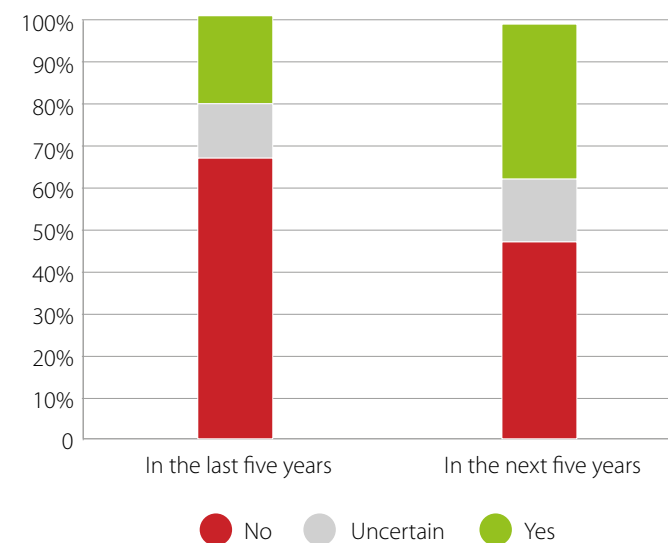

area of that land likely to be available for various land use changes, *Agriculture* scored highest (86% of land would be available, on average), compared with 85% for *Game management/shooting,* and 61% for *Forestry. Agroforestry* was lowest by some way, with 22% land potentially available.

The main motivations for any changes in landuse were (in order of declining importance): *Environmental enhancement, Income generation, Environmental protection,* and *Land value* (Figure 24). A number (*n*=10) of *Other* motivations were expressed and can be broadly categorised as improving landscape enhancement, recreation, and food production.

Among the factors (*n*=15) either impacting or anticipated to impact which have caused changes in landuse were: Britain's exit from the EU; changes to farm subsidies; ecological condition; declining public funding, and; changes in ownership.

Figure 25 *Respondents' management of land for rewilding in Scotland: in the last five years; and next five years.*

Respondents answering the Scotland section were asked whether they had managed land for rewilding, both in the past, and whether they may in the next five years. Among the respondents (*n*=78) a minority (21%) reported that they had not in the past, but in the future 37% respondents were likely to consider managing land for rewilding (Figure 25).

Respondents were asked whether they were aware of the UK Woodland Carbon Code. 72% reported (total *n*=176) being aware of it or having read it. 29% of respondents reported that they currently managed forests for carbon, and 59% of respondents (total *n*=39) reported that they would in the future.

Wales

Questions relating to *Small-scale collaboration,* which arose from the Wales workshop, were offered to all respondents across GB. Respondents completing the Wales section also answered questions relating to *Policy development in Wales,* and *Landuse change.* Landscape connectivity (13) was considered in *Phase III – Advisory Committee* but no clear questions emerged for *Phase IV– Main Survey.*
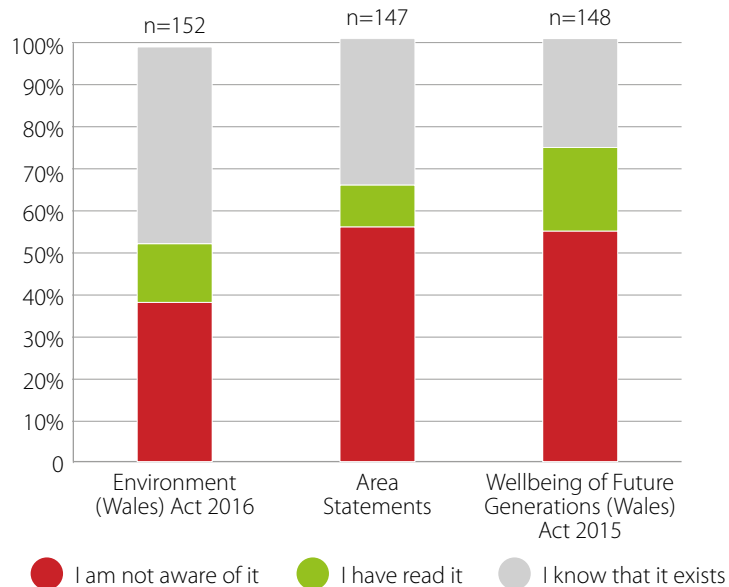
Characterisation of respondents

A number of respondents (*n*=162) answered at least one question relating to a section dealing with priorities for Wales. Of these 51% were woodland owners; 27% forestry professionals; 18% agents, and; 5% businesses (4% wood-processing sector, and; 1% tree nurseries).

Policy development in Wales

Respondents answering questions related to Wales were asked about their familiarity with three key policies: *Wellbeing of Future Generations (Wales)* Act of 2015; *Area Statements,* and; *Environment (Wales)* Act of 2016. Only in relation to the latter were the majority of respondents aware of the policy (Figure 26).

About one-third of respondents declared an interest in participating in work on new policy. Around half (49%) stated a preference for contributing via *Online engagement,* 34% via *Meetings or workshops,* and only 13% by *Post* (the remainder stated *Other*).
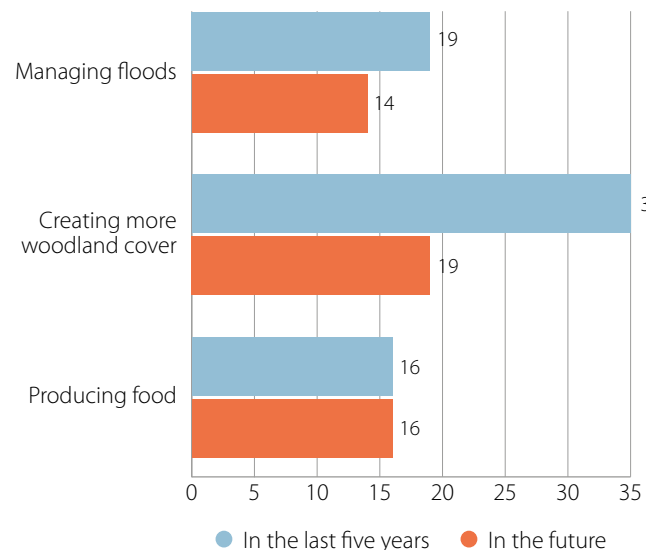
Figure 26 *Familiarity with policies affecting those in Wales.*

Landuse change

Respondents (*n*=119) answered a question asking whether they had changed land management in the last five years, and if they may do so in future for three main categories: *Managing floods; Creating more woodland cover,* and; *Producing food* (Figure 27). There was little change between recent practice and future potential landuse for *Producing food and Managing floods;* however in relation to *Creating more woodland cover* there was approximately a 54% fall in aspiration.

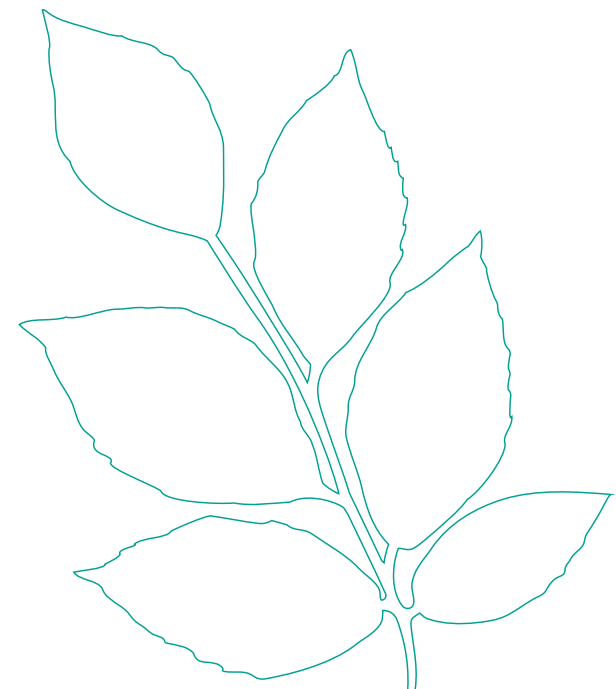**Figure 27** *Interest in changing landuse among respondents in Wales.*

Respondents (*n*=165) answered questions about barriers to accommodating landuse change. A minority of respondents stated that *Knowledge* (10%) and *Skills* (8%) were barriers, while 15% expressed views that both F*inancial matters* and *Regulation/Legislation* were barriers.

Small-scale collaboration

This theme arose from the Wales workshop under **Phase II – Prioritising GB themes and identifying country themes** but was offered to all respondents across GB. The following results are for all GB respondents.

Woodland owners were asked whether they collaborated currently with other woodland owners to achieve a number of outcomes, and whether they would like to collaborate in the future. The majority (64%) of respondents (*n*=382) answered that they collaborated to *Share knowledge and expertise*. Only about one-third collaborated currently to *Achieve economies of scale in woodland management* (34%, *n*=270), or to *Control pests and diseases* (31%, *n*=299). A small minority (11%, *n*=77) collaborated to *Share profits*.

In contrast, respondents indicated that in the future they would be keen to collaborate more with other woodland owners for all of these activities, other than to *Share knowledge and expertise* (36% fewer respondents indicated future intention to collaborate compared with current practice of collaborating, but it is important to note that most respondents chose to answer only one of the two options and this does not mean that there will be a decrease in collaboration). There was an eight-fold increase in the number of those willing to collaborate to *Share profits;* a three-fold increase in those willing to consider *Landscape-scale tree planting;* and two-fold increases in *Achieving economies of scale in woodland management,* and to *Control pests and diseases.*

Discussion

The innovative '360-degree' research method adopted for BWS2017 involved stakeholders in every phase, from identifying the main themes, framing the questions, to interpreting the results. It was effective in meeting the research aims of understanding extant 'awareness, actions, and aspirations'. It enabled the main survey to be tightly focussed on matters of greatest priority, as there is always a temptation in such surveys to ask a large number of questions on too wide a range of subjects. We recognise that the 360-degree method requires additional resources compared to a relatively simple online survey.

The enthusiasm with which stakeholders contributed to the research, including attending the workshops, and, most importantly, the very high representative sample of woodland area (one-fifth of all UK woodland), was testament to the willingness of the sector to engage with this type of policy-relevant activity. Indeed, this reflects the majority opinion among BWS2017 respondents who feel poorly-represented in the development of practice guidance, policy formulation, and setting of research priorities for the sector. In BWS2017 we dealt with the increasing complexity resulting from devolution and a widening gap between policies and practice across the three countries. Results presented here for England, Scotland and Wales are limited owing to constraints of resources. We address only top-level themes, rather than completing separate analyses of the main survey questions by individual country. The authors are keen to work with the devolved administrations to explore the data further.

Figure 1 *BWS2017 delegates at the Machynlleth (Wales) Phase II workshop, hosted by Llais Y Goedwig.*

An important final comment regarding the method and outputs is to highlight the summary nature of many of the findings presented in this report. A limited number of cross-cutting analyses have been completed, again owing to limited resources; *i.e.* how a response to one question relates to those for one or more other questions. For example, exploring how willingness to implement biosecurity measures may change according to the size of a woodland property and/or its location in Britain.

Key development activities

The following are offered as potential key activities in the development of practice, policy and/or research, linked to some of the highest-ranking themes and results from BWS2017.

societal attitudes	qualitative research to understand better the attitudes of woodland owners towards the general public, and vice versa.
ecosystem services	targeted outreach to owners and practitioners, plus tools and services to assist with valuation.
collaboration	exploring opportunities and constraints to collaborative working, and highlighting potential for formalised co-operatives.
species diversity	exploring barriers to diversifying, gathering more evidence, and improving guidance for practitioners.
biosecurity	constraints and opportunities for the forestry sector in proactively reducing/mitigating current and future threats.
engagement with policy and research	realising potential to increase meaningful engagement with more owners and practitioners in policy development and research prioritisation.
policy	policy makers to ensure that forestry is more deeply integrated in broader land management strategies.
competitiveness	exploring barriers to a competitive home-grown timber market, and developing policy innovations to improve profitability.

The authors were surprised by the prominence of Societal attitudes as the top-ranking theme. This reflects greater awareness among woodland owners of the outside world looking over the proverbial forest gate, particularly in relation to their responsibility to care for the natural world. Meanwhile, professional foresters are concerned about the potential constraints that public opinion has on forestry activities, particularly felling trees and controlling pests.

There is a general perception that people do not understand forest management. A deliberate and focussed dialogue between land managers and wider society may foster greater mutual appreciation; this could be an aspiration for the sector.

There are a great number of implications from BWS2017 for policy, practice and research, which would benefit from being teased apart further (see Box). We would highlight the confusion and uncertainty around Natural Capital and Ecosystem Services which, although likely to present a feasible route for the delivery and funding of sustainable development for the land sector right across Britain, are widely seen as 'buzz words' or 'government speak' by stakeholders, rather than meaningful opportunities. Meanwhile, these alternative finance opportunities tie in directly with the pervasive absence of profitability in private woodland management which has again emerged in BWS2017 as a matter of some concern. On a more positive note, data surrounding tree planting is particularly revealing, and the possible increase in land available for planting is likely to be encouraging for policy makers in England and Scotland. A consistent theme in Wales, under various guises, was around collaboration and communication.

The publication of the BWS2017 is propitious. Negotiations over Brexit and alternative funding arrangements post Common Agricultural Policy are ongoing, while country delivery bodies for forestry and the environment continue to work through implications arising from devolution. Meanwhile, the natural environment is under increasing threat from expanding development and global environmental change. Longitudinal research, such as the British Woodlands Survey, provides crucial support for 'evidence-based' policymaking, made even more significant given its grass-roots support.

We sincerely hope that there will be interest among stakeholders, and resources available, to conduct the British Woodlands Survey in future, aiming to deliver BWS2022 as a repeat survey on the same five-year cycle.

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