

Being in touch with nature:

Volunteer recorders for the UK Phenology Network

Short report for the UKPN Network

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Background to research on volunteer monitoring

The UKPN survey was carried out alongside research for an EU Sixth Framework Programme – EuMon - into volunteer contributions to biodiversity monitoring. The EuMon (EU-wide Monitoring Methods and Systems of Surveillance for Species and Habitats of Community Interest - <http://eumon.ckff.si>) project aims to provide a European framework to standardise, focus and coordinate existing monitoring programs by comparing and integrating methods and monitoring schemes for species and habitats of community interest. The project's social science work package or section involves teams from UK, Lithuania, Poland and Slovenia who carried out research into nine nature-based monitoring organisations and/or networks that rely on the services of volunteers to collect records and assist with surveys. The UKPN was one of these networks, and the full report can be found at the UKPN's own website. During our discussions with several UKPN staff and amateurs who have been recording phenological events over long periods of time (so called 'closet phenologists'- see Whitfield, 2001), we felt it would be very interesting if we could find out more about UKPN recorders. An online questionnaire was included in the Nature's Calendar and Nature's Detective email newsletter. Altogether, 365 UKPN volunteers completed the questionnaire, providing information on the types and number of records they submit (e.g. the arrival of the first swallow and bud burst on trees) but also the motivations influencing them to participate in UKPN and the life experiences that have sparked and nurtured an enduring interest in nature.

The value of volunteers

As scientists involved in biodiversity monitoring have pointed out, demands for data on flora and fauna are escalating “not only in the wake of international environmental agreements but out of concern to understand the impact of planning and development on the natural environment” (PAMEB Policy Brief 2003). The race is on to develop time and cost-effective inventory methods and techniques to assess the abundance, distribution and conservation status of species and habitat types (Danielsen *et al.* 2005) in Europe and other parts of the globe, creating demands for data that far outstrip the capacity of professional scientists.

Furthermore, even if there were enough professionals to cover large geographical areas in the high enough numbers required during peak monitoring periods, the financial costs would be prohibitive. For example,

Battersby and Greenwood (2004:19) estimate the input of volunteer efforts to bird monitoring in the United Kingdom as “well over 90% of the total effort going into it, probably 95-98%. ... if volunteers had to be paid, the work would cost 10, 20 or 40 times as much”. Large numbers of volunteer naturalists are required if the aspirations of policy makers and scientists are to be even partially met. Volunteer monitors also contribute to the cost of professionals employed by nature-based organisations through subscriptions and donations, and are recognised to represent a core of citizens who are committed to contributing to conservation and management of wildlife and countryside (ibid).

Methods

In consultation with UKPN staff, a short questionnaire was devised to explore some of the issues described above. The questionnaire (see Appendix) was posted through the UKPN’s ‘Nature’s Calendar’ electronic newsletter in November 2006 and readers were asked to complete it electronically and it was made available for about two months. Questions were of three types. The first three comprised factual information whilst the fourth offered respondents a range of (not mutually exclusive) responses. The final two questions were ‘open’ and offered respondents the chance to write about their life experiences.

Data from the questionnaire returns were analysed through SPSS (Statistical Package for Social Science). Where respondents gave multiple responses to a question, analysis were based on the total number of responses given for that particular question. On the other hand, for the questions requiring some form of longer written answer, responses were coded according to particular key themes (see Results and discussion). Not every respondent answered every question and so analysis was based on the numbers of people who did so.

Results and discussion

1. Geographic coverage

Of the 365 respondents, only four did not provide information on their location. The 361 people who did reported locations throughout UK (Table 1). However, the highest proportions of responses came from the four regions of England (13-24% of each) with only 8% from Scotland, 6% from Wales and less than 1% from Northern Ireland. This seems a fair reflection of the UKPN’s geographical coverage.

Location	Number of respondents	Frequency (%)
South East	88	24.4
North	87	24.1
Midlands	82	22.7
South West	50	13.9
Scotland	30	8.3
Wales	22	6.1
Northern Ireland	2	0.6
Total number of respondents	361 (=100%)	-

Table 1. Location of 361 UKPN respondents to phenology questionnaire

2. Frequency of submitting records

Of the 365 respondents 332 (91%) replied that they have sent records into UKPN. Of these 332 respondents, 294 (88.6%) provided information on the regularity of their submissions to UKPN. The majority of people (55%) provided 10 or fewer records per year and 83% of all respondents provided 20 or fewer (Table 2). However, some people provided considerably more records, a few (3%) submitting over 100 records annually.

Number of records submitted per year	Number of respondents	Frequency (%)
0-10	200	68.0
11-20	44	15.0
21-30	13	4.4
31-40	5	1.7
41-50	12	4.1
51-100	11	3.7
More than 100	9	3.1
Total number of respondents	294 (=100%)	-

Table 2. Frequency of record submission to UKPN for phenology questionnaire

3. Biodiversity categories recorded

A list of eight ‘biodiversity categories’ was provided and respondents were asked whether they submitted records either regularly or occasionally. Combining reports of both regular and occasional submission of records provided by each person, the rank order of biodiversity categories could be calculated (Table 3, Figure 1).

Biodiversity category	Rank	No. of people providing regular or occasional records.	Proportion (%) of all respondents [N = 365 = 100%]
Birds	1	306	83.8%

Trees	2	284	77.8%
Insects	3	275	75.3%
Flowers	4	231	63.3%
Shrubs	5	208	57.0%
Amphibians	6	204	55.9%
Grasses	7	124	34.0%
Fungi	8	107	29.3%

Table 3. Rank order of submissions to UKPN in relation to biodiversity category

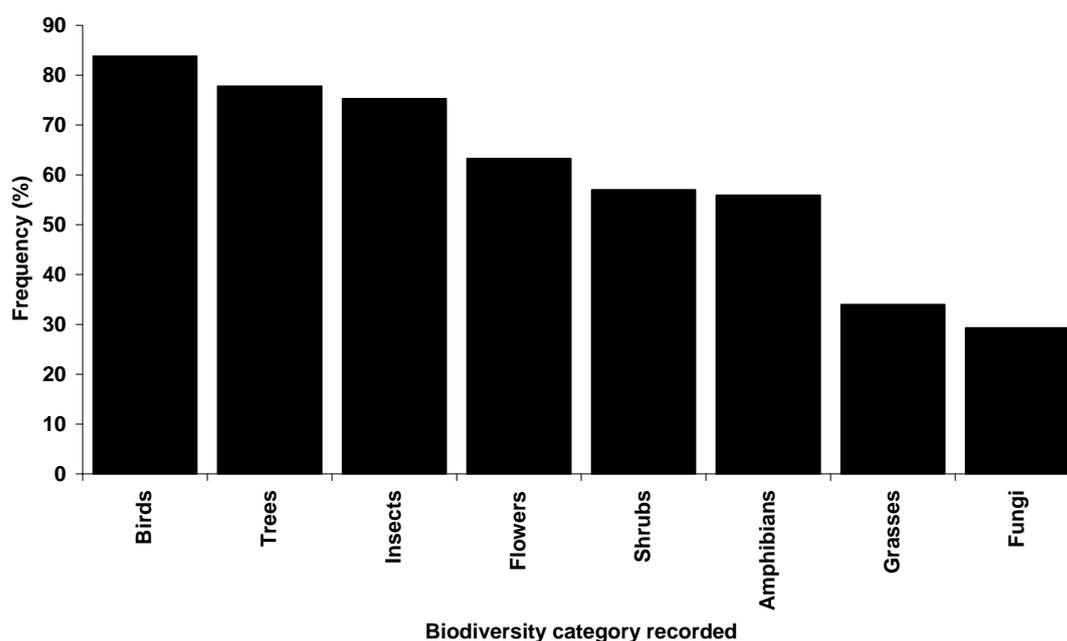


Figure 1. Records submitted by respondents for different biodiversity categories.

Birds were the most popular category for recording. One reason why birds may attract the greatest number of volunteer monitors can be partially credited to the positive cultural values assigned to birds in most European societies. Other taxa are also popular with around three quarters of respondents recording trees and insects whilst grasses and fungi were the least recorded – though still by around a third of respondents each.

4. Frequency level of reporting: regular or occasional?

For each of the eight biodiversity categories, respondents were asked whether they submitted records ‘regularly’ or ‘occasionally’ (Figure 2). Relatively large numbers of responses were given for each of the categories, ranging from 306 responses (Birds) to 107 (Fungi). Furthermore, for all but two categories (Grasses, Fungi), the majority of responses referred to ‘regular’ submission of records. Around one third of responses referred to the ‘regular’ submission of records for Grasses and Fungi, with most records for these categories being ‘occasional’ (Figure 2).

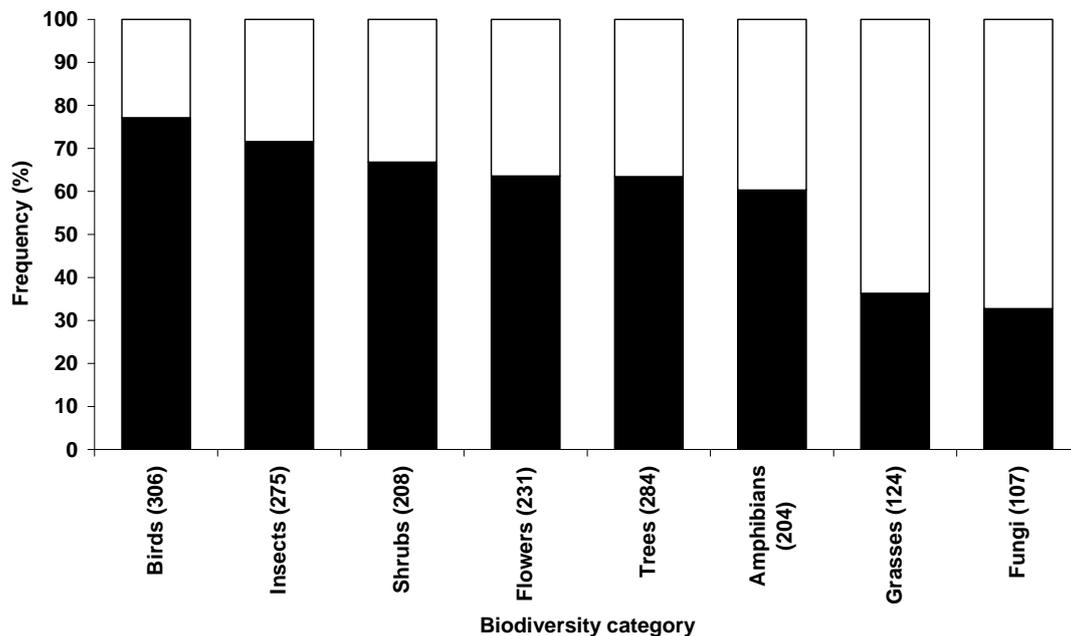


Figure 2. Frequency of either regular (black) and occasional (white) reporting in relation to biodiversity categories.

5. Reason for involvement in UKPN

This question (asking what motivates people to voluntarily support nature monitoring) was an open one where respondents provided short written answers and so a series of ten categories (see Figure 3) were devised to adequately capture the range of responses.

A total of 349 respondents (95.6%) listed at least one reason for their involvement in UKPN. We know from our related research that, generally people will register to become a UKPN recorder either because they are recording events anyway and are happy to share their data with the UKPN or because they want to learn more about taxa and are attracted by the glossy educational materials (but do not necessarily send in records). They also may be recruited through popular BBC shows such as Springwatch and will send in a few records (but do not necessarily continue to send records). Overall in the present survey, each respondent answering this question gave between 1-5 reasons for their involvement in UKPN (Table 4).

No. reasons given	No. respondents providing reason(s)	Frequency (%) of respondents to this question [n = 356]
1	349	100.0%
2	196	56.2%

3	48	13.8%
4	7	2.0%
5	1	0.3%
Total	601	-

Table 4. The range of reasons for involvement in UKPN given by respondents.

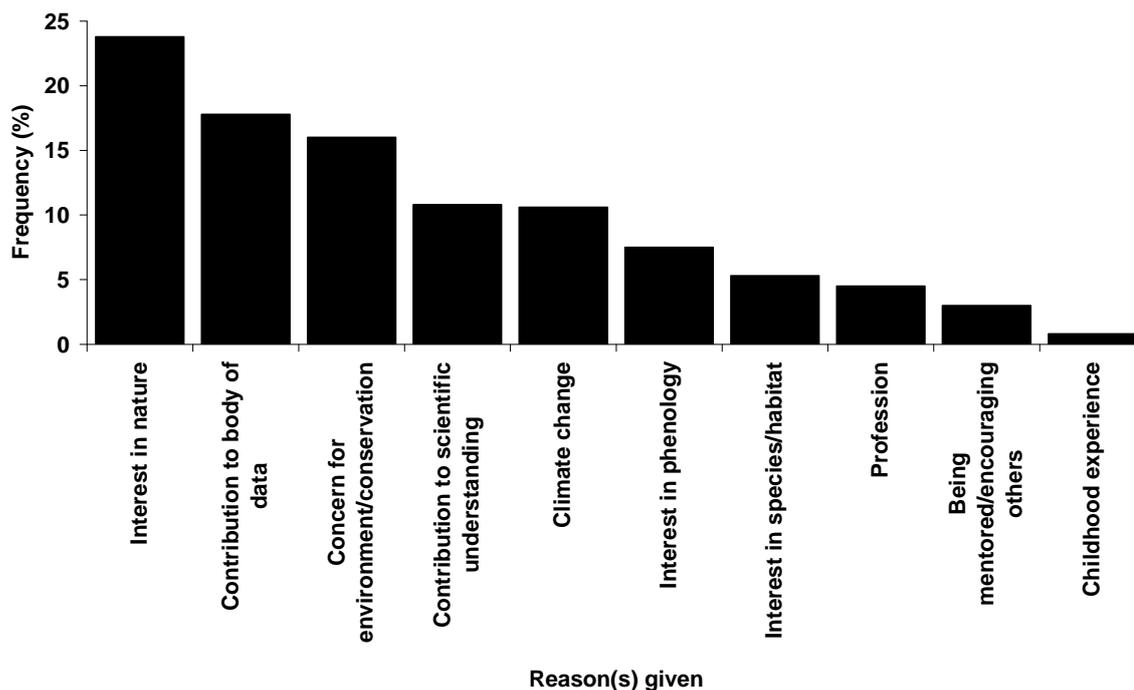


Figure 3. Frequency of reasons given by respondents for their involvement in UKPN.

The most commonly cited reason for involvement was an enjoyment at being outdoors and feeling close to nature ('interest in nature' - 24% of responses) although respondents often made links between this interest and other categories. For example, one UKPN member describes the importance of having *“evidence about wildlife and how it may be affected by changes in climate. I love being outside and in touch with nature”*. Another states, *“I am interested in nature and feel it is useful to keep historical data on events and changes”*. The next four most commonly cited reasons for involvement, representing between 11-18% of responses, reflect concern for the environment (including the impacts of climate change) and an eagerness to record phenological events, thus contributing to scientific understanding. These reasons for involvement were eloquently expressed by two participants:

“I would do anything to help preserve our beautiful countryside for me and future generations to enjoy”.

“What is termed ‘anecdotal’ evidence is what real people experience every day. I believe the more eyes and ears are collecting the data, the better the results and understanding from the scientists at the end of the process”.

Fewer responses (5-8%) detailed a specific interest in (1) phenology or (2) in particular species/habitats but it is likely that these were not specified explicitly because they were regarded as being either obvious (i.e. only those with an interest would be part of UKPN) or implicit in their response to the previous question where the biodiversity categories had been listed.

Most respondents are interested in seasonal events such as the arrival of the first swallow or the first snowdrop but some liked having a reason for being outside looking out for flora and fauna, *“it is an enjoyable additional outdoor past time supplementing hiking...”* Others stated that recording *“makes walking in the countryside more interesting”* or that it was something they could do whilst walking their dog. Most respondents were members of the general public but a small number (5%) were professional researchers/scientists who also sent records to UKPN. Social learning through teaching, mentoring or childhood experience were the lowest cited reasons for involvement in UKPN however, as we see below, these categories were the main reasons given by people for their interest in nature.

6. Interest in nature

This question (asking what started peoples’ interest in nature) was an open one where respondents provided short written answers and so a series of eleven categories (see Figure 4) were devised to adequately capture the range of responses.

In total, 356 people (97.5% of respondents) listed at least one reason for the start of their interest in nature. Overall, each respondent answering this question gave between 1-6 reasons (Table 5).

No. reasons given	No. respondents providing reason(s)	Frequency (%) of respondents to this question [n = 356]
1	356	100.0%
2	232	65.2%
3	99	27.8%
4	32	9.0%
5	11	3.1%
6	1	0.3%
Total	730	-

Table 5. The range of reasons for the start of respondents’ interest in nature.

The 356 people who answered this question thus gave a total of 730 records of reasons for starting their interest in nature. These records could be assigned to one of eleven categories (Figure 4).

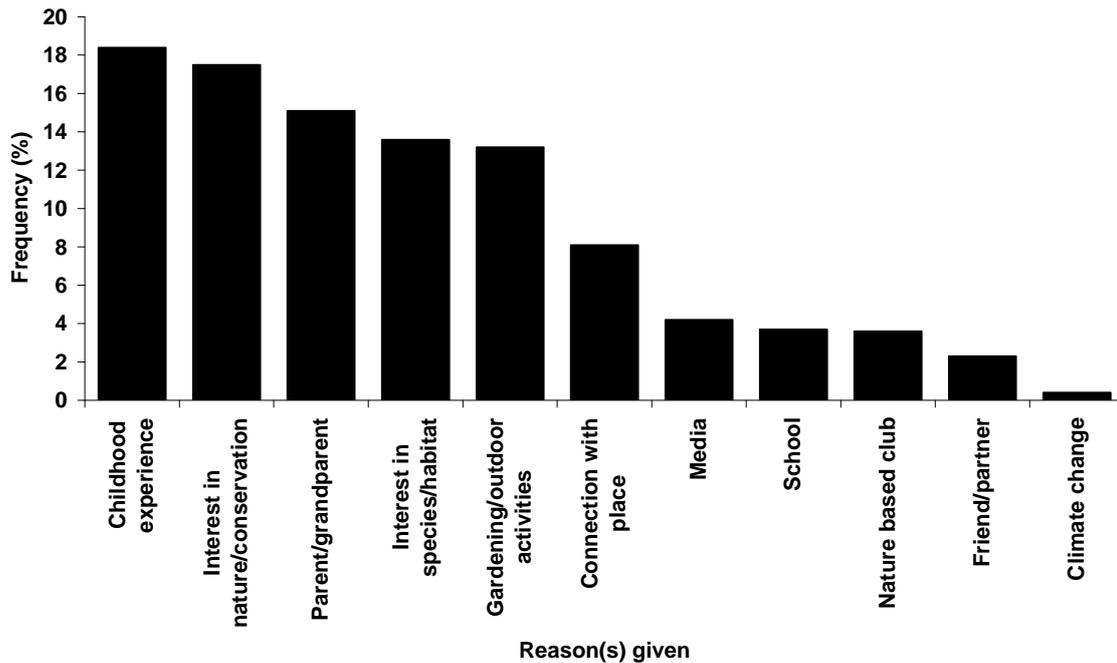


Figure 4. Frequency of reasons given by respondents for the start of their interest in nature.

Influences in early life crossed at least six of the categories (childhood experience, parent/grandparent, school, gardening/outdoor activities, nature based club, friend/partner). Discussions with several phenologists revealed that not everyone starts their interest in nature at a young age. One informant became interested in nature through the subjects he took at University and started recording phenological events when he bought his first house with a garden. Another began a life-long interest with her husband when the Botanical Recording Society was looking for volunteers to record for their atlas. However, around 56% of responses cited the influence of a family member, partner or school teacher. Some accounts of early experiences are presented below:

“When I was a child, my father and I would go out to the countryside on Sunday mornings. He taught me about plants and animals and since then I’ve taken an interest in nature in general”

“My grandmother loved animals and nature. She taught me to look at the sky, the leaves in their seasons, to feel the earth between my fingers. She was inspirational in that”.

“My partner is a very keen and knowledgeable birdwatcher and I love sharing this interest with him”.

“At primary school there was one teacher who had a wonderful collection of bird feathers and bones on the nature table and she bred froglets one year and salmon fry another, in a tank that she had set up to have running water pass through it over a bed of gravel”.

Many respondents were influenced by a range of different experiences and memories of outings or time spent interacting with nature featured strongly in the short extracts respondents gave of their life histories. A range of other things also sparked people’s interest in nature (Figure 4) although most categories are interconnected with one another. As with the question relating to the reasons for peoples’ involvement in UKPN, participants cited a general interest in nature

and conservation (17.5% of responses) alongside more specific memories/experiences. Gardening or some form of nature-based activity (including membership of a club) accounted for 17% of responses while media coverage of environmental issues and/or UKPN was cited in 4% of responses.

Concluding remarks

The 365 questionnaire responses provided us with reasonably similar coverage throughout the four regions of England (around 23-24% of all respondents), although this was lower in the South West (14%). However, coverage was considerably lower in Scotland (8%), Wales (6%) and Northern Ireland (less than 1%). Respondents also provided a broad range of records to UKPN, most submitting ten or fewer records per year but some submitting more than 100 annually. Having said this, we believe we have a reasonably representative sample of respondents, covering the ‘average’ level of involvement in UKPN. Most respondents (56-84%) provided UKPN with records of birds, trees, insects, flowers, shrubs and amphibians but fewer did so for grasses and fungi (34% and 29%, respectively). This pattern was further accentuated when the frequency of submissions was categorised (by respondents themselves) as being either ‘regular’ or ‘occasional’. By far the most people provided regular records of birds, trees, insects, flowers, shrubs and amphibians, and only for grasses and fungi did most people mainly submit occasional records. This is probably due to a combination of ‘popularity’ (e.g. birds and some common insects) and ‘conspicuousness’ (e.g. bud burst in trees, flowers blooming, and the appearance of frogspawn) for the commonest, most regularly submitted categories. On the other hand, the ‘inconspicuousness’ and more specialised knowledge often required when dealing with categories like grasses and fungi might be why most records of them are submitted occasionally.

Overall, respondents provided ten different reasons for their involvement in UKPN. We interpreted this question, and the answers to it, as referring to respondents’ current involvement in UKPN. Many people cited more than one reason for involvement as being important to them. However, the single most commonly cited reason (by about a quarter of respondents) was an interest in nature. Several other commonly cited reasons were associated with the desire to contribute to a larger body of data and, ultimately, to scientific understanding. This fits well with the findings of Van Vliet *et al.* (2003: 207) who concluded that people enjoy participating in large-scale initiatives linked to environmental issues, and with those of Lawrence and Turnhout (2005:9) who emphasised that recorders want both to increase their understanding of nature and to contribute to science. Recorders are generally concerned with the conservation of nature and feel that they should contribute.

Fewer people cited professional or other interests in phenology or ‘social’ reasons for their involvement such as mentoring/encouraging others or childhood experiences. Interestingly, just over 10% of respondents explicitly stated climate change as a reason for their involvement in UKPN. At the European scale, Van Vliet *et al.* (2003:207) highlight that volunteer recorders’ interest in phenology was, in part at least, linked to global environmental issues like climate change and significant changes of life cycle events which are easily visible to the public, often in their own gardens or neighbourhood.

We also wanted to explore peoples' ultimate reasons for involvement in UKPN, particularly in relation to the most cited single reason – an interest in nature. Bøgeholz (2006: 68) points out that much research in the 1990s outlined the importance of 'nature experience' for the development of positive environmental values and attitudes. When asked specifically about what started this interest, respondents to our survey provided eleven different reasons, again often citing several of them as being important. Nevertheless, the single most commonly cited reason (by about 18.4% of respondents) was childhood experienced. Linked with other reasons (i.e. parent/grandparent [17.5%], gardening/outdoor activities [13.2%], school [3.7%], nature based club [3.6%]) around 56% of the cited reasons involved childhood and/or social aspects.

Our findings tie in closely with those of, for example, Palmer et al. (1999:199) whose international research on significant life-experiences of 'environmental educators' suggests the importance of providing people particularly the young, with opportunities for experiences of nature and the countryside. They state that experiences both with and in the environment "appear to be fundamental to the development of long-term environmental awareness and concern."

We believe that this long-term environmental awareness and concern inspires peoples' involvement in nature-based monitoring networks such as UKPN.

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