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Nature: Who Knows



Dr. Fred Rumsey, Botanist,
Natural History Museum, London



Botanical Society of the British Isles, Rubus
Field Meeting, Southampton, July 2003



Dr. Andrew Halstead, British
Entomological and Natural
History Society Field Meeting,
London Zoo, July 2004



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Dr. Len Winokur, British
Entomological and Natural
History Society, Summer Field
Meeting, London Zoo, July 2004

River Fly Identification Course, River Dove
2003, Dr. Cyril Bennett, The John Spedan
Lewis Trust for the Advancement of the
Natural Sciences and Tony Bridgett



NATURE: WHO KNOWS?
Rebecca Ellis, Robin Grove-White, Johannes Vogel and Claire Waterton

FOREWORD

Over the last 20 years, biodiversity has become a catchy way of summing up both the wealth and diversity of the natural world. At the same time there has been an increasing concern that it is 'gradually disappearing before our eyes'. This concern is perhaps best expressed by the Royal Society's report on measuring biodiversity for conservation;

'As many as a quarter of still-existing plant and animal species could be gone or committed to early extinction within thirty years, and half by the end of the century' (Royal Society: 2003)¹.

In recent years, policy bodies responsible for nature conservation in the UK and beyond, have become aware that the responsibility for knowing and preserving nature is a shared one and involves sustained effort and commitment. As such many innovative ways are being sought to embrace wider communities in the biodiversity project.

English Nature has been working towards getting more people involved in biodiversity in many ways. Together with the Natural History Museum, London, it has been forging new and fertile relationships between different kinds of individuals, communities and institutions to encourage them to work together to safeguard our natural heritage. Broadening the participation of human communities in the project of knowing biodiversity has also been designed with a further aim in mind: to increase our knowledge of the rarer, lesser known and lesser loved species that exist in the UK – the slime moulds, liverworts, riverine insects and so on.

In the ESRC-funded 'Amateurs as Experts' project, Lancaster University's social scientists have been studying and advising on these processes, throwing fresh light on the human realities involved in these sensitive collaborations. This project has brought together social and natural scientists, amateur expert naturalists, anglers, rambles and some of the UK's Conservation Agencies to try to understand the range of ways in which different communities might best be encouraged to contribute their knowledge for the biodiversity project.

This booklet tells us that if we want to harness knowledge about the natural world we live in, we need also to attend to the human-natural relationships that make that knowledge possible. The bringing together of natural and social scientists in this venture has produced some unusual yet timely insights together with some practical suggestions for possible ways forward which may not have been anticipated by the formal UK 'biodiversity community'. The authors demonstrate that creating bridges between professional natural and social scientists and the vast body of 'amateur' expertise that's so striking a feature of our society is important not only for biodiversity. It's also vital for the future vigour and public appreciation of science more generally.

Lord May FRS

¹The Royal Society, *Measuring Biodiversity for Conservation*, Policy Document 11/03, ISBN 0854035931; www.royalsoc.ac.uk; London, August 2003.

The ESRC-funded
'Amateurs as Experts'
study focussed upon the
human relationships
involved in knowing and
recording nature.

INTRODUCTION

Once, there was 'natural history'. Then, from the 1960s onwards, there was 'nature conservation'. And now, there's 'biodiversity' and 'biodiversity action'.

This progression isn't just a shift in terminology. It reflects a real change. The protection of wild plants and animals has moved from the margins to become a matter of urgent national *policy* – reflected in Britain's global obligations under the UN's 1992 Biodiversity Convention.

So there's a new challenge. National agencies and NGOs now have to underpin their conservation actions with systematic knowledge of the condition of the vast diversity of plants and wildlife across the country. But to do so, they must relate increasingly to the astonishing variety of amateur expert naturalists across Britain. For it's in this hinterland of small groups and societies – involving tens of thousands of unpaid individuals and groups, who study and keep records of both rare and common species - that much of the richest knowledge and expertise continues to lie.

This brings a new *human* complexity to the business of 'biodiversity action' which statutory and other official bodies need to appreciate. At a local level, people have all kinds of reasons for seeking to 'know nature' better. Helping public policy isn't always one of them. Indeed, for many dedicated folk, immersion in nature is a deliberate antidote to the workaday world. An individual's study of a wild species is generally an end in itself, undertaken out of wonder or love, or for deeper shared involvement in what's locally distinctive, or simply to advance knowledge for its own sake.

It's hardly surprising that new tensions and difficulties have become apparent as official bodies seek to harness amateur-experts' hard-won local knowledge, in order to translate it into standardised forms for the centralised databases deemed so vital for policy purposes. Two questions, asked as part of the 'Amateurs as Experts' study, have shaped the content of this booklet:

1. To what extent do the statutory and other official agencies responsible for nature conservation in the UK understand those on whom they are dependent on the ground?
2. To what extent do amateur expert groups identify with the bigger, national aims? Under what conditions might they willingly participate towards achieving them?



Dr. David Long, Senior Bryologist at the Royal Botanical Gardens Edinburgh



Members of British Phycological Society, Summer Field Meeting and Seaweed Identification Course, Plymouth, April 2004

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Biological Recording and 'amateur-expert' naturalists in the UK:

Who in the UK is involved in biological recording and where are they?

Britain's naturalists are generally unpaid experts and enthusiasts, who observe and record wildlife in the field. We refer to them throughout this booklet as both *naturalists* and '*amateur expert*' naturalists although many also work professionally in museums and universities. The key point is, the field-work and recording undertaken by amateur-expert naturalists is most often self-motivated and unpaid.

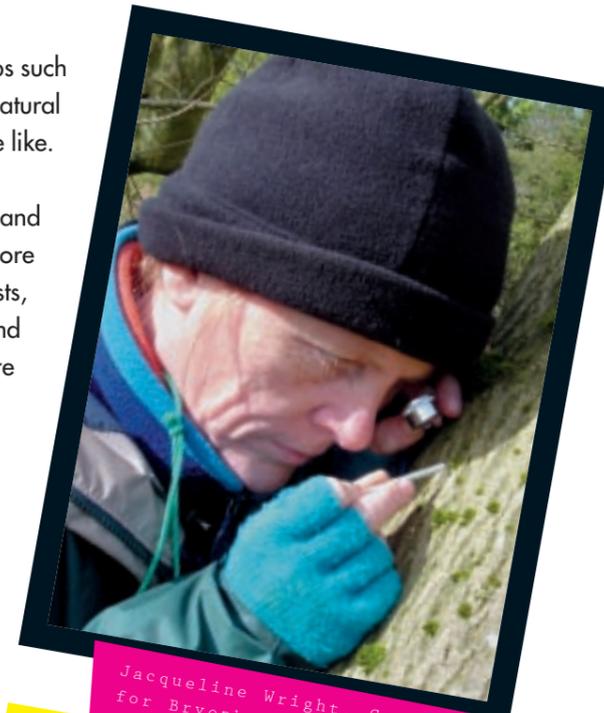
Most of these amateur-experts are affiliated to one of the dozens of specialist naturalist groups such as the Botanical Society of the British Isles (wild flowers), the British Entomological and Natural History Society (invertebrates), the British Bryological Society (mosses and liverworts), and the like.

This makes them different from many other folk now working in the biodiversity policy and campaigning arena. They are at one end of a spectrum that also embraces the generally more visible campaign and policy activities, and practical actions, of the country's Wildlife Trusts, Biological Records Centres, local authorities, mainstream NGOs (like RSPB and Plantlife), and Museums and government departments and agencies, like English Nature and the Joint Nature Conservation Committee.

Up to 100,000 individuals are involved in biodiversity activity overall in Britain. Their diversity means that the UK biodiversity community spans a variety of different understandings and motivations.

The key point is, the field-work and recording undertaken by amateur-expert naturalists is almost entirely self-motivated and unpaid.

It can be difficult to coordinate smoothly between these different communities and the wide-ranging forms of data they produce. At the moment, most organisations responsible for designing participatory schemes for nature conservation in the UK are trying creatively to address this kind of issue. But overwhelmingly, it is the 'amateur experts' who are repositories of the richest knowledge and understanding of nature on the ground – and whose role now demands clearer appreciation.



Jacqueline Wright, County Recorder for Bryophytes, Oxfordshire

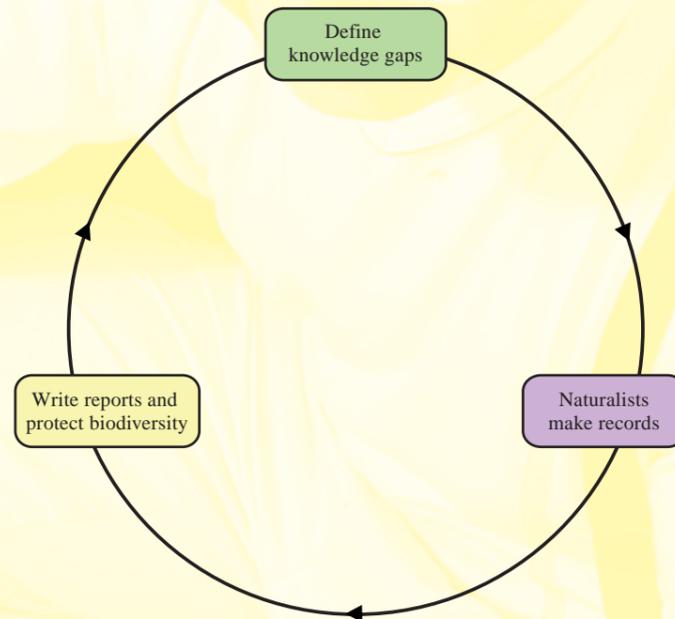


From far left: Len Winokur, Alan Philips, Ben Frediani, Kevin Frediani, Curator of Plants, London Zoo, London Zoo, July 2004

Imagining Simple Networks?

When the UK Biodiversity Action Plan (with over 400 species and habitat plans) was drawn up in 1994, it was assumed that a flow of information – from on-the-ground observations of species and their distributions to national decision-making – was both needed and possible.

If such a flow of information were this simple, biodiversity protection would be easy!

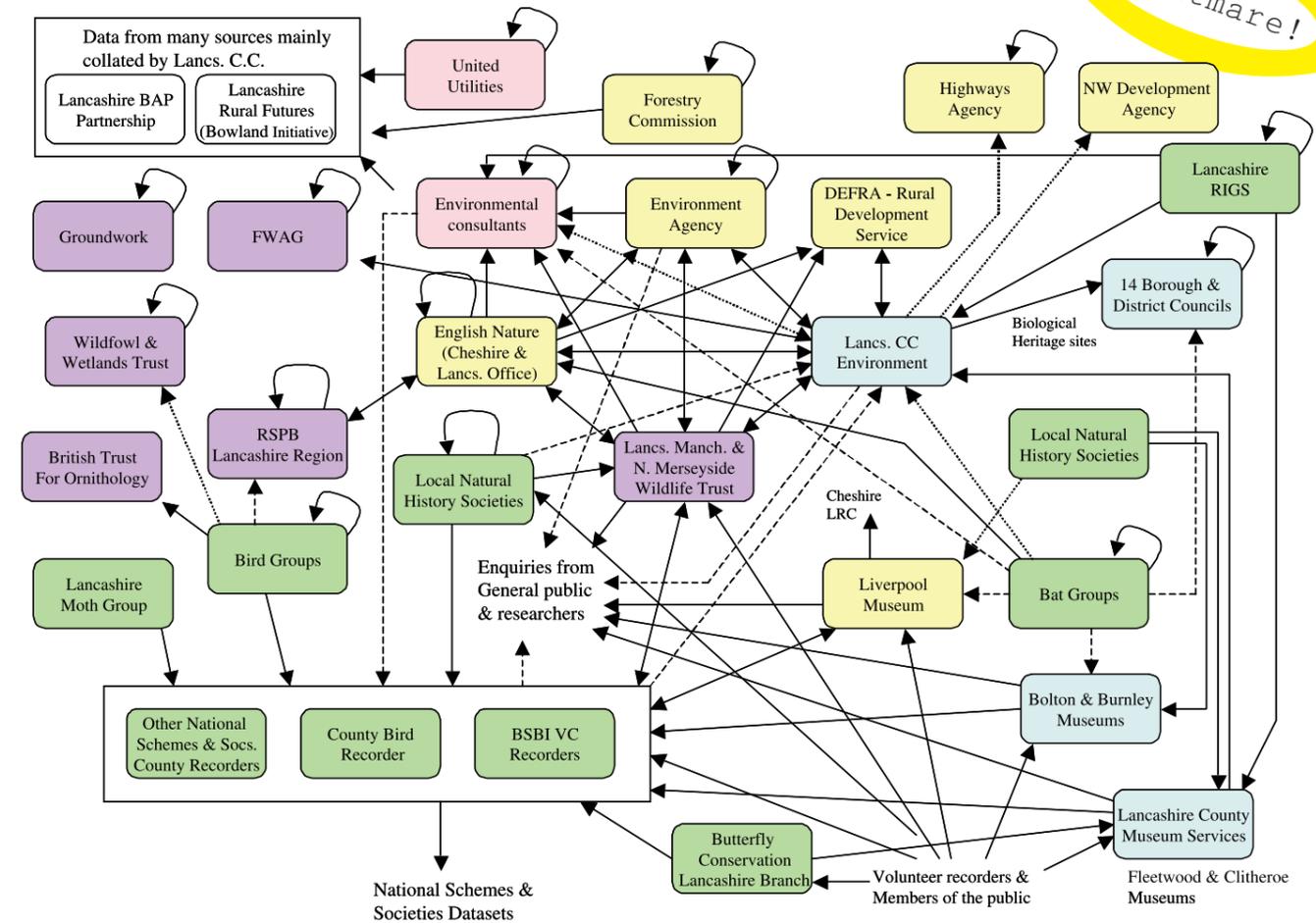


Imagining it *could* be this simple is important as a basis for planning forms of engagement with people. What is essential however is not to forget that this simplified vision is not, in fact, reality. When it is taken as reality, then the subtleties of the UK's recording community and the place of amateur expert naturalists within it are forgotten and with them, much of the richness of biodiversity and human diversity itself.

Complicated Relationships!

This diagram perhaps better represents the reality of biological recording in the UK. It makes starkly clear how many people and organisations are involved in biological recording and how complicated the relationships are between them.

A typical example of an information flow network;
Charles Copp, *Environmental Information Management* 2005



No wonder data flow is not straightforward; indeed for some, the complexities are something of a nightmare!

But the diagram also reminds us of something else. It highlights diversity again – both human and natural.

Instead of seeing the complexity as an insurmountable problem, it can become an interesting challenge - how to make the most of human diversity in nature conservation. The complex diagram in fact holds hidden and wonderful potential.



Craig Macadam, Ephemeroptera Recording Scheme

Wonder and a Human Centred Perspective

Why do people do it?

What really gets amateur expert naturalists going? What motivates and drives them to spend so much time observing and recording nature? Wonder, curiosity and fascination with nature first moves all deeply engaged and committed naturalists. Importantly, wonder translates into commitment and highly practical results; data is produced and it moves within and between communities.

Wonder is important because it both fuels enthusiasm for recording and underlies human purpose and values within nature conservation. It acts, in other words, as a bond between amateur expert naturalists and policy communities. Recognising this may be an important step in attempting to engage diverse groups of people in biodiversity policy. As the official agencies for nature conservation work to inspire amateur expert naturalists to record and donate data towards abstract policy goals, it is important that they do not lose sight of the fundamental human pleasure and drive behind biological observation and recording.

The next section of the booklet lays out some specific reflections relevant for all individuals and institutions involved in tapping the UK's rich repository of knowledge about the natural world; knowledge which comes predominantly from amateur expert naturalists. The reflections are arranged around 3 sets of concerns:

- **Where does data come from and does it fit?**

Who produces the data and to what ends? In what ways are data sets 'translated' as they move from one context to another and who and what may be lost in the process?

- **Knowing nature and participation**

How is naturalist data either included or excluded from nature conservation decision making and planning in the UK? What does this mean for naturalist participation in biodiversity protection?

- **Understanding amateur expert naturalists better and tuning into what makes them tick**

What aspects of the lives and work of amateur expert naturalists should be considered and understood when participatory initiatives are being designed and planned?

Wonder acts
as a bond
between amateur
expert
naturalists
and the
conservation
agencies



Where does data come from?

Everyone involved in wildlife protection knows that to understand data properly, it is essential to understand the context in which it is generated. This means taking a careful look at who makes it, where it is made and what it is made for. Here are some examples of specialist amateur expert naturalists and how and why they produce data:

What are the different reasons why Bryologists study moss and liverworts?

Getting away from it all - a route to a deeper, natural world.

Belonging and membership – to a national society (e.g. British Bryological Society) and local natural history societies.

Some community activities are closely aligned to conservation agency needs. A good example of this is Survey of the Bryophytes of Arable Land.

Professional bryologists as well as being prominent members of a specialist society, may also work in taxonomic institutions.

Some are deeply immersed in the recording network (e.g. British Bryological Society, Vice County Recorders, Biological Records Centre) and directly contribute data to the conservation agencies.

Some would rather not contribute to the recording network at all and do it for love and fascination in mosses.



What is different about the Phycologists and their study of algae?

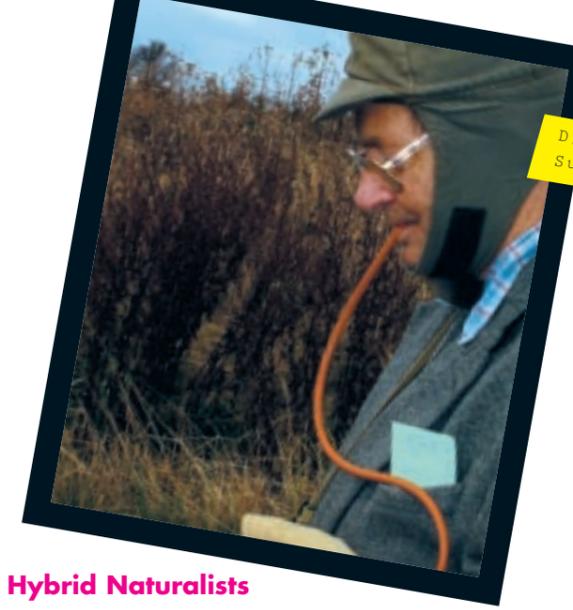
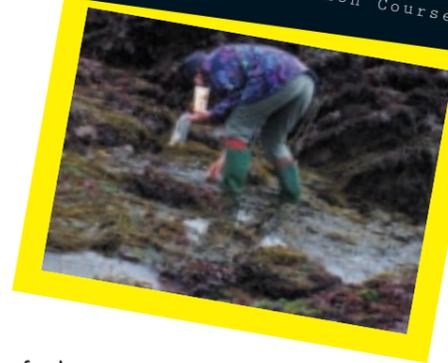
Their study is more explicitly academic. Most phycology recording is directed towards academic ends and data ends up in publications.

They depend to a larger extent on molecular biological techniques to identify the organisms.

But phycology recording goes on elsewhere: there are a number of schemes which capture data from the less academic side of the phycological community (such as the more popular and conservation oriented monitoring groups of Seasearch and Porcupine).

Expertise is fragmented and the recording network is not organised by nationally distributed Vice County recorders. Instead, pockets of expertise are dotted around parts of the country and records and specimens are received from far afield. Phycologists are therefore most likely to be linked to each other through personal contacts rather than through a more formalised recording network.

Dr. Christine Maggs, British Phycological Society and Queens University, Belfast. British Phycological Society Summer Field Meeting and Seaweed Identification Course, Plymouth, April 2004



Dr. Patrick Roper, Diptera Recorder for Sussex, British Bryological Society

Hybrid Naturalists

Some naturalists engage in a range of quite different activities. An experienced lepidopterist for example, may simultaneously be a renowned lichenologist or arachnologist.

The passion and the commitment may be the same for each activity. But the data produced by each activity may take many forms, depending upon the context in which he or she pursues his/her interest. Lichen records may be stored in paper form in a cardboard box and seldom venture from beneath the bed.

At the same time, sightings of micro moths may be electronically collated and contributed to a local or national recording scheme. Finally, spider records may be compiled as part of a consultancy report and simultaneously held at a Local Record Centre.

Does Data Fit?

Once we have understood the connections between the "who, where and what for?" of data production, we quickly see that naturalists and their pursuits might not always fit into the UK's Conservation Agencies' expectations or needs.

Moreover, forms of data, standards of precision and coherence of data sets, whilst meeting the requirements of a particular context, may not meet those of a new one. This means that it can be difficult to translate one data set into a different format. Data collected in an amateur expert naturalist's 'local patch', for example, may not be relevant for database entry or for nature conservation planning and decision-making.

Knowing Nature and Participation

Widening Participation: sometimes it works like clockwork

Many cases of amateur expert naturalist engagement with conservation agencies work smoothly. This involves the conservation agencies identifying a particular form of engagement with a community. Some communities then make a big effort to align their own initiatives with policy aims. The large-scale success stories of this kind come from NGOs such as Plant Life and Butterfly Conservation. Some of the smaller communities, however, are working hard with their members to align their activities more closely to biodiversity protection goals.

The UK's fly fishing community, with support from the Natural History Museum and renowned river fly experts, have been trained up in river fly identification and monitoring techniques.

Their enthusiasm for and commitment to the riverine environment has thus been tapped but towards a different end. Many UK anglers have now become very useful biological recorders and water quality monitors; they are producing high quality data indispensable to environmental management.



The Elm Map project, also spearheaded by the Natural History Museum, has rallied hundreds of Ramblers, already out and about loving and observing nature, to map the UK's mature elm population.

Knowledge of elm distribution is the key to finding other interesting organisms for investigation by the UK's lichen, moss and fungi and Invertebrate experts.

The Ramblers are contributing to science and policy by producing and contributing data that can be used by others to study elms, other plants and insect life.

A number of the specialist societies including the British Bryological Society, the British Lichen Society and the British Entomological and Natural History Society, whilst continuing to meet for their traditional recording and training activities, have formed Conservation Committees, through which society activities come closer into line with policy needs.

The Committees of the societies mentioned and many of their committed members continue to practice what they know and love but simultaneously record species of particular interest to policy (specifically Biodiversity Action Plans).

British Bryological Society
Spring Field Meeting



In these examples, data flow is clear and relatively simple and feeds into statutory and governmental mechanisms for data capture and management. They represent a convergence of interests; conservation agencies and naturalists have found ways to work together and work to mutual benefit. Whilst the agencies receive sorely needed data, the Anglers are tooled up in collecting bonafide data on water quality, the Ramblers gain extra interest from their walks and contribute to conservation efforts and the Entomologists, traditionally an isolated and fragmented community, achieve greater cohesion and recognition for their effort and expertise.

In other cases, people and data are less easily mobilised

Flows of data are not always smooth however. Data does not always gravitate towards the centre and we have to ask why certain data sets are either included or excluded. The translation of data from one context to another implies a need to check or validate and to agree upon common standards. The proliferation in the quantity and quality of datasets over the last decade has meant that a great deal of extra work and a series of 'validation bottlenecks' have been created. In the process, some contributors and their data can be screened out and, as such, participation becomes selective. What does this mean in a world in which responsibility for biodiversity is increasingly being promoted as a shared one? It is not altogether uncommon to hear the comment:

"These records are not worth the paper they are written on!"

So what does the inclusion/exclusion of data sets depend upon? From the point of view of the conservation agencies, data exclusion is sometimes deliberate and the future of quantities of data simply lies 'in the bin'. On the other hand, for the amateur expert naturalist, exclusion is often voluntarily imposed; many naturalists feel intimidated by the so-called 'validation police' and prefer not to subject themselves or their data to scrutiny. This can be because they lack confidence and prefer to rest their trust in smaller groups of like-minded amateur expert naturalists with whom they share their data.

Quality assurance is not the only device that determines an inclusion or exclusion of data for policy use. Some self-excluders may describe themselves as anarchic naturalists; they do not want to fit into the system as they see it.

Others may not make this conscious decision. They simply do not observe and record the natural world with a view to contributing their data to conservation efforts. An amateur expert lichenologist for example, may carry out a survey of a local churchyard as a solitary activity with both great knowledge and expertise. The idea of this carrying national relevance is perhaps not at the forefront of his/her mind. What s/he is doing is practicing something which exercises skill involving great pleasure and aesthetic appreciation.

The conservation agencies need to understand that not all amateur expert naturalists will either want to or feel confident to participate in biological recording for national conservation efforts. Part of this recognition involves appreciating that naturalists may have other centres of gravity. They may be deeply committed to the natural world, but their reasons may not coincide with the motivations and concerns of the agencies.

Sometimes an element of "would contribute if inspired" is found amongst many amateur expert naturalists. In order to inspire, the conservation agencies have to increase confidence and make the paths of engagement clearer and easier. This is what the Natural History Museum has been doing over the last 5 years and an intimate and sensitive knowledge of the different amateur expert naturalist groups is an essential prerequisite for engagement to work.

"They can't force us to hand over our records!"

Understanding Naturalists Better

Tuning in to what makes naturalists tick

The ways in which amateur expert naturalists study particular organisms are intricately connected to the internal social organisation of a particular naturalist group. As such the values of a naturalist group can be seen reflected in the choices made by individual naturalists as to what to study and how to go about it. One good example of this is the implicit 'pecking order' which usually organises naturalist groups and has been described as such by a nationally recognised amateur expert naturalist and historian;

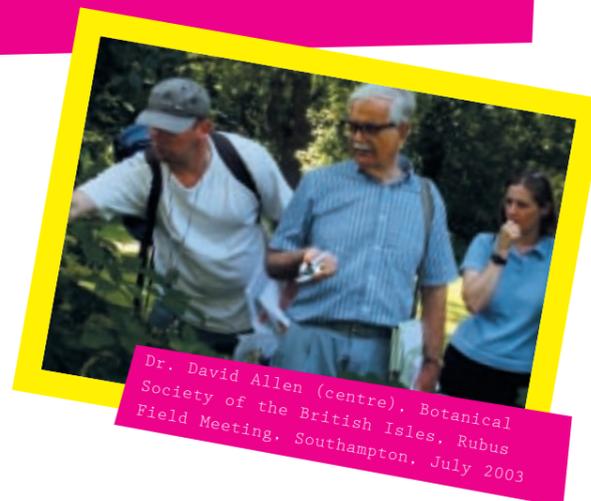
"The natural history community has always had a series of more or less identical 'ladders of esteem' which amateurs tacitly recognise as existing....Esteem is mainly won by the acquisition of a high level of expertise and by readiness to impart that to others through publications, refereeing, speaking at conferences or other occasions and leading field meetings" (Dr. David Allen, letter dated 7th March 2003).

It is general knowledge within amateur expert naturalist groups that to rise higher up the so-called 'ladders-of-esteem', it is important to refine one's knowledge of the natural world. One way of doing this is to choose to study those organisms which are particularly difficult to identify. Aspirations can be remarkably high and individuals strive to meet them and be recognised by their peers for their effort and intellectual contribution. This is a driving force (as it is also within scientific institutions) which influences the ways in which amateur expert naturalists dedicate themselves to the pursuit of knowing esoteric groups of organisms 'inside out'.

'Ladders of Esteem' are just one example of what makes people tick within many natural history societies. But their role in adding meaning to and organising naturalists' pursuits can be EASILY OVERLOOKED by the conservation agencies. Patterns of public engagement could change significantly and for the better if they began to 'TUNE IN' to some of these subtleties.

Tuning in could take many forms;

1. Could the conservation agencies explicitly enrol those at the top of relevant internal 'pecking orders' to ensure that they become more aware of the policy needs and uses of amateur expert naturalist knowledge?
2. Could the conservation agencies explicitly support selected apprentices – those at the bottom of the 'ladders-of-esteem' – so as to guide them into understanding the value of amateur expert naturalist pursuits for biodiversity protection?



Dr. David Allen (centre), Botanical Society of the British Isles, Rubus Field Meeting, Southampton, July 2003

Data Exchange and Recognition: The 'Vital' and other contracts

When amateur expert naturalists create data and hand it over to each other, record centres, databases, or conservation agencies, it is exchanged.

What are the terms of this exchange-based contract? Whilst in some cases, data is exchanged for money, in most, the form of recompense may be more subtle. Both historically and today, amateur expert naturalists talk about a 'vital contract'. This contract implies that explicit acknowledgement of the source of data is given. This may be in a local county flora or in a national atlas but there are many more examples. It can also be fulfilled by recognition and respect for expertise within a society.



British Phycological Society, Summer Reed Meeting and Seaweed Identification Course, Plymouth, April 2004

But what happens when data passes beyond the close-knit naturalist community to the policy domain? How are the people who provided the data recognised? Or, more importantly, what forms of recognition do naturalists expect and want? These are varied and include:

- A name, authorship – evidence of their contribution to science and policy
- Influence over the use of data provided
- Financial recompense

The "Amateurs as Experts" study has found that it is important to make sure that recognition:

- a. Is explicit
- b. As far as possible, takes the form which means most to the data contributors

If this is handled well, data production, data flow and data exchange could be smoother.

"It's quite hurtful as an amateur to do a load of work and send in your records and then for some institution to take them off you and then that information comes out as the institution's records and that is quite offensive. You know, I think that that's hurtful. It really hurts" (Amateur expert naturalist, 2004).

KNOWING
NATURE
BECOMES A
CENTRAL PART
OF MANY
NATURALISTS'
LIVES !

Experience, Passion and Duty:

Invariably, autobiographical descriptions of an introduction to natural history and the development of expertise begin with a passionate, detailed and deep involvement with the natural world:

Many people become literally entranced by the beauty of the organisms they strive to identify and remember. This of course happens to most of us but we do not all convert the experience into dedicated study.

"You can look at one hair on a moss, but then you go to a beetle or a...bud on a tree...and you know that it's the same complexity for every single thing that you look at...I mean just the whole beyond complexity...totally beyond comprehension...but if you look closely at something you get a thrill of, its that thing about, isn't the world wonderful"
(Amateur expert naturalist, 2003)

This form of engagement is often coupled with something else: a sense of duty to nature conservation. Some amateur expert naturalists believe that what they do would be hedonistic if they did not contribute biological records to their Vice County recorders, local councils and/or record centres. They may feel they owe this contribution to science and to policy but also to the natural world which deserves protection. They thereby establish a contract with nature as well as one with their fellow naturalists, and with those responsible for biodiversity protection.

So far so good: what is often described is a set of relationships and a flow of data which works and keeps everybody happy: or at least it should.....

But such kinds of engagement can transform into a sense of disaffection.

Anxieties and resentment can arise if contributors feel they unwittingly become part of choices that have detrimental effects on the environment.

The risk of a growing sense of disaffection of this kind is the loss of a community of highly committed naturalists who have so much to offer for biodiversity protection.



What have we said so far

• Where does data come from and does it fit?

We have celebrated some of the diversity of amateur expert naturalist practices, their contexts and the range of motivations and interests which drive people to study and record nature.

Some data produced are aligned to the needs of conservation agencies and some aren't.

If we are to understand why this is so, we need to look carefully at data flow and the processes of translation as data move from one place to another.

• Knowing nature and participation

We have begun to understand the selective nature of participation in biodiversity protection.

Sometimes amateur expert naturalists and their data are easy to include, especially when an effort is made on both sides to work together and meet each other's expectations.

Sometimes inclusion is more difficult and in these cases we need to look at how validation and standardisation procedures may act to exclude people and their data. Sometimes exclusion is voluntary and may be because of different motivations or a lack of confidence and inspiration on the part of amateur expert naturalists.

It is important to appreciate that some naturalists record without nature conservation and biodiversity protection in mind.

• Understanding amateur expert naturalists better and tuning in to what makes them tick

If the conservation agencies want to work together with amateur expert naturalists and benefit from their data, they need to appreciate what drives and organises them as individuals and as communities.

The organising elements we picked out were:

- 'The Ladder of Esteem': aspirations both to know more but also to receive peer recognition and respect.
- 'The Vital Contract': data is exchanged and the terms and conditions of the contract of exchange need to be shared and understood by all involved.
- A passion for the natural world combined with a deep commitment to nature conservation.

Dr. Len Winokur: British Entomological and Natural History Society, Summer Field Meeting, London Zoo, July 2004

Dr. Paul Waring: Field Meetings Secretary, British Entomological and Natural History Society, Summer Field Meeting, London Zoo, July 2004



Misaligned Assumptions: Barriers to Amateur-Professional Relationships

Although many professional conservationists are themselves amateur expert naturalists in their spare time, the 'Amateurs as Experts' study has highlighted certain recurring assumptions about naturalists within the conservation agencies including:

- A tendency to characterise amateur expert naturalists as 'nerds'
- An expectation that amateur expert naturalists could and should be encouraged to hand data over to inform biodiversity policy
- An assumption that this could be achieved with minimum disruption to existing amateur expert naturalist groups, motivations and dynamics

These 3 points above are ways in which policy represent amateur expert naturalists as different from professional groups but at the same time useful in terms of the data they can contribute for policy use.

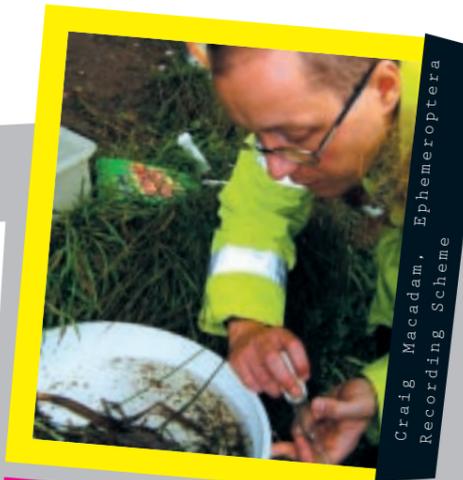
On the other hand, many amateur expert naturalists seem to entertain some equally strong assumptions about conservation agency staff, including:

- The assumption that policy makers are 'suits' with little expertise in natural history
- A belief that agencies will lose amateur expert naturalists' data and will not recognise them for their contributions
- A belief that agencies will grant amateur expert naturalists little or no say about what data is used for
- An assumption that policy only wants data and is not interested in the well being of amateur expert naturalists as individuals or communities
- A belief that lists of species and habitats have been drawn up without consultation and so significant expertise and biodiversity itself have been ignored

Again, amateur expert naturalists tend to perceive of conservation agency staff as very different from themselves. Sometimes however there are also ways in which policy makers and amateur expert naturalists are more similar than they imagine.

What is clear is that;

- Policy makers and amateur expert naturalists are all in it together - they all want to work to preserve biodiversity
- Passion and wonder are alive in kicking in both naturalist and policy worlds and drive commitment and action
- Holding on to this passion and commitment becomes quite a challenge in the bureaucratic environment of BAP and other conservation policy frameworks
- But policy makers and amateur expert naturalists can work together by paying due respect to each other's strengths



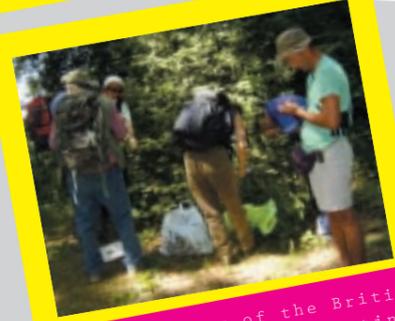
Dr. David Long, Senior Bryologist at the Royal Botanical Gardens Edinburgh

Ways forward for the conservation agencies

- There's no one single way of working with the variety of Britain's amateur expert naturalists. Official nature conservation bodies need to nourish greater understanding and respect for the idiosyncracies and particular skills of the different societies, schemes and individuals involved.
- Conservation agencies need to rethink some of their own seldom-recognised assumptions and stereotypes. Amateur expert naturalists are not simply 'nerds' or 'anoraks' available to be harnessed, but skilled individuals with their own drives and motivations.
- Equally, conservation agencies must recognise explicitly that many of their own staff are also naturalists. This points to a need to re-internalise the natural history tradition within bodies like English Nature, for example by rewarding staff who keep up their natural history skills.
- Conservation agencies and NGOs need to think more systematically about participatory design. How do certain designs encourage the inclusion of some people and data, and the exclusion of others, equally valuable?
- If different publics are going to rise to the call to contribute data for future biodiversity policy use, the conservation agencies need to generate a greater sense of purpose and excitement. This calls for sensitivity to the priorities of those who are being addressed. Contributors will need to appreciate how and for what purposes their data are to be used.
- Amateur expert naturalists are a unique and valuable cultural element in British society. There needs to be more explicit recognition - by government, conservation agencies and leading NGOs - that, frequently invisible though they may be, they are the bedrock of much of the most important biodiversity protection work. Forms of recognition of their contribution are needed which reflect the values of the naturalist communities themselves.
- There is no easy 'road map' available. If the insights of this booklet are to be translated into practical ways of working on the ground, the new official agency, 'Natural England', will need to have adequate human and financial resources for a period of creative experiment and action, aimed at advancing new patterns of collaboration.



Anglers in lab at River Fly Identification Course, River Dove, 2003



Botanical Society of the British Isles, Rubus Field Meeting, Southampton, July 2003



Members of British Phycological Society, Summer Field Meeting and Seaweed Identification Course, Plymouth, April 2004



British Bryological Society Spring Field Meeting



Dr. David Allen, Botanical Society of the British Isles, Rubus Field Meeting, Southampton, July 2003



Dr. Andrew Halstead, Summer Field Meeting, London Zoo, July 2004



The late Peter Selby