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Sustainable Cities Fellow's Lecture - 2002 Newcastle Conference

Professor David Goode, FIEEM

Introduction

The Conference theme "integrating nature in the urban environment" marks an important milestone for the Institute. You may be surprised, in view of my work in this field over the past twenty years, that I have not chosen to address this topic in my Fellow's Lecture this evening. Instead, I have chosen to talk more widely about sustainable cities. I have good reasons for this, which I will explain later, but first I would like to say a few words about urban nature and the way in which professional attitudes have changed.

The Conference on Nature in Cities organised by Ian Laurie in Manchester in 1974 was the first of its kind. It followed closely on the work of Nan Fairbrother and Ian McHarg. It was the first attempt to bring practitioners from a number of different professions together to think about what is possible in this field. Other conferences followed in Liverpool and Toronto in the mid 1980s. A huge amount has happened since then, and this period has been extremely significant in getting the concept of nature in the city accepted by the different professions involved. I believe this meeting will be another important milestone in this process. There is now much greater acceptance of the contribution to be made from ecology to the design and management of urban areas, and, as we know, strong linkages have also been made with other disciplines including the social sciences and health. This conference is extremely timely and I look forward to IEEM taking the subject forward together with other professions in the coming years.

An ecological perspective

Let me now turn to the broader issue of sustainability. As Head of Environment at the new Greater London Authority, I am responsible for developing environmental strategies across a range of topics including municipal waste management, air quality, ambient noise, energy and biodiversity. I am faced with finding solutions across this wide spectrum of environmental issues. The most fundamental question is, how do you make a city more sustainable? In this context I find my traditional ecological background extremely valuable. The question that I want to address tonight is how we as ecologists and environmental managers, can contribute effectively to the decision making processes in the politically complex arena of a big city. How can we as a profession influence the future development of urban ecosystems to find solutions which are sustainable in real terms?



I would like to start with a picture that has hung on my office wall for some years. It is a copy of the fresco from one wall of the parliament building in Sienna that was painted by Ambrogio Lorenzetti in 1338. It is called "The Effects of Good Government on the City and the Countryside". For me it provides a powerful metaphor for a sustainable city. It demonstrates very clearly the relationship between the cultural and economic development of the city and its dependence on the surrounding countryside. At the time when it was painted, Sienna was a small city state and it was easy to see the hinterland on which its civilization depended. The landscape of olive groves, meadows, pastures and woods was plain for all to see. The government of the day would soon be aware if this landscape was not in good heart.

With the immense growth of cities, together with globalisation of trade, we are no longer in that happy position. It is impossible to see the effects of decisions when managing a large city, and certainly not a city the size of London. From an ecological perspective there are two important concepts involved here which have a direct bearing on sustainability. These are the ecological footprint and city metabolism.

William Rees coined the phrase "ecological footprint" in his study of the Vancouver region in 1995. He attempted to measure the level of resource use of a particular area. Expressed on a *per capita* basis he was able to demonstrate that the level of resource exploitation would require the resources of two additional earths if extrapolated to the entire world population of 6 billion people. Rees not only demonstrated the gross inequity of resource use on a global basis but also showed that the ecological footprint of a major western city is spread far and wide across the world.

Since that time, numerous footprint studies have been undertaken. A recently published study shows that London's ecological footprint is 293 times the

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Thoughts of a new President - Sue Bell



It is a great privilege to be taking over the Presidency at this time. Membership numbers are at their greatest ever; the rate of growth of members is high; we have an excellent team of staff in Winchester; and the Institute is engaged in a number of exciting and important projects such as the Guidelines for Ecological Impact Assessment. These factors mean that the Institute is well-placed to make real

progress on the issues for which it was established: raising the profile of ecology and environmental management as a profession; establishing and maintaining professional standards; and promotion of an ethic of environmental care.

Our involvement with the Society for the Environment is taking us a step closer to our goal of Chartered status, and resolutions passed at the AGM will assist us in our quest for charitable status.

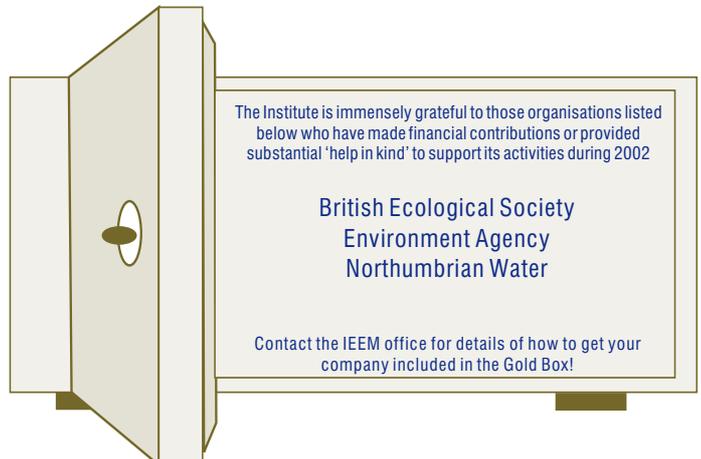
The re-activated External Affairs Committee is helping to raise the Institute's profile by responding to consultation papers – offers of additional help from members are always welcome and should be channelled through the IEEM office.

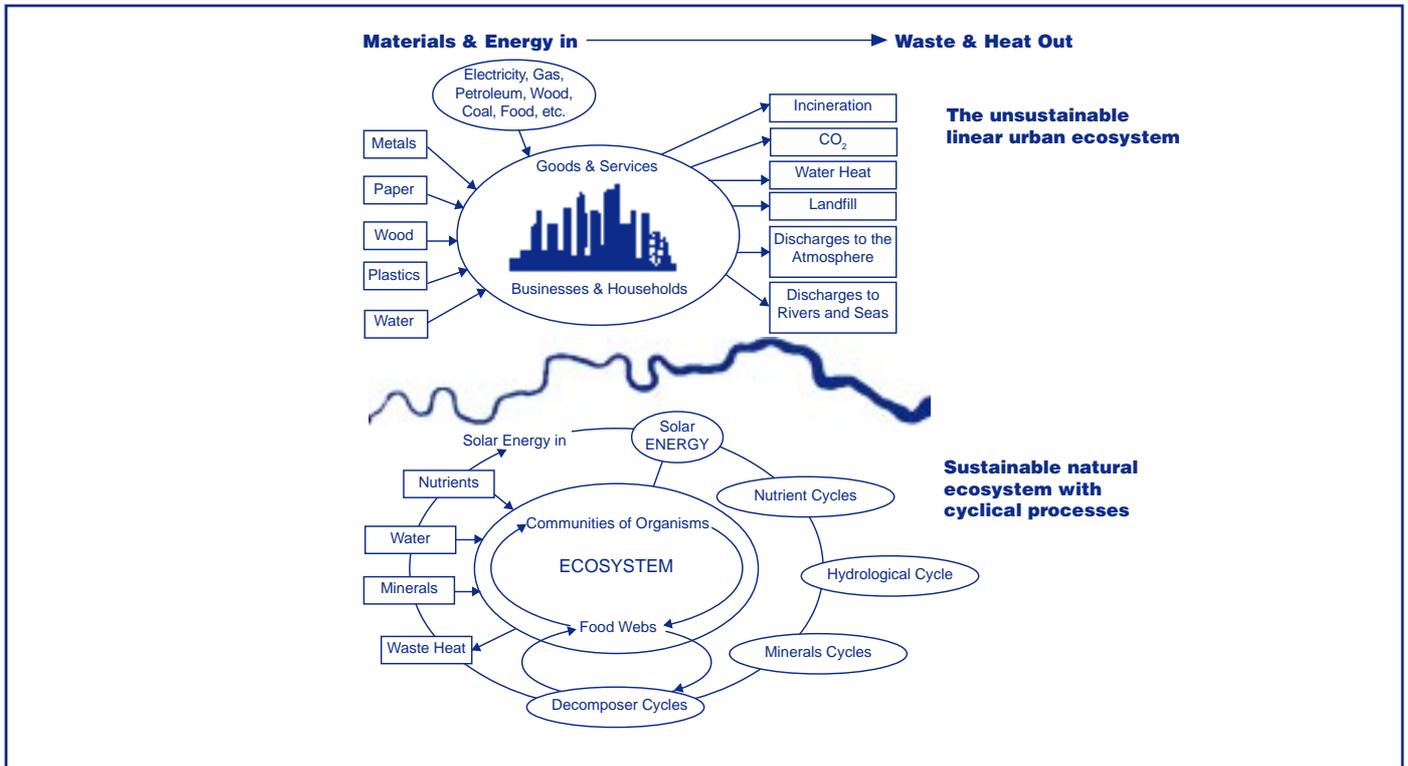
Readers of "In Practice" will be aware of the recent debate about the training of new members of our profession, and, judging by the IEEM postbag, this is of concern to many Institute members. We shall be considering how best to address this issue in the coming months, and further correspondence about this, or offers of help would be welcomed.

I should like to thank my predecessors for building a strong and healthy Institute; in particular the immediate Past-Presidents David Hill and David Parker, assisted by Vice-President Alex Tait have worked hard over the last 5 years to develop the organisation, ably assisted as always, by our dedicated team of staff in Winchester.

The strength of any Institute lies in its members – this means YOU! The Institute has a number of Committees and projects that rely on the volunteer efforts of members to make them happen. If there are issues of particular concern to you please do let us know. I am looking forward to representing the Institute on your behalf, and hope to meet many of you throughout the next two years.

Sue Bell became the fifth President at the AGM on 27th November, 2002.





Linear Urban Systems and Stable Natural Systems – the contrast

size of the city itself (about the size of Spain). The per capita footprint in terms of usable global resources is something like 6.3 global hectares, whereas our earth share is only 2.18 global hectares. This means that we are vastly more profligate in our use of resources than our fair share on a global basis. We all know this in general terms but the detailed footprint study helps to quantify the scale of the problem. Effectively we need three earths to support this level of resource use. As Mayor of London, Ken Livingstone has frequently quoted these figures and he recognises the need to reduce our global footprint if London is to become truly sustainable.

The second concept, which I find particularly helpful, is to view the city as an ecological system and to consider its various functions as part of an “urban metabolism”. For those of us familiar with ecological systems it is all too obvious that most urban systems are inherently unsustainable because the metabolism is linear rather than cyclical. The materials are needed such as paper, wood, plastics, water, aggregates and energy are fed into the system and the waste products are spewed out at the other end. Most of the solid waste is dumped as landfill way outside the city. Emissions to the atmosphere are particularly problematic either in terms of CO₂ emissions contributing to climate change, or NO₂ and fine particles which cause severe air quality problems. There are also significant discharges to rivers and streams within the urban environment, and indeed the urban fabric itself exacerbates the problem of flooding owing to accelerated run-off. There are profound differences between linear urban systems which are clearly unsustainable in the long-term, and the inherently stable ecological systems of the natural world with their inbuilt cyclical processes.

So the question is, how can we as a profession bring our knowledge and experience of natural systems to bear on the management of urban areas? The need to find sustainable solutions for towns and cities is absolutely crucial. Over half the world’s population now live in urban areas and by 2020, two thirds will effectively have an urban lifestyle. Ken Livingstone is on record stating that we cannot achieve sustainable development without sustainable cities. The idea of a compact sustainable city is at the heart of his draft London Plan which will provide the strategic planning framework

for London for the foreseeable future. Some of you may not agree with the idea of a compact city, but essentially the more compact a city is, the more sustainable it will be in terms of transport, energy use, and the whole metabolic process. There is no doubt that it is in cities that the greatest opportunities exist to make changes towards sustainability. Compared with rural areas, towns and cities can be far more effective in their use of resources such as energy because there are enormous savings to be made through economies of scale.

This was well illustrated by Newman’s classic study of 32 major cities in North America, Europe, Australia and Asia in 1996. He showed that cities could be divided into distinct categories related to their density and overall level of fuel consumption for transport. It is effectively a measure of dependence on the private car as opposed to public transport. At one end of the spectrum are extremely low-density cities such as Phoenix, Arizona where fuel consumption per person is five times that of London. Most European cities have moderate densities but low levels of fuel consumption, whilst the Asian cities examined, such as Tokyo and Singapore, have a significantly greater density and lower levels of fuel consumption. This study demonstrated that wealthy, prosperous and desirable cities can have low levels of fuel consumption, reflecting less car dependence. Cities such as Vienna, Copenhagen and Stockholm are amongst the desirable cities in which to live, yet they use only 10 to 20% of the fuel required by American cities. This is just one way in which the compact city can be an advantage in terms of sustainability.

Environmental Strategies for London

The general functions of the GLA provide the three legs of the stool of sustainable development. That is, economic development, social development, and promoting improvement of the environment in London. So the legislation itself sets the scene for sustainable development in London. The Mayor is required to produce a series of strategies. There are eight of them in total. These are: transport, economic development and spatial planning plus four environmental strategies; biodiversity, municipal waste management, air quality and ambient noise. The Mayor is also required to

produce a culture strategy as was stipulated in the GLA Act, which set up the new Greater London Authority. Shortly after the election, I met with Ken Livingstone and discussed some key issues on environment and I suggested to him that we should have an energy strategy because I could not see anyway in which we could deliver on sustainable development without this. He was entirely positive and agreed to produce an Energy Strategy along side the other environmental strategies.

Each strategy goes through several phases of development. Each is subject to two stages of consultation, one with the Assembly and the Functional Bodies (Transport for London, Fire and Civil Defence Authority, Metropolitan Police Authority, and London Development Agency). We discuss the policies with each of these bodies and decide how they can actually implement the proposals. Then we go through a longer period of public consultation and eventually publish the final adopted strategy. The Transport, Economic Development, Air Quality and Biodiversity Strategies have already been published. Spatial Development (which is called the London Plan) and Municipal Waste Management are both currently subject to public consultation. Energy, Noise and Culture are at an earlier stage and have just gone to the London Assembly for consultation.

There is a short sentence in the Act which requires that each of the Mayor's strategies will be consistent with one another. This requirement is fundamental. It has profound consequences. I don't think there is any government or city government in the world that actually does this. This means that we put an enormous amount of effort into ensuring that the London Plan is consistent through and through with all the environmental strategies and that they themselves are consistent throughout. It is a fundamental requirement that ensures that we have a holistic approach. If that isn't difficult enough, we also have to take account of sustainable development, the health of Londoners and equality of opportunity in everything we do. These are cross-cutting themes that we take account of across all the strategies.

The wording on sustainable development is quite interesting. Even if we are only contemplating doing something we have to consider what the impacts would be on sustainable development. If we do carry out any action then the Authority must exercise its powers in ways in which it considers best calculated to contribute to sustainable development in the United Kingdom. That is a very strong duty on the part of the Authority.

Municipal Waste Management

So how do the individual strategies match up to all these requirements? In the case of Municipal Waste Management we have reached the stage of public consultation. We have already had the Assembly's views and I think we are moving in the right direction on this. The present situation in London is that we are producing 18 million tonnes a year of waste of which about a quarter is municipal waste. A very small amount of it is being recycled; we are way behind most countries in Europe. About 8-9% of household waste is being recycled. We are sending about 20% to incineration, from which a certain amount of energy is generated. There are two main incinerators in London, one in the north at Edmonton and one just east of London Bridge in Lewisham. The vast amount, 71% of municipal waste, goes to landfill in Essex and Bedfordshire. A lot of that goes by train out to these places, way outside London. So we are not being very sustainable. Not only that but the waste is growing at about 3% per year, so it isn't as if we are cutting back. Even if we are becoming better at recycling we have an increasing amount of waste year on year. Although quite a number of boroughs have improved their recycling rates quite dramatically over recent years this has been negated by the growth in the total amount of waste that they are dealing with. That is one of our biggest problems.

We have to work within the EU Directives on landfill which require us to find alternative means of dealing with waste by 2010. In fact, we are going to run into difficulties well before then because the available space will be reduced long before that date. London boroughs are also required to achieve certain statutory targets for recycling by 2004 onwards. These are going to be extremely difficult to achieve. Added to that is the need to find acceptable alternatives to incineration to deal with residual waste. So we have a significant problem facing us within the next ten years.

What we have to do is develop waste minimisation programmes working with the retailers and the manufacturers and we are looking to reduce gradually the total amounts of waste rather than have it increasing. To give you an idea of that, if we reduced it by 0.5% per annum by 2020 that would mean 740,000 tonnes a year, which is far more than the Edmonton Incinerator is currently burning. Significant progress can be achieved by cutting back on waste year on year. We also aim to ensure that every house will have a kerbside collection for at least three materials by 2004. That will make a huge difference to the amount of recyclable material that is available. We are also proposing a revolution in the use of Civic Amenity Sites so that they become re-use and recycling centres with the emphasis on re-use of waste rather than waste disposal.

The most important proposal in the Mayor's draft strategy is developing new recycling industries. This is where I am putting a lot of effort - to convert the waste stream into new industries and create new jobs. We have put £5.4 million into the development of new industries through London Remade over the last two years with particular emphasis on paper and glass. There are a number of other materials that could be dealt with in this way. Plastic is one that immediately springs to mind. I am sure that every one of you puts plastic into a bin somewhere. Most of that is not going to be recycled, but will be going into landfill or some other form of mixed rubbish. Plastic really does represent a huge business opportunity for London, either to produce pellets or to produce plastic bottles. There are other new emerging technologies like Glasphalt, a mixture of rubber tyres and glass. In this case glass is used as an aggregate, turning it into granules and it is then mixed with rubber to produce road surfaces which are quieter. This is a definite environmental advantage. We are setting up a Markets Taskforce to get this sort of thing moving, and we are also pleased that the Green Procurement Code that we have set up for businesses and for the public sector has proved to be extremely popular. So those are some of the things that we are doing on the Municipal Waste Strategy to develop the kind of cyclical processes that I talked about earlier.

Energy Strategy

The Mayor's Energy Strategy is particularly important. What we are trying to do is minimise the emissions of carbon dioxide and other greenhouse gases from all sectors, whether it be domestic, commercial, industrial or transport. We are looking to improve energy efficiency and develop renewable energy as far as we possibly can. We are also seeking to eradicate fuel poverty, which is a major social issue. Something like 550,000 households in London suffer what is defined as fuel poverty. This is the situation where people are living in accommodation which is very badly insulated or has very low environmental performance. Not only is the building itself performing badly, but the occupants themselves, because they are poor, are probably paying for their energy in the most expensive way, i.e. putting money in a meter rather than buying their energy by quarterly instalments. They are in a fuel poverty trap and that is a major social issue that we want to deal with.

We also want to develop new technologies and encourage the use of renewable energy as a major part of our energy programme. What we have done so far is to undertake a complete inventory of London's energy use and greenhouse gas emissions, which we have been working on over the last two years. We are also looking at the potential for renewable energy. There has been a lot of debate about that because the estimates for what can be achieved in London are very low, in the region of 2%. That figure has been incorporated into the Government's target of 10% renewables as a proportion of electricity by 2010. I am hopeful that we can increase the percentage of renewable energy within London above that level. We are looking hard at how that might be achieved. We are also looking at the potential for using renewable energy from outside London. London could, through its huge buying power, buy energy from wind power offshore and might even be able to invest in offshore wind farms. We could see London developing and driving the development of renewable energy in a way that hasn't happened before.

We have already published the Climate Change Impact Study, which gained quite a lot of publicity, and we have also launched the London Hydrogen Partnership to develop fuel-cell technology in London. Through this partnership we are examining ways in which the fuel cell industry can be promoted. We will have three fuel-cell buses on the road in London next year. We have also published the London Footprint Study and we will be going out to public consultation in January on the Energy Strategy. The Mayor's Sustainable Development Commission has suggested setting a CO₂ target to reduce CO₂ emissions by 20% of the 1990 figures by 2010 and this will be the subject of consultation with the business sector early next year.

Biodiversity

The Mayor is required by the GLA Act to produce a Biodiversity Strategy and this was published in July 2002. Strategic planning policies to implement this strategy are contained in the Draft London Plan. This means that for the first time biodiversity will be a statutory requirement of strategic planning in London. The strategy promotes both conservation of biodiversity and improved access to nature for Londoners.

Policies for protection of habitats and species through strategic planning are largely based on the voluntary procedures adopted by the London Ecology Committee over the period 1986 to 2000. This involves identification of a hierarchy of protected sites from those of London-wide importance to others of borough or local importance. The Mayor has now identified over 130 Sites of Metropolitan Importance for Nature Conservation which provide the London-wide strategic framework for protection of habitats in the capital. The Draft London Plan states that these should be protected in Unitary Development Plans. The Mayor also expects the boroughs to identify Sites of Borough and Local Importance using the criteria and procedures set out in the Biodiversity Strategy. This is likely to result in over 1,000 sites being identified for protection in Local Plans, representing almost 20% of London's land area. Whilst this has been done previously on a voluntary basis the requirements of the draft London Plan will bring this firmly into the statutory planning process.

Whilst strategic planning ensures protection of the matrix of important wildlife areas, the Strategy also deals with a range of other topics which can be summarised as follows:-

- Management, enhancement and creation of habitats
- Greening within urban regeneration (including green roofs)
- Improved access to nature for Londoners
- Education and awareness raising

- Promoting the green economy through the London Development Agency
- London's international role in biodiversity
- Identifying London's biodiversity footprint

The whole Strategy depends upon partnerships for its implementation, in particular the London Biodiversity Partnership which has developed a series of Action Plans for priority habitats and species. The Mayor sees the London Biodiversity Partnership as a crucial mechanism for implementation of his strategy through the wide range of stakeholders involved. Success of the Biodiversity Strategy will be measured against two targets, to ensure:-

- That there is no net loss of important wildlife habitat
- That a net reduction is achieved in the Area of Deficiency of accessible wildlife sites

The Draft London Plan

All the Mayor's environmental strategies address sustainability issues and the Draft London Plan will encapsulate these and provide an overall vision for long-term sustainability for the Capital.

Keys to Success

Successful implementation of the policies contained in these environmental strategies will depend on a huge range of stakeholders responsible for many different aspects of environmental management in London. Crucially it will require the following:-

- Working through the London Development Agency to develop skills and economic measures for sustainable solutions such as new green technologies;
- Integrating environmental policies across all aspects of urban regeneration;
- Promoting opportunities for lifestyle changes such as zero energy developments;
- Incorporating biodiversity within the urban fabric as an essential ingredient of the compact city;
- Building effective partnerships for implementation of environmental policies.

I would like to conclude with reference to the role of IEEM in the context of urban sustainability. It seems to me that the Institute has a vital role to play in this field, bringing a solid professional approach to environmental decision making, and underpinning this with a sound philosophical framework which the Institute has been developing over the last ten years. I would like to see more members of the Institute involved in solving the crucial problems of sustainable urban development which is, after all, one of the greatest challenges of the 21st Century.



David Goode receives his Fellows Certificate from David Hill

Biological Monitoring and Surveillance - Scottish Section Annual Meeting and AGM

Kathy Dale, MIEEM

The Scottish Section of IEEM organised an autumn Members' Day on 20 September 2002, at the Loch Insh Water Sports Centre, Aviemore. David Jamieson, the Scottish Section Convenor, welcomed forty delegates, many of whom had travelled quite some distance to the venue.

The introductory talk was given by Dr. Colin Legg, Lecturer in Ecology at the University of Edinburgh. Colin gave an informative and challenging presentation on what should constitute a good monitoring programme. He was highly critical of many programmes and stressed the importance of good design. Clear objectives are required, but statutory obligations are the worst reason to monitor sites. Statutory obligations tend to be the current focus of most monitoring and research given the plethora of new regulations coming from Europe. Colin's advice was to keep it simple and general. Qualitative monitoring is often adequate but quantitative data gives better rewards for more resources and time. It is vital to quantify any error in the results and whether they are significant. The crucial factor in scheme design is the power analysis. Finally, on a humorous note, Colin warned us all to beware of 'Demonic Factors'!

The main programme was similar to the other Scottish Section Members' Days in that three morning talks were followed in the afternoon by two field visits to sites in the local area. After Colin's talk the remaining speakers were understandably nervous! Siobhan Egan (Scottish Natural Heritage) gave a talk on the Site Condition Monitoring programme in East Highland. This is an enormous task, as the number and diversity of 'features of interest' on designated sites in the East Highland area runs into the hundreds. After coffee Peter Moore (Royal Society for the Protection of Birds), gave an enthusiastic talk on the practical aspects of species and habitat monitoring on the nearby Insh Marshes RSPB Reserve. Pete explained that when the RSPB became involved with the site nearly thirty years ago there was no data to back up management decisions and they still feel they don't have the answers. Their monitoring programme comprises whole marsh monitoring and detailed monitoring of birds, vegetation and hydrology. He mentioned the use of the 'Fiddle Factor' to overcome problems of non-compatibility of data over time! Finally, Dr. Sandy Winterbottom (Stirling University) opened everyone's eyes to the benefits of remote sensing for monitoring purposes. We were treated to stunning satellite and airborne visual images of changing plant communities. The resolution can be extremely accurate (down to 2m) and the technique can eliminate some major ground survey problems, although ground-truthing has to be done. However, one problem in Scotland is the almost continuous cloud cover! Sandy ended with a plea for ecologists to consider the use of remote techniques, as they are not as expensive as one would think. An open panel discussion chaired by Caitlin McFarland gave an opportunity to question the speakers and then Kathy Dale (Vice-Convenor) summed up and provided an introduction to the site visits.

After a fast and filling lunch in the restaurant overlooking the loch, two groups convened outside in the surprisingly fine and calm weather to be taken on their respective choice of site visits:

The Cairngorm Funicular

This visit was led by Keith Duncan (SNH) and Dr. Cathy Mordaunt (Cairngorm Mountain Ltd.). The tour started with an introduction to the funicular project at a location above the Coire Cas car park. The scope and purpose of the monitoring scheme was then discussed. Some of the features that are monitored were then seen in Coire an Sneachda, which is a Special Area of Conservation (SAC). The path network here has been restored and some of the routes changed to fit into the landscape better and deter less able walkers. Eroded path edges have been reseeded and this has worked very well. Monitoring involves measuring path width at a number of locations and comparing the data with baseline data collected before the funicular development. People/visitor numbers is just one of five monitoring elements; the others being soils, geomorphology, birds and habitats. All habitats and species are on the upland plateau, which creates difficulties for a single surveyor due to the shortness of the season, snow cover and weather conditions.



The group discusses footpath monitoring in Coire an Sneachda with Cathy Mordaunt

Loch Insh Reserve

The site visit was led by Peter Moore (RSPB Insh Marshes Warden) and Ruth Maier (freelance ecologist). Insh Marshes is an outstanding wetland of international importance covering around 1000 hectares of the floodplain of the River Spey between Kingussie and Kincaig. It has numerous designations, not least it is an SAC and part of a proposed World Heritage Site. Over its history the site has seen environmental change due to natural succession, management (past and present with both agricultural and nature conservation objectives) and climatic changes. As would be expected for an RSPB reserve, the bird populations have routinely been monitored and, as these species depend on the hydrology and vegetation of the site, they formed the focus of the visit. The tour started at the RSPB office, progressing onto the marsh below Insh village and including discussion of the regularity of flooding. This causes problems for grazing the site as local farmers are unwilling to sacrifice their sheep for the sake of the reserve management. The discussions on site started with an introduction to the recently installed equipment for monitoring rainfall, water levels, contribution from groundwater upwellings and surface water inflows and outflows. Vegetation monitoring is carried out at two levels; whole marsh monitoring using aerial and fixed-point photographs, and more detailed monitoring of species composition and structure through the use of permanent transects. The value of the use of transects caused a lively debate on site!

Kathy Dale is Senior Ecological consultant, Northern Ecological Services and is Convenor of the Scottish Section and a Concil member.

For further details of the Scottish Section and events, please contact the Secretary, Christine Welsh Tel. 01397 704716 or Email: christine.welsh@snh.gov.uk.

Personal thoughts and experiences of the IEEM Conference in Newcastle upon Tyne

Steve Pullan, MIEEM

As Tuesday the 26th of November dawned with fog here in the cold north, I felt as the weather looked, and was uncertain about the forthcoming conference. As the regional co-ordinator, I had, with several colleagues, been involved at the fringes of organising the conference, but organising the trips was totally down to us. As the conference progressed, the mood of the first day cleared and by the end we had a really good conference, which was well attended and much appreciated. It was a landmark in many ways for the Institute and will be remembered for all the right reasons.

The conference got off to good start on the Tuesday evening with the Fellows lecture by Professor David Goode. David gave a clear picture of the development of urban ecology as a subject, using his experience in London. His knowledge and experience on the subject demonstrated why he is one of the leading authorities on urban ecology. It was clear David, as the chief adviser to the Mayor on environmental issues, is now involved on a wider front, considering how the environment of London can be improved in relation to waste, pollution, nature conservation and use of resources.



Steve Pullan – local North East co-ordinator

On the first full morning, the concept of 'green space' was explored by Alan Barber, John Handley and Ian Angus. All showed that however 'green space' is defined, it is important in the urban context. There are 2.5 billion visits to green areas per year and how people use the space is highly varied. Green space can be defined on a continuum, from formal gardens to derelict patches. All can have major conservation value. Even in the formal setting, there has been a decline in both number and quality of green spaces and the conference heard of initiatives to bring them back into function. Throughout the conference, themes outside nature conservation came across loud and clear: the role and function of green space, people, a sense of place, health and well being, and ownership.

Then we had a further four speakers developing the issues of green space, nature, wildlife corridors and the landscape. Pete Frost gave a Welsh perspective on community involvement, questioning if there is a link between green space and property value. Peter Cush from Northern Ireland emphasised the landscape of the hills and nature to be found in many 'brown' areas. Penny Angold unfortunately could not give her paper but John Sadler gave it on her behalf. Their work looked at the concept of species flow along corridors. From their studies corridors did not significantly improve the flow of species. The key issues seem to be the quality of the habitat and the idea of stepping-stones.



Tuesday Conference Dinner

In the afternoon four visits took place to a range of contrasting sites. The most popular was the furthest away - to INCA (Industry & Nature Conservation Association) in Cleveland. This looked at how the large chemical industry was encouraging nature onto a huge chemical complex on the north of the river Tees. The second most popular was the visit to Castle Eden Deane National Nature Reserve in the Durham Coalfield area. This area has undergone major development since the closure of the mines. The Deane has been impacted by all the new developments. Then there were two in and around Newcastle & Gateshead. One looked at the river Ouseburn catchment, starting by the airport and running down into the Tyne with ever increasing pressure of development. The other studied the Derwenthugh reclamation site where, after over 100 years of heavy industry Derwenthugh is being restored to a country park. This is being achieved with major tree planting to increase the semi natural woodland that fringed the site.

Setting the scene on the issues relating to urban ecology and development was Thursday's opening speaker, Mathew Frith. Chris Spray developed the theme of designing nature into developments. Luke Engleback demonstrated with examples from Europe and beyond how buildings can be made greener. I was not convinced that making buildings green is actually any substitute for habitat loss. However, he did emphasise the strong link between people, wildlife and environment. We then had three speakers giving more practical examples of integration and best practice in urban ecology. Mike Wells, using examples from London, showed how nature conservation has been built into the development of the Millennium Village in Greenwich. John Newton looked at things from a developer's standpoint and how they could assist in helping nature to survive and potentially thrive where development

takes place. Martin Bolton then talked about a new organisation (SEEDA) that takes examples of good practice and then publishes and advises developers and contractors. The concept of this group is very much on the lines of Farming Wildlife Advisory Group, but is to be called Building for Nature.



David Hill as outgoing president receives a gift from Sue Bell the incoming president.

The afternoon session opened with Phil Castiaux talking about CONE; an initiative in Blyth, well known in the North East. It aims to improve the environment but also to educate people and get them involved in caring for the environment. CONE makes no apologies for targeting first and middle schools in trying to encourage a good sense of environment. Then we had two papers on the practical nature of Sustainable Urban Drainage Systems, a more sustainable form of water storage and drainage and Green Roofs



Ceilidh after the main dinner



Back to work on the Thursday

as a way of creating new habitat on flat roofs. This was then taken up by Dusty Gedge, who using the black redstart as an example, proposed a mitigation measure for the loss of brownfield sites for this bird, this being a brown roof made up of different depths of rubble. Brown or green, my feeling was one of slight confusion on the name but not the concept that in the urban setting, making better use of flat roofs to create new habitat was a good opportunity, but still no substitute for loss. The final paper of the conference was given by Grant Luscombe who reported on the effects of creating wildflower meadows by both soil stripping and 1m deep ploughing and the success of the National Wildflower Centre.

My overall impression of the conference is a positive one. On the technical side, encouraging professionals to present papers and to engage in dialogue with others who have to deal with the same problems from a different standpoint, has to be a good thing. However, for me the key feature was the fact that the Institute is in the black, we have another section, membership applications grew by 40% last year and we no longer have a President called David. Finally, it's the first conference that Jim has not been a one-man band and so engaged in the finer points of running the conference. I would like to pay tribute to Jim and to the two new employees, Joel and Nick, for the very efficient way they ran the conference. Joel and Nick have clearly fitted in and they rose to the challenge of running the conference, allowing Jim to float and to engage with the membership, which is surely Jim's key role if the Institute is to continue to grow and develop from here.

Steve Pullan is a Project Officer for DEFRA, Council Member and Convenor of the North East Section.

KEYNOTE ADDRESS AT THE IEEM CONFERENCE ON THE CROW ACT - 5TH APRIL, 2001

David Arnold-Forster

Editors Note:

This paper is printed as a tribute to David Arnold-Forster, former Chief Executive of English Nature who died recently. It was given at the IEEM Conference in Birmingham and regrettably it was not possible to produce the proceedings at the time. David produced the text of his talk in the style he presented it, and it seemed appropriate to edit it only in a very minor way.

My personal background you just heard about is so scattered with defence work that I should perhaps explain my conservation background. It is a long time since I scabbled around an ecological survey quadrant on Wye and Crundale Downs with my Clapham, Tutin and Warburg, failing to identify festucas. I enjoyed the guidance of Bryn Green, who transferred to habitat management the well-known dictum for US spy ship and plane crews about to fall into enemy hands - "burn everything." I studied barnacles on the North coast of Scotland - my advice is to study a subject for long enough to give a bit of credibility but not too long for fear of meeting a real expert. But at the end of college with a Rural Environment Studies degree in 1978 there were probably fewer opportunities in environmental careers available nationally than there are in English Nature's current recruitment exercise alone. If you managed to pass the selection for the policy civil service then, you would not be sent to the department dealing with your specialism. I went to MOD and very much enjoyed it.

How many people have picked up The Times this morning? Right there at the back was an appeal to business to produce their environmental annual reports and indications of how they can go about it - a business opportunity for some of you here. Increasingly I think we need - with the Countryside and Rights of Way Act, with a profile for nature conservation building, with an increasing area covered by conservation designations, and an increasing appeal to people to think about wildlife - to see things in that strategic context and think in the context of the wider world. I will just stick on one little overhead for which I don't claim any credit; those are the core values for English Nature that Barbara Young produced and to which I whole-heartedly adhere:

- Champion for nature conservation and natural features
- Firm but fair regulator
- Sound science and rigorous analysis
- Outcome - orientated
- Openness
- Innovative
- Connected to the real world

I think those are relevant to the audience here today and particularly as you look through them you can see the outcome-orientated side - CROW is

wonderful, it is a tool, it's an input, but what are we actually trying to get with CROW is outcome. We need to be more orientated towards it. We need to be innovative, we need to be open, we will hear more from Richard about the law and Freedom of Information, Human Rights Act and so on. Openness is the way to be working these days, and connected to the real world just plays back to the point that I just made.



David Arnold-Forster

We should say to you this year, happy anniversary - it is the 10th anniversary of this organisation and English Nature was actually 10 years old on Monday. We are now actually formally and legally called English Nature by the CROW Act so we don't have to go through that tedious legal process of calling ourselves Nature Conservancy Council for England and then explaining that incidentally, we are actually English Nature. So 10 years old and what a decade, what a note to end it on.

Let's actually make the most of this session looking forward. What are we going to do with what has actually happened in this last year particularly and the increasing profile for nature conservation that's happened in the course of the last decade?

English Nature's mission is about wildlife gain and Earth heritage conservation and we go about it through three thrusts - special sites, the wider countryside and hearts and minds. CROW is relevant to all of those. On the special sites side, we do hear people saying special sites have had their day, we don't need these things anymore, they are totally irrelevant little islands of conservation, they can't survive on their own and so on. Let's just think why we had these special sites in the first place. This slide is actually a case study of Dorset - Hardy's heathland which is part of our cultural heritage as well as part of our biodiversity heritage. Look back over the area of heathland and the dates there - the top left is 1810, then 1934, 1960, 1978 and if we were to do one for 1995 it would be smaller and more fragmented still. When you are faced with that sort of devastation of habitat then the right course must be to go in there and try and defend some of it. Then you can actually aspire to building out - this is happening now through Tomorrow's Heathland Heritage programme - to try to re-establish and regain some of that lost ground. In good old military terms you have got to build a defence line, consolidate behind it, regroup and then move out. Special sites, I think, still need to be seen in that context, because we aren't out of the woods yet in terms of the need to protect those special areas. There are obviously some which simply have to be protected for species - like the lady's slipper orchid. So when people say that special sites have had their day, just spare a thought for the aspects of our biodiversity which most

certainly do still need special sites - even though they have taken up a lot of our time in English Nature.

The international sites project has been beavering away furiously over the period since the Kilkee meeting in 1999 with new Special Areas of Conservation and you can see on this map the additions to the SAC series that are actually being put forward. We took those through English Nature's Council in February last year, we then had an interesting process of discussions about what impacts and so on might possibly be involved in this and eventually got the release from DETR to go out to consultation on those sites. The consent to go out to consultation was actually given by Government in August but we got a little bit hacked off in English Nature and Barbara Young and I actually published the sites in our annual report in July just to push the process along. But that is a lot of work, it is a vast area of designations and all of those SACs of course will be underpinned in England by SSSI status. We have over 4,000 SSIs now, over a million hectares of land so designated and that equates to about 7% of England.

One third of that area is in unfavourable condition. English Nature will sort that out in the next decade and we have made no bones about that in our bids for resource to Government. I am personally encouraged by Government's response in that they have actually given us another £7, £9 and £11 million on our existing baseline in the three year period that is coming up. They have also set a Public Service Agreement target, which is a bit of Whitehall speak but is pretty important because there are not many of these Public Service Agreement targets. There are only 160 or so across Government as a whole and this one is to get 95% of SSIs in favourable condition or improving condition by 2010. I like those sort of targets that actually mean we can plan sensibly to try to achieve them and I like it too when the Treasury tries to back that PSA target by giving us a bit more resource - they have just given us £10 million extra from the Capital Modernisation Fund for spending the year after this and the year after that with particular focus on the special sites.

So improving special sites is a big part of our agenda. CROW forms an important part of how we get there with the additional powers that it brings to us - consents required, management schemes and management notices and so on of which you will hear later - it is not my part of the conference to go into the details of CROW. You have got lots of experts here who are going to talk about that. We need powers, money, partnerships and planning to restore our SSIs. Within that context, CROW is a really important step forward.

We are at the moment trying very hard to backcast from that 2010 date to work out what needs to be done by whom and when to restore SSSI condition. There is obviously no point in messing around trying to get the micro-management right if there is a fundamental water level problem and if that means you have to go to the Environment Agency and get a review of water level related consents then we must prioritise that up front and say there is a sequence. Things go on from that, so that we can programme obligations on other people's budgets - it is all quite a complicated thing for people to be working on but vital if we are to have the resources, mechanisms and powers in place to restore special sites.

Returning to our three points - English Nature's objectives. The second one of those is wildlife in the wider countryside. We have coined the term Lifescapes and it is getting to the point that for many many species, as you well know, special sites are not enough, they depend on the wider countryside to survive. Picture the greater horseshoe bat - if it is sitting happily protected

by wardens at the end of Berry Head in Devon that doesn't necessarily mean to say it is going to stay there unless there is a bat-friendly Lifescape around it with hedges, trees and all the rest of the habitat which is necessary for it to survive. Turning to the farmland birds situation, I am delighted that another of the Public Service Agreement targets that the Treasury has produced is to reverse the decline in farmland bird populations by 2020. The Government I am sure will collectively wish to try and ensure that the farmland birds indicator is reversed by then and that is another part of our work in the wider countryside, which relates to the BAP and all the multitude of targets.

We are heavily pre-occupied with special sites but we are not ignoring the wider countryside and biodiversity. A revised management structure of English Nature has created three Programme Boards which means that we have got a Director looking at wider countryside issues trying to take forward Lifescape pilots and to think in eco-system management terms. He is also trying to address the bureaucratic nightmares which seem to have been created in BAP - I can't stand and criticise it as I am responsible for sorting it out. We will sort it out somehow in the agencies. It is wonderful to have something as comprehensive as BAP, but we have really created in BAP something that is beset with process and complexity. We have got to try and bust through some of that bureaucracy and get more actions on the ground.

The third area of our work, the hearts and minds side, is reflected in English Nature by our People and Policy Programme Board. It is related to all that persuasion we all do from parish to Parliament, from local towns to Brussels, influencing Whitehall, trying to change policies, trying to get community actions for wildlife gain. We want to help people see wildlife as part of their quality of life and appreciate it and understand what they can do about trying to enhance wildlife in their particular field of activity.

CROW is relevant in those two areas of English Nature's work as well. It has the statutory underpinning of BAP. Section 74 lays a general duty on Government to have regard to biodiversity conservation, a duty to list the most important species and habitat types for biodiversity conservation and a specific duty to further their conservation. That was achieved whilst the Bill was going through Parliament and provides considerable scope for getting BAP properly embedded in policy and performance.

There is also an important set of CROW obligations on Government departments and public bodies. We can actually go in there and say you have a duty in respect of SSIs, you have a duty in respect of species. The powers are valuable, but what we really want to do as well is to say that we can work together and have win-win solutions. We don't want just to go waving around pieces of legislation at people. We want to be talking about partnership working because that, frankly, is the only way that we really are going to make progress. Having that shot in the locker, having CROW, having the powers is really valuable, but getting back to the defence analogy again, there are certain forms of weaponry which you sincerely hope you will never actually have to use. The fact that you actually have them though is a real deterrent and a pressure on people to do things the way that you want them to be done. So I don't think we will have done our job well if we are scattering around the place notices, edicts and orders using CROW. Yes, we actually need to use those powers in situations to start with, to show that, yes we are prepared to use those powers where they really are needed, but we are not going to be using them as the first step. We are going to be using persuasion, partnership and hopefully cash as well from various sources, to try and achieve what we want for wildlife.

So the year 2000 has given us CROW, it has given us the Natura 2000 moderation series, it has given us those PSA targets, it has given us a bit more money to achieve them, it has given a profile for nature conservation. It has also given us the Human Rights Act, the Freedom of Information Act, development pressures and transport schemes and other consolidations that will give us some challenges in the way that we operate in this coming decade.

We may be seeing some changes in the political end of things. Michael Meacher has been a wonderful Minister for wildlife and still is - as I saw with him yesterday afternoon. All that energy and fire and determination to press forward on some of these issues is wonderful, but elections are due and posts will be changing. We need to look for other champions for wildlife to broaden our base of support.

We need partnership working across that broad base of support too for resource reasons. We cannot achieve what conservation needs through English Nature's budget alone. Government departments have three year Spending Review settlements and some are, to some extent, recognising the biodiversity obligation. The Army, for example, has £2 million to help conservation including biodiversity on the Army Training Estate and we are working with them for a big LIFE bid for Salisbury Plain. We have got biodiversity funds that are being identified in other people's budgets. We need to be identifying those friends out there in other sectors and departments and working with them. We need to think eco-system approaches in land use planning. In implementing CROW we need to be focusing on action not process, on outcomes not inputs.

The access side of CROW was the side which achieved most of the political profile and occupied most of the Parliamentary time. Barbara Young and I were involved in some fairly hasty consultations about aspects of the access side where it impacts on conservation. There are provisions in the Act to be able to restrict open access on nature conservation grounds and English Nature does have the power to advise on that. There are powers to be able to close land and to restrict access by dogs for which we were pressing. We were concerned about the prospect of dogs more than human access in many situations and provisions which were put in, particularly in respect of moorland, were really quite helpful in restricting access by dogs.

The management of access though is crucial. There will be guidelines coming out on it. I know that at one of your recent conferences David Brewster was talking about access management. I think if you look at areas like the North York Moors you can see people have actually pragmatically been managing access to keep the potentially damaging effects separate from wildlife for quite a long time. You can go to a certain area of the moors and see where people like to park by the road to go for a little stroll where the owner of that particular estate has had a Jihad against bracken. He has been spraying ruthlessly for years on most of the estate and you wonder for a moment why there are bracken beds there. It is just a visitor management tool. There are bracken beds and a gap to walk down and path to a stream and a pleasant circular stroll back to the car. There is no sign saying "Private. Keep out. Do not leave the path" or anything like that, but there are a number of vegetation management tools around which quite subtly manage people.

Another estate owner in the moors said to me with great chagrin one day that a newly arrived keeper had just burnt off a stand of long leggy heather. He said he knew what would happen now, and he was absolutely right. This particular stand of heather had been burnt off beside the road at a good viewpoint for a moorland cross. There was no sign to stop people

going walking to the cross. There was no public footpath, but people didn't bother walking to that moorland cross because of the long heather which is not very nice to walk through. Having burned the heather off, people can walk up to the cross creating erosion and disturbance in wildlife terms around the little headwater, nearby where the merlin rest. At once successful management which was really dependent on just not burning a bit of heather has all gone out the window and of course you can't make that heather grow back again quickly to the height it was before.

Those aspects of management are ones you could advise upon. Again, rather than slapping in closure orders and erecting signs which probably won't be terribly effective, a lot can be done by passive management using vegetation. Bob Cartwright will talk more about that.

Another aspect of CROW is the provisions that strengthen the powers of AONB conservation boards. There is the duty there in respect to the conservation of natural beauty. I personally rather regret that the phrase that has been used for AONBs is actually not the phrase used in the 1995 Environment Act for National Parks where the duty was actually to conserve and enhance wildlife, natural beauty and cultural heritage. For AONB there is actually just the terminology of natural beauty. When we queried that we were told that the legal terms, when tracked back through the legislation, mean natural beauty includes wildlife. Let's not forget the opportunities there or of course the species protection parts of CROW too. And on various other aspects which will follow on from CROW - PPG9 Planning Policy Guidance for nature conservation, Ministerial guidance, local nature reserves and biodiversity guidance and various other aspects in preparation which will all have an impact on how we go about our business.

I am going to move off CROW for the last couple of minutes. A lot of people talked on the way in of Foot and Mouth. It is a major pre-occupation for us. We have had to stop survey work on the vast majority of sites and we did so quickly at the start of the outbreak. Our Acting Chairman, David Norman, and I were absolutely certain from the outset of this, that it would be dreadful for the reputation of English Nature if we were in some way linked with transmission of foot and mouth. I am sad to say that the sorts of things that our staff do, and you get up to as contractors on our behalf, are rather more likely to carry the virus around than say a walker going out from the town for a walk in the country and then going back into town. We are moving from one rural site to another, covering significant distances around the countryside, walking on fixed routes on transects where you can't occasionally avoid stepping into something which might have a bit of virus in. We are people who might be a little bit concerned about swilling masses of disinfectant around where we have parked the car. It is difficult, but in line with the Government's objectives to free things up, we have of course been looking at freeing things up too. Last week we had a meeting with Forest Enterprise who were thinking of re-opening access to some of their sites. Woodland sites are certainly one of those areas where we would wish to see a relaxation as well as sites which have nothing whatsoever to do with stock, but we do have to be very careful about this.

I want to encourage people to think pro-actively as indeed your organisation has done by writing to Michael Meacher, but perhaps a bit more pro-actively even than that. If you are a contractor usually surveying for us but stopped by Foot and Mouth, think of a way in which you can do some useful work for English Nature that would help achieve our objectives for biodiversity that doesn't involve trekking around a field with stock in it. Maybe it is a way of recasting a contract to do something involving desktop rather than field study, looking at a series of scientific reports on something and providing a

bit of advice that can help achieve a biodiversity action plan objective in a rather different way from actually doing field work. I know it isn't easy. After all you are in this job because you actually want to go out and look at species at the time of year when they are all growing, nesting, fledging, whatever - it must be incredibly frustrating. This problem is not going to go away as quickly as it came.

The practical issues for English Nature include the loss of grazing animals which is a particular concern especially for saltmarsh, as on the Solway coast. The Essex Wildlife Trust has had to slaughter its stock down on the Essex coast. Those sorts of habitats really do require some constant grazing and will probably suffer more than some of the upland habitat where a respite from grazing may be helpful in the short term.

That leads me onto the uplands and the other issue which is the Hills Task Force. Some of you may know that I was asked to Chair a Task Force for the Hills by Nick Brown. There are seven of us on the Task Force who, having been appointed by early December, managed to meet just before Christmas and scope our work looking at a sustainable future for hill farm businesses. Then we had a series of regional consultations and visits in January and met to scope our recommendations on 15 February just before the shutters came down. We concluded our report on time on 30 March, but not before the two hill farmers on the team had both been hit by Foot and Mouth, one on Dartmoor losing all her stock. It was her 37th wedding anniversary last week when she told me she started with her husband with nothing and now 37 years on had nothing but a compensation cheque - not much for 37 years, a lifetime of work building up a flock and herd of which to be proud. Trying to conclude a report in those circumstances was difficult. I don't know whether that is what John Cousins was getting at but I gather he made some comment the other day that not much was expected out of the report. Well that's not quite right as we have actually got over 50 recommendations. I am not able to say very much about them because we can't release it until Nick Brown has actually agreed to its release, but I can point out that there are some aspects which will certainly be of relevance to you when implemented.

We have drawn attention to the problems of integrating environmental and business appraisal under the England Rural Development Plan. Certainly in the uplands there are many instances under Objective 5b where the environment was truly regarded as part of the asset base and potential income generator for a hill farm and appraisals took that into account. The new Farm Business Advisory service will involve much that may be good in many respects, but will not itself provide the environmental input, or culture. We have fragmented advice for farmers.

We have called for a review of agri-environment payments in the uplands - a Hill Environment and Land Management payment which would be applicable across the whole of the less favoured area with some basic environment criteria. This would form part of a shallower set of steps of environmental measures in the uplands. We found talking to farmers and in the feedback from our consultation that there is a real problem that the upland Countryside Stewardship options do not appeal to farmers. We want to get lots of farmers into agri-environment schemes, we want to get significant chunks of habitat - not fragmented little islands if we are going to achieve biodiversity gain. If we are going to address upland overgrazing problems we have to think on a bigger scale and tackle the issues on commons. We need the incentives there to be able to get management schemes with everybody on board, but unfortunately the stewardship

structures that are there at the moment are not sufficiently appealing to do that. We need something else on a broader basis - the hill environment land management payment - then some sort of basic stewardship scheme, then keep the Countryside Stewardship and ESA for more targeted regional measures both for environment and for things like special breeds, then in the top tier are schemes like English Nature's Wildlife Enhancement Scheme for special sites.

It might sound as if you are creating a more complicated system, but in practice what you are creating is a series of steps which are just more achievable. At the moment we have a farmer who actually looks at the only option we have got which is countryside stewardship and he finds it too steep a step - it involved input costs from the farmer, whole farm management plans which can compromise other parts of the holding. What we want to do is to take people up more gently, steps which seem more achievable and actually more sustainable than taking big leaps. I can't say much more about Hills Task Force report until, as I say, it has been released by Nick Brown. But it is in and I hope there will be much in there which is worth reading and you will be able to build upon and relate it to your own businesses or public sector activities.

Thank you very much indeed.

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In the Journals

Compiled by Pat Rae
& Jim Thompson



British Ecological Society

It has proved difficult in the last two numbers of Volume 90 of the Journal of Ecology to find papers where the value to practising ecologists is significant.

Previous reviews have mentioned the value of the series – Biological Flora of the British Isles and Nos 224, 225 and 226 in this series may well be of interest. The Biological Flora of the British Isles follows a set pattern for each of the species in the series and these, as with many others, contain a wealth of information which those concerned with its management may well find useful.

The headings considered are: Geographical and altitudinal distribution, Habitat, Communities, Response to biotic factors, Responses to environmental structure and physiology, Phenology, Floral and Seed characters, Herbivory and Disease and History

J.M. Dixon

Biological Flora of the British Isles No 224 - *Briza media* L.

Journal of Ecology 2002, **90**: 737-752.

Briza media – quaking grass is an attractive species and is occasionally used for ornamental purposes. It is predominantly a grass of chalk, Carboniferous, Magnesian and Devonian Limestone and is also found on neutral and some acidic soils where these are well drained.

M.D. Atkinson and E. Atkinson

Biological Flora of the British Isles No 225 – *Sambucus nigra* L.

Journal of Ecology 2002, **90**: 895-923.

Sambucus nigra – elder is an extremely well known native shrub, widespread in the British Isles and continental Europe. It is predominantly a plant of open areas and woodland edges and is associated with eutrophic and disturbed soils. It is a deciduous shrub or more rarely a small tree up to 10m.

IEEM readers may be interested to know that accounts of the many individual species in this series are available from Penny Baker, Blackwell Publishing, Osney Mead, Oxford OX2 0EL - penny.baker@blacksci.co.uk. A list of the whole series can be accessed on the BES web site

(www.BritishEcologicalSociety.org/publications/journals/ecology/biologicalflora.php)

J.Kollmann & P.J. Grubb

Biological Flora of the British Isles No 226 – *Viburnum lantana* L. and *Viburnum opulus* L. (*V.lobatum* Lam., *Opulus vulgaris* Borkh.)

Journal of Ecology 2002, **90**: 1044-1070.

These two attractive shrubs, the wayfaring tree and the guelder rose often grow in similar locations in Southern Britain but the paper demonstrates

have markedly different worldwide distributions. *Viburnum lantana* appears to be at its most northern limit in southern England and elsewhere is found in western, central and southern Europe. *Viburnum opulus* is found throughout most of the British Isles and is widespread in western, central, eastern and northeastern Europe and extends eastwards across Asia. Both species are used extensively in landscaping schemes and *Viburnum lantana* in particular has been much used in road planting schemes.

The paper considers the two species under the usual headings and is an extremely useful compendium of information on both.

L.E. Twigg, G.R. Martin. & T.J. Lowe

Evidence of pesticide resistance in medium-sized mammalian pests: a case study with 1080 poison and Australian rabbits.

Journal of Applied Ecology 2002, **39**: 549-560.

This paper is clearly written. The work is based on the fact that the European rabbit is a major economic pest of agricultural industries in Australia and New Zealand, and can also have a significant impact on biodiversity, particularly the regeneration of native plants.

Both Australia and New Zealand rely heavily on baiting programmes with Compound 1080 (sodium monofluoroacetate; NaFAc; hereafter referred to as 1080) for reducing the impact of introduced species on natural ecosystems and agricultural production. In Australia, 1080 baits have been used to control the European rabbit since the 1950s. In a couple of studies in the late 70s and early 80s on the sensitivity of rabbit populations to 1080, there was no appreciable change in sensitivity. However, there was some indication in the 70s of loss of efficacy in the baiting programmes themselves, although with little idea of the mechanism.

The current study collected animals from four different populations, three of which had been subject to regular use of 1080. For the toxicity trials, rabbits were collected from each population and brought back into captivity, where they were then dosed with 1080 (all in line with the recommendations of the Animal Ethics and Experimentation Committee...). Field trials on baiting efficacy were also carried out, and the rabbit numbers monitored.

In the toxicity trials, the sensitivity to 1080 of three out of the four populations of rabbits examined had decreased significantly since Australian rabbits were last tested over 25 years ago. The sensitivity for the fourth population, which has had the least exposure to 1080, did not differ from that reported previously. The field baiting trials used the 1080 baiting levels that the toxicity trials had proved to be effective. However, the efficacy of 1080 poison bait laid in trails for controlling free-ranging rabbits was reduced in those populations where rabbits had decreased sensitivity to 1080. Mean reductions in rabbit numbers 7-9 days after trail baiting of resistant and sensitive populations ranged from 51.2% to 65.2%, and from 76.4% to 76.5%, respectively. This all suggests that genetic resistance to 1080 is developing in at least some populations of Australian rabbits.

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R. Virtanen, G.R. Edwards M.J.Crawley

Red deer management and vegetation on the Isle of Rum.

Journal of Applied Ecology 2002, **39**: 572-583.



This study was carried out on the UK west coast island of Rum (or Rhum in some literature), and makes use of the well-known long term experiments with red deer management.

The objective was to examine how the differences in deer culling influenced the botanical composition of a range of dominant vegetation types on the island and which represented different deer management strategies: complete grazer exclusion; no culling (i.e. an unregulated food-limited population); equal culling of hinds and stags; and differential culling of stags and hinds to alter sex ratios. The study compared vegetation inside and outside fences erected to exclude deer for more than 20 years, and between the areas of different deer culling policies which were instigated in 1991.

The study compared a range of productive (e.g. *Agrostis-Festuca* grassland) and unproductive (e.g. *Calluna* heath, *Molinia caerulea* or *Schoenus nigricans* fen) vegetation types between areas of the island that had different deer management since. The aim was to test whether changes in deer density and sex ratio brought about by differences in culling policy have measurable short- to medium-term impacts on the species composition, structure and flowering of plant communities. The sampling was carried out in 1997.

The paper needs to be read for the details, but in brief, the results suggest that exclusion of deer sustains the plant species diversity of productive grasslands, with reduced red deer grazing leading to the loss of plant species in these communities. In contrast, the effects of reduced deer densities and altered culling policies on unproductive vegetation types are negligible. Interestingly, none of the herbivore exclusion policies had any measurable effect on tree regeneration – but that will require further study!

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B.Law, & M. Chidel

Tracks and riparian zones facilitate the use of Australian regrowth forest by insectivorous bats.

Journal of Applied Ecology 2002, **39**: 605-617.

This, it has to be said, is a very bat-centric paper. The title gives the outcome of the study, so we all know that tracks and riparian zones are a “good thing” for insectivorous bat species... following the edge zone/ butterflies principle one assumes. This reader was keen to know more, including what bats did before there were tracks, but sadly the summary doesn't quite reveal the underlying essence of the issue being discussed. Nor does the Introduction. (I checked at this point if I was reading J Ecology or J Applied Ecology). The majority of papers start immediately with a big picture introduction of why the study is being done and/or important. This paper starts from the other end and works backwards to management implications. The first words are that “Varying wing shapes and echolocation calls allow different species of bats to use different environments.” The second paragraph, (but only on about third reading, and after having gone through the whole paper to the final management implications section), did suggest the issue (and this is a paraphrase!) that 15 year regrowth forest is denser (more “cluttered”) than unlogged forest which is more open, and therefore usable by the various bats with their different echo and flight techniques.

All this carping out of the way, the study data are important, because previous sampling studies had shown lower bat activities in the logged forests, and this in turn was because the tracks were not sampled. These authors challenged that by experimentally testing the observations of others that “edges” are the preferred habitat of many species of bats. The authors used ultrasonic bat detectors along tracks and riparian zones in a two factor experimental design in 15 year regrowth forest and unlogged forest. The results were basically as stated in the title: The highest bat activity was recorded on forest tracks, with no significant difference between detectors in regrowth and unlogged forest. Activity in riparian zones was intermediate, while off-track sites in forest regrowth had the lowest activity levels. Species

richness was lowest in the off-track samples in regrowth and highest in the on-track samples of regrowth. Not surprisingly, the authors advocate as part of sustainable management of regrowth forests, the maintenance of flyways for bats in the form of tracks and riparian zones, and in addition, the retention of hollow-bearing trees as roost sites.

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F.H. Tattersall, D.W. Macdonald, J.B. Hart, P. Johnson, W. Manley, & R. Reber
Is habitat linearity important for small mammal communities on farmland?

Journal of Applied Ecology 2002, **39**: 643-652.

This thorough and readable paper investigated whether the linear or non-linear character of habitat patches, mediated by edge effects, has an impact on the abundance, diversity and richness of the small mammal communities that live within and between them. The authors hypothesised that edge effects cause narrow linear habitats to be avoided by specialists such as the bank vole, but not by generalists such as the wood mouse; secondly, that edge effects lead to specialists being present in atypical habitat, through excursions at the interface between two habitats. They live-trapped small mammals in grids in the centres of three non-linear farmland habitats (woodlots, set-aside and crop fields) and in field boundaries consisting of a series of adjoining linear habitats. They compared mammal communities in the non-linear habitats with the field boundary as a whole, and with the individual linear habitat elements within the boundary.

There was no evidence that specialists avoided linear habitats. Indeed, the field boundary was the most species-rich habitat surveyed, and bank voles were more abundant in linear hedgerow than in non-linear woodland. Bank voles were present in linear set-aside and in the crop edge, but never in non-linear blocks of set-aside or crop, implying that they diffused out of the hedgerow into the adjacent habitats. There was no evidence of an effect of habitat linearity on field voles, wood mice or common shrews.

The results suggest that on uncropped land such as set-aside, the linear or non-linear character of habitats will make little difference to small mammal abundance and diversity. The authors finish by advocating similar assessments for other taxa so that the effects of farm management and habitat configuration on biodiversity can be understood more fully.

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H. Pöysä and S. Pöysä.

Nest-site limitation and density dependence of reproductive output in the common goldeneye *Bucephala clangula*: implications for the management of cavity-nesting birds.

Journal of Applied Ecology 2002, **39**: 502-510.

This paper should be food for thought for those keen to give nature a helping hand by providing nest boxes. This is often done to address the fact that hole-nesting birds are frequently faced with a shortage of suitable nest sites in regions of intensive forest management. Nest boxes are sometimes provided to alleviate nest-site limitation in cavity-nesting waterfowl and are also recommended for several rare and endangered species. However, the impacts on effective breeding numbers and breeding success have rarely been considered, particularly in instances where density dependence might operate.

The authors experimentally manipulated nest sites to assess limits on the population size of a secondary cavity-nesting species, the common goldeneye *Bucephala clangula*, living on freshwater lakes. They also examined density dependence in their reproductive output.

Breeding pairs were counted in experimental and control areas over a 12-year period; for 4 years (1988-91) before nest box addition (1992-94 in the experimental area) and for 5 years (1995-99) afterwards. Broods were

counted each year between 1988 and 1999 to study reproductive output. Mean numbers of pairs per lake increased after the addition of nest boxes in the experimental area but not in the control area. However, neither the mean number of broods per lake nor the mean number of fledged birds per lake increased significantly in the experimental area.

When the whole period of 1988-99 was considered and data pooled from all the lakes, the numbers of broods and fledged birds showed negative density dependence of reproductive output.

The results indicate that nest sites limit the population size of breeding common goldeneye, but show also that density-dependent factors operate to limit reproductive output. The possibility that density dependence may negate management actions directed at increasing breeding numbers in cavity-nesting waterfowl should be considered carefully before taking these actions. This also applies to nest box provisioning programmes aiming to manage populations of endangered species.

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R. Ambrosini, A. M. Bolzern, L. Canova, S. Arieni, A. P. Møller and N. Saino.
The distribution and colony size of barn swallows in relation to agricultural land use.

Journal of Applied Ecology 2002, **39**: 524 - 534.

The issue of the barn swallow *Hirundo rustica* and its decline in some parts of its European range, has been reviewed in *In Practice* previously but as the authors note breeding populations have been analysed mostly in north-western Europe. They studied their distribution, abundance, foraging habitat and breeding performance on 125 farms in Italy in relation to current and past livestock farming and agricultural practice.

Swallows foraged within 400 m of the farms on which they bred and had a preference for feeding over hayfields. In logistic and multiple regression models, cross-validated on independent locations, the presence of cattle or pigs on the farm and, in combination with the presence of stables with traditional architecture, explained 40% of the variance in colony size.

Breeding occurred later on farms with no cattle, and fledging success declined with the number of cattle per farm.

This study provides the first evidence from central and southern Europe that livestock farming and the architecture of rural buildings affects the distribution and abundance of barn swallows. The data also show how historical ecological information may play an important role in determining current influences on the distribution and abundance of a breeding bird.

By augmenting perspectives on swallows at a European scale, the results have important implications for the management and conservation of their breeding populations and allow inferences about the effect of agriculture on future demographic trends.

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D. Moorcroft, M. J. Whittingham, R. B. Bradbury and J. D. Wilson.

The selection of stubble fields by wintering granivorous birds reflects vegetation cover and food abundance.

Journal of Applied Ecology 2002, **39**: 535 - 547.

The issue of the extent to which cereal fields are left to stubble rather than being immediately ploughed up for the next crop has various implications including topically the run off of surface water. In this paper the issue is the wintering densities of many species of granivorous bird. The authors examined correlates of use by eight such species of different types of intensively managed wheat and barley stubble fields, organic wheat fields and set-aside fields on mixed lowland farmland in central England. Field

occupancy was studied in relation to the physical characteristics of fields and seed abundance.

Higher seed abundance was associated with greater occupancy by linnet *Carduelis cannabina*, grey partridge *Perdix perdix*, chaffinch *Fringilla coelebs*, yellowhammer *Emberiza citrinella*, reed bunting *Emberiza schoeniclus* and corn bunting *Miliaria calandra*. Larger areas of bare earth within stubble fields were associated with greater occupancy by linnet, yellowhammer, reed bunting and corn bunting, but lower occupancy by woodpigeon *Columba palumbus*.

On conventional intensively farmed sites, seed abundance and area of bare earth were significantly greater on barley stubbles than on wheat stubbles. Seed numbers fell throughout the winter in all stubble types, although reductions were greatest on intensive barley stubbles, intermediate on intensive wheat stubble and lowest on undersown organic wheat stubbles. Within fields occupied by linnets, areas used for feeding had significantly greater quantities of seeds known to be important in their diet. Feeding areas also had a greater area of bare earth than randomly selected non-feeding areas.

Linnets and reed buntings were rarely found on fields where densities of weed seeds important in their diets fell below 250 seeds m². In autumn, yellowhammers and grey partridges rarely fed on fields where cereal grain density was below 50 m². However, in spring, both species fed on these fields irrespective of grain density, perhaps indicating a switch to other food sources.

The authors suggest that land managers wishing to maximize the value of overwinter stubble fields for granivorous birds locate such fields where there is a substantial natural regeneration of weed flora and where previous cropping (e.g. barley) is likely to offer a sparse stubble with substantial areas of bare ground.

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T. G. Benton, D. M. Bryant, L. Cole and H. Q. Crick.

Linking agricultural practice to insect and bird populations: a historical study over three decades.

Journal of Applied Ecology 2002, **39**: 673 - 687.

This paper follows on well from the one on barn swallows in Italy and adds further to the continuing debate about the impact of agricultural practices on farmland wildlife. In particular, it has been postulated that a general decline in insect abundance linked with intensification of agriculture may have contributed to farmland bird decline. While some autecological studies have supported this hypothesis, larger-scale and long-term studies are needed. Suction traps mounted on 12.2-m towers (Rothamsted-type) have been sampling aerial insects for nearly 40 years throughout the UK. Their catches are correlated over large spatial scales. The authors analysed insect catch data from a single suction trap run for 27 years in a rural location in Scotland, and showed that insect numbers have changed significantly over time, although non-linearly.

By using Principal Components Analysis in relation to farmland birds in Scotland, the authors demonstrated that measures of bird density were significantly related to insect abundance and independently, to measures of agriculture and climate. These data from a broad suite of species provide support for linked temporal change between farmland birds, invertebrate numbers and agricultural practice in Scotland. Although entirely correlative, the results are consistent with the view that agricultural change has influenced birds through shortages in food quality or quantity. The work also shows how large-scale invertebrate sampling, in this case using suction traps, is useful for monitoring farmland biodiversity.

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Society for the Environment (SocEnv) Officially Launched!

It's happened at last

At the Environment 2002 Conference at Stoneleigh, the Society for the Environment was formally launched by Baroness Barbara Young - IEEM Patron. She saw this as being a very positive development and something that was certain to grow in the future. This was a very successful event attended by about 150 people with presentations and questions and answers from some of the individuals involved. IEEM was represented by David Hill, Alex Tait, Mike Barker and Jim Thompson. All of this has not been achieved without considerable efforts by the Institutions involved and not least by Alex Tait, the IEEM former Vice President. His assessment of the current situations follows:

The Society should be a registered company early next year and we hope it will have received its Charter and be awarding Chartered Environmentalist qualifications by mid 2004.

We expect that, initially, admission to Chartered Environmentalist status for existing full members of the constituent institutions will be by a 'grand parenting' process. It is planned that this process will admit those full members who meet the qualification criteria and are willing to commit themselves to the principles of 'sustainability' and a Code of Ethics. IEEM membership records indicate that at least 60% of our existing full members would qualify for this grand parenting process. Once the Society is fully established and the initial 'rush' has passed an admission procedure involving interview and assessment will be instituted. IEEM members who do not qualify or wish to apply for Chartered status will still benefit from association with the Society and synergistic working with our partner organisations (e.g. joint regional meetings).

We have achieved all that we wished for so far in that IEEM (and all the other constituent institutions) will retain full independence, that the new Society is for the Environment and that individual Chartered status will depend on a clear commitment to protection of the environment and an understanding of the principles of sustainability.

Vision Statement of SocEnv

SocEnv aspires to be the leading and co-ordinating Professional body in environmental matters and a pre-eminent champion of a sustainable environment. It will achieve this by nurturing and harnessing the combined resources, knowledge, expertise and achievements of its Constituent professional and learned Bodies and their members.

SocEnv will foster a culture of inclusivity and ethical behaviour for the common good. The identity of its Constituent Bodies will be maintained and their primacy and the centres of excellence within their fields recognised and enhanced.

Terms of Reference of SocEnv

(This is intended to give IEEM readers an idea of the programme ahead and how some of the business will be conducted).

SocEnv comprises representatives of Constituent Bodies with a focus on the environment.

All Constituent Bodies will be equal members of SocEnv including having equal voting status (each Constituent Body having one vote).

Each of the Constituent Bodies will retain their identity, institutional activities, and registered address. SocEnv will establish a separate registered address.

SocEnv will promote co-operation between the Constituent Bodies, encourage common interests and activities and create added value for all of their members through this partnership.

SocEnv will seek a Royal Charter that will allow the conferment of chartered status on suitably qualified individual members of Constituent Bodies – the designation being termed, "Chartered Environmentalist" pro-tem. Award of a Charter will not preclude Constituent Bodies having or obtaining their own Charter. In developing a petition for a Royal Charter, SocEnv, under the guidance of the Privy Council, will also develop appropriate criteria for the chartered status of the individual members of the Constituent Bodies.

SocEnv will have the responsibility for matters arising from the Charter, including the criteria for the award of chartered status to individuals.

SocEnv will act as the principal focal point for its Constituent Bodies when dealing with external organisations in a proactive and reactive way where collective response is required. This will not prejudice the expressing of individual views by the Constituent Bodies.

Governance rules for admission, organisational structures and responsibilities and administrative functions are to be developed by the Council and incorporated in a full constitution.

The governance of SocEnv will be invested in a Council made up initially of two representatives from each of the Constituent Bodies who will normally be the President (or equivalent) and Chief Executive (or equivalent) of each Constituent Body, or their nominated representatives. SocEnv will be Chaired by each of the Presidents (Chairmen) of the Constituent Bodies by rotation. The Chairmanship will be of twelve months duration. Council will be supported by a Secretariat in accordance with arrangements to be agreed by the Council.

SocEnv will be resourced by each Constituent Body in accordance with a formula to be agreed by the Council of SocEnv.

Initially all activities of SocEnv are subject to review and ratification by the individual Councils of the Constituent Bodies. (The Constitution will define the safeguards for subsequent operation).



Will Pope introduces SocEnv with Barbara Young, Peter Mathews and John Brady

Reflections on being Vice-President

Alex Tait, MIEEM

There is (allegedly) an ancient Chinese curse that goes "May you live in Interesting Times". Well, the last four years have certainly been interesting and, at times, I have felt cursed. Nevertheless it has been very rewarding to be Vice President for the last four years and I am very pleased to be able to leave office with fond expectations of a rosy future for the Institute.

In my first year 1998/99 the Institute was in severe financial difficulty and only survived through the generosity of members and the remarkable ability of our Executive Director to neglect to pay himself for extended periods! In contrast the Institute can now look forward to the New Year with two additional members of staff and an improving bank balance. Indeed the biggest financial problem now is to avoid making a profit for the taxman to take a slice from! I therefore wish my successor well with the knotty problem of how to identify the priorities, now we have more scope.



Alex Tait

Seriously, however, lack of money severely limited what the Institute could do for its members and I was very pleasantly surprised that, despite this, the membership numbers continued to climb steadily. I hope that, over the last few months, you will already have noticed the difference and will continue to notice improvement in services in the coming year. For example, there are plans for great things on the Web site in which (being constitutionally unable to resist meddling) I will continue to take an interest in via a Sub Committee of External Affairs (EAC).

Raising the profile of the Institute will be a major task for your new Vice President, Will Manley, and the chair of EAC, Mike Barker. I had to sadly neglect this work because of the need to keep the Institute in the forefront of the lengthy and convoluted process that has led to the establishment of the new Society for the Environment.

I have always felt that IEEM could not afford to be outside of such a major development and Council has strongly supported the view that we should be a founding member of the new organisation. The Society for the Environment will, if all goes as planned, greatly strengthen the voice of environmental professionals in public affairs and amplify the influence we will have as professional ecologists and environmental managers.

I joined the IEEM in 1991, not because I wanted to benefit from more letters after my name but because I felt that this was an opportunity to raise standards in the profession for the benefit of our environment. The new Society is a logical progression from that starting point, as it will identify professional 'environmentalists' with a commitment to sustainable principles. I hope that such an organisation will have an influence that cannot be dismissed by those in positions of power, in business or government, as "the rantings of a lunatic fringe". Such an influence is essential if future generations are to have an environment with anything like the richness that we enjoy.

I am very pleased that the membership continues in its steady upward trend and I am convinced that this is because IEEM offers distinctive locus for professionals working in ecology and the management of the 'natural' environment. Defining for the moment ecologist to include environmental manager; IEEM's greatest strength is that it offers *ecologists* a service designed by *ecologists* to meet the needs of *ecologists*. Other organisations' services may be diluted by the need to provide for a varied constituency with disparate interests and problems. Our focus enables IEEM to concentrate on things that interest and exercise ALL of its members and to speak clearly on their behalf. However this limits our potential membership (though we are nowhere near that limit) and the ultimate strength of our voice. However, I believe that membership of the Society for the Environment will help IEEM to be heard.

In conclusion I wish Will well (sorry) in his new incarnation and I trust that he will enjoy the challenge and rewards as much as I have over the last four years.

Dr Alex Tait
Vice President (rtrd.)

Alex Tait is County Ecologist, East Sussex County Council.

New Articles Needed

Articles for In Practice are always needed.

Each page takes about 1,200 words and papers are welcome up to 4 pages, preferably in 1-page units.

It helps to have articles with good quality illustrations, photos or slides.

We reserve the right to edit or not to publish but most IEEM members who have submitted articles to date have had them published.

It is hoped to maintain future editions at 20 or 24 pages but this will be to some extent dependent on covering costs through advertising, sponsorship and other means.

Protected species and development control.

A review of current practice

James Gillespie, MIEEM

Introduction

Much has been written lately about how protected species should be treated within the planning system. Although England and Wales have proposed changes to legislation that will put European protected species at the heart of the planning process, current planning guidance tells us simply that protected species are a material consideration. Just how often, and in what way, local planning authorities (LPAs) attempt to determine the true extent of protected species interest at or near a proposed development site, is something of a moot point.

Personal experience suggests that local planning authorities are beginning to request bat and water vole surveys as a matter of course when buildings or water courses, respectively, are affected by development proposals. At the same time, developers are increasingly aware of the problems that protected species can cause them and are starting to commission protected species surveys unprompted, sometimes before site purchase. Despite this increased awareness it is still true that many proposals sail through the early parts of the development control process without any consideration of protected species whatsoever. How often as professional ecologists have we been involved in the late discovery of a population of great crested newts in an old field pond, or a few water voles in a bit of marsh that nobody thought twice about? As ecologists, we may wonder why this sort of thing still happens: all the signs were there, and the guidance is available; so why did nobody think to check?

Whilst local authorities can require an applicant to undertake protected species surveys, the decision on when this becomes necessary is perhaps a matter of informed judgement and without clear guidance such decisions seem likely to vary from one planning authority to the next. This is compounded by the likelihood of extra expenditure and delays caused by the requirement for survey, which can prove controversial for local planning authorities. How to decide which applications, among thousands, to flag up as potentially impacting on protected species is a major issue.

The perception within the profession that LPAs' approaches to the consideration of protected species is variable, recently led English Nature to let a research contract to investigate the issue. This paper explains the objectives of the research and some of the main findings, many of which have obvious implications in the current climate of legislative change. The full report is to be published shortly as English Nature Research Report number 479¹.

Research objective

The main objective of the research was to assess current local planning authority policy and practice in deciding when protected species surveys are required to inform the development control process.

Methods

In order to make this assessment, our starting point was a series of questions posed by English Nature. These are set out below, along with a brief summation of the related findings. These questions were refined and translated into a carefully designed questionnaire containing thirty questions and grouped under the following headings:

- Existing data and its use by the LPA
- Basic processes of gathering and requesting data
- Policy and guidance for LPAs

The questionnaire was circulated to the development control team of every local planning authority in England, with a covering letter of introduction from English Nature and a pre-paid reply envelope. Responses were entered onto a database for analysis, along with other comments made by the respondents.

Representativeness of the results

343 LPAs in England received the questionnaire, and 151 responses were received, representing an unusually high response of 44%. The questionnaire was addressed to the Development Control Manager of each authority, but in some cases it was completed by other members of the Development Control team. Given the high response, we are confident that the replies received do broadly reflect the experiences of the English local authorities.

Findings of the survey

The basic questions posed by English Nature were addressed following analysis of the questionnaire returns:

Does the Local Planning Authority have access to existing information on protected species? If so, who holds it and how is this accessed?

87.4% of responding development control (DC) officers were aware that their LPA has access to historical information on protected species. The reason that the remaining 12.6% of respondents indicated that they have no access to protected species information is not known, but it may reflect the experience of individual officers, rather than their local authority as a whole.

Access to data

Most DC officers are aware of the local sources of protected species data. The Wildlife Trusts are known by DC officers to be holders of data in 69% of cases, English Nature in 64% of cases, LPAs themselves in 50% of cases, and local specialists groups in 49% of cases. Interestingly, only 31% of responses noted the biological records centres as a source of data. 20% noted individuals.

Interpretation of data

The most commonly reported means of interpretation of protected species data is directly by planning professionals (41%). In only 27% of cases is interpretation of historical protected species data achieved with the help of an LPA ecologist. When consultants provide initial interpretation, planners rarely rely upon that consultant's interpretation alone but consult others within the LPA.

Where an LPA ecologist is involved in data interpretation planners appear less likely to seek assistance from other places. Overall, however, the use of LPA ecologists was the least common means of help with interpretation – but then only just over half of the respondents indicated that they have access to any ecological support, whether in-house or external.

Quality of data

74% of respondents who encountered protected species felt that recording needs to be improved. Data were generally felt to be difficult to access but its usability, once accessed, was felt to be good. However over 50% said that they still needed help in interpreting the data.

Does the Local Planning Authority routinely ask for information on protected species within the planning application form?

Only 6% of DC officers indicated that their planning application forms ask for basic information on protected species. The triggers that are used by LPAs to request such information were explored (either asking for basic desk study information, or for new survey data). Generally speaking, the question of protected species is left to the post-submission period, which has implications for delays in the determination of applications.

There was a strong indication that LPAs are experiencing cases in which protected species are discovered at a late stage (over three quarters of respondents have experienced "late discovery" of protected species). This compounds the problem of delays in determination, and has implications for licensing procedure in the case of European protected species. As might be expected, in a high proportion of these cases, no protected species survey had been undertaken prior to submission of the planning application. In other words, the chances of protected species becoming an issue at a late stage in the determination process seem to be markedly lower if a protected species survey has already been undertaken prior to submission of a planning application.

In response to the question of late discovery of species, the following species were involved:

- Bats noted on 86 occasions
- Badgers noted on 74 occasions
- Great crested newts noted on 49 occasions
- Barn owls noted on 29 occasions
- Other noted on 25 occasions
- Water voles noted on 24 occasions

Does the Local Planning Authority have criteria for deciding when to ask an applicant to undertake a protected species survey? If so, what are they?

Criteria

DC officers were asked to consider whether, in deciding when to ask an applicant to undertake a protected species survey, their considerations were based on any combination of the type, location and size of development. The answers to this question are shown below:

Related to the type of development (for instance barn conversions)?

Yes	101 responses
No	15 responses
No response	6

Related to the location of the development (for instance within a given distance of a known great crested newt site)?

Yes	117 responses
No	4 responses
No response	1

Related to the size of the development?

Yes	50 responses
No	64 responses
No response	8

In addition, a range of other criteria are used, as indicated below:

- Public consultation noted on 98 occasions
- Information provided by the applicant (e.g. results of desk study) noted on 92 occasions
- Guidance from internal consultation (e.g. with LPA Ecologist) noted on 79 occasions
- Presence of certain types of semi-natural vegetation / habitats noted on 71 occasions
- Other noted on 16 occasions
- No criteria, protected species surveys requested for all planning applications noted on 0 occasions

English Nature's role

10% of participating development control officers suggested that their sole source of advice in the matter of protected species surveys is English Nature. 86% of respondents indicated that they seek protected species advice from EN as well as from other sources, but almost 4% indicated that they never seek the advice of EN, despite their statutory consultee status.

Does the Local Planning Authority employ an ecologist (or similar) who assists with protected species and planning?

Just over half of the respondents indicated that this facility is available to them and in 72% of cases where advice and assistance is available, it is provided in-house. What advice the remaining authorities do get has not been established.

Does the Local Planning Authority feel that current arrangements are adequate to fulfil its role?

Despite the number of guidance documents available, less than a quarter of the responding DC officers indicated that published guidance on protected species is issued to applicants. Even fewer indicated that the guidance is issued with standard planning application forms. It is perhaps of some concern then, that 111 of the 151 respondents indicated that if published guidance were provided to them, then they felt that it could be readily passed on to applicants. This clearly indicates that much scope exists for better promotion of existing materials.

When further protected species surveys have been requested, is the information provided generally adequate for the LPA to properly consider protected species, in its role of determining planning applications?

Interestingly, almost three-quarters of LPAs said that the information is generally adequate. Anecdotal evidence suggests there are still real problems with the quality of some protected species surveys, but development control managers may not always be in a position to pick up on such concerns.

Are there protected species policies in the Local Plan (or equivalent) relating to development control?

Absence of protected species policies

8% of respondents indicated that protected species policies were absent from all of the major statutory plans that impact on their administrative area. The absence, or perceived absence, of policies from local development plans, which are one of the principal planning documents for local authorities, is difficult to explain and should be considered further.

Provision for survey within local plan policies

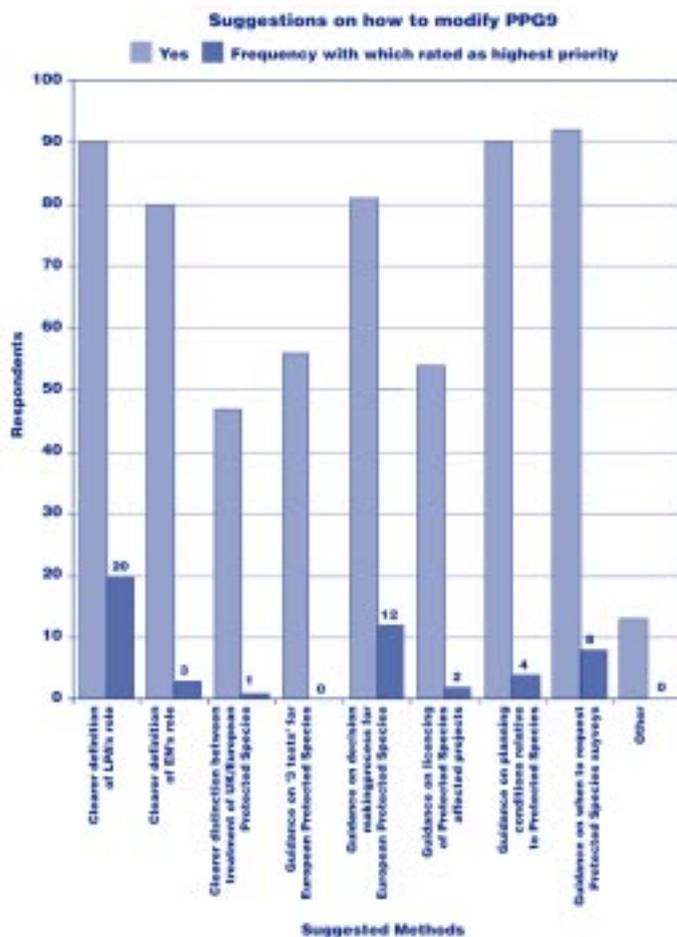
Less than one third of the protected species policies were backed up by mechanisms to request protected species surveys. This must affect the confidence of development control officers when considering asking for more information on protected species.

In your view, how could PPG9 be modified to assist Local Planning Authorities with their role in protected species and planning?

The most common responses to this question were:

- Improved guidance on when to request protected species surveys.
- Improved guidance on planning conditions and agreements relating to protected species matters.
- A clearer definition of the role of LPAs in relation to protected species.

The last of these three was most commonly ranked as the most important modification that could be brought forward in a review of PPG9. The overall results of this question are presented graphically, below.

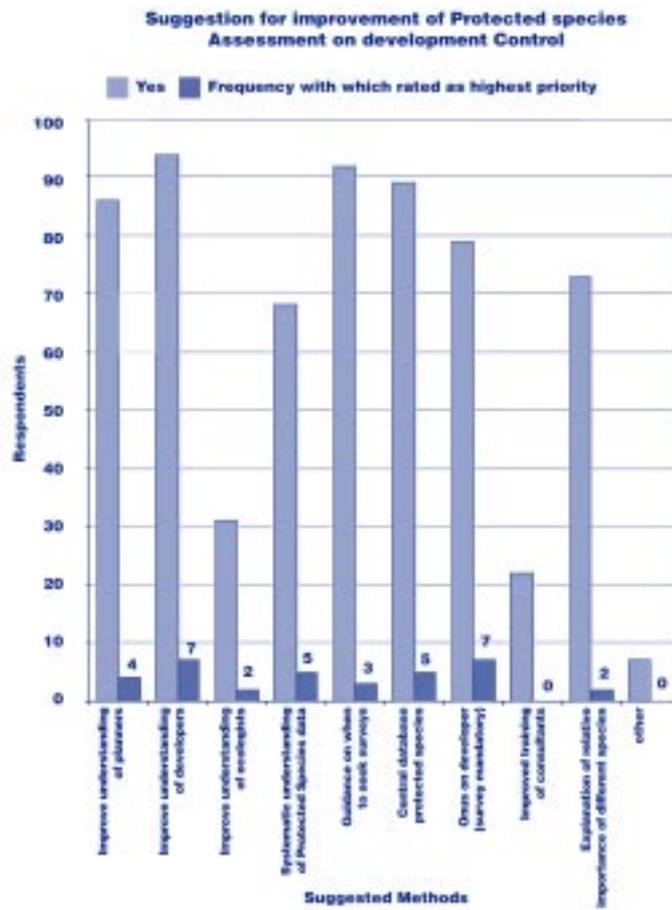


In your view, what else could be done to improve the assessment of protected species in development control?

The most common responses to this question were:

- Improved understanding of Environmental Impact Assessment and protected species legislation by developers.
- Better guidance on when further surveys can be requested and why.
- Development of a "one stop shop" for protected species data requirements.
- Standard planning application forms or similar.

The overall results of this question are presented graphically, below.



General findings and conclusions

The research seems to bear out the perception that Local Planning Authority approaches to protected species issues within development control vary considerably. The manner in which LPAs address protected species issues may be affected by resources (such as cash and access to advice), the outlook of their planners, or the type of authority in question (urban, rural, etc.). The pressure on LPAs to determine applications within certain time periods may also have a bearing on an authority's view of protected species.

Very few LPAs request protected species data on their standard planning application forms or similar. However, once an application has been submitted, some LPAs use location-sensitive criteria to trigger a request for more information, such as the nearby presence of a protected species. Between LPAs there is variable application of other criteria for deciding when to request surveys, but requests generally follow consultation with the wider public. It is not clear whether the criteria for deciding when to request surveys are formally applied across individual planning authorities, or whether they are dependent on the officer involved and their own judgement, which may differ from that of his or her colleagues. There is scope for development and formalisation of basic criteria for determining when to request surveys. These could be produced for general application by LPAs, with local variations being developed by the LPAs themselves.

A high proportion of LPAs have encountered protected species at a late stage in the development control process. In most of these cases, no protected species survey had been undertaken prior to submission of the planning application. By leaving the question of protected species to the consultation period or later, instead of encouraging an applicant to provide basic protected species data up front, planning authorities will increasingly find themselves forced to extend the determination period, as even basic desk study data can be time consuming to gather and analyse. The implications of late discoveries are clearly important, costing time and money for LPA and applicant alike.

Guidance on protected species, particularly on badgers and great crested newts, has been available for around eight years from the statutory conservation agencies. However, the dissemination of this information through the LPAs is poor. A number of other suggestions were made about what would improve protected species assessment in development control.

At the time of writing, the planning system is under major review. It may be an appropriate time to consider the findings of this study and how some of the problems that have come to light can be dealt with through the planning review. For instance, more guidance on dealing with problems of appropriate survey timing and the scope of protected species surveys, and the way that these can impact on determination periods is likely to be of use. Under the review, Planning Policy Guidance Notes (PPGs) may be replaced with more streamlined guidance documents, in which case the way forward for many of the suggestions made about improvements to PPG9 - Nature Conservation may have to be through other structures.

DEFRA and the Office of the Deputy Prime Minister have recently published a consultation paper on proposals that could more clearly place a requirement on LPAs to consider European protected species when determining planning applications². If the proposals are adopted, this is likely to give rise to a requirement to see that information on those species that

are protected under European legislation is gathered in a timely manner. In practice this would require, in many cases, appropriate surveys to be undertaken prior to determination of an application (and perhaps even at the allocation stage). These proposals will not directly affect species that are protected under domestic legislation only, but the principal of pre-determination surveys should become more firmly established.

Other themes for improvement include better training, better data management, and improved resourcing of biological record centres, all of which require enhanced funding. A key finding was that nearly half of the participating LPAs have no direct access to ecological advice. I suggest that this is one of the more worrying and important aspects to be dealt with, especially given the proposed changes to EPS legislation.

All of these problems require more thought, discussion and (of course) money and the study has not attempted to try and suggest solutions to any of them. But in the long term, a more structured and consistent approach to dealing with protected species in development control will lead to financial and time savings for both applicant and local authority, as well as better conservation of protected species and their habitats.

James Gillespie is a partner in the consultancy Baker Shepherd Gillespie (01629-815544). Alison Rasey, co-author of the research report, works for the Bat Conservation Trust (020-7627 2629). The study that forms the basis of this piece was commissioned by Jim Foster of English Nature (01733-455251) and will be published shortly as English Nature Research Report number 479 (available from www.english-nature.org.uk or telephone the Enquiry Service on 01733 455101).

- Gillespie J and Rasey A (2002). Development control, local authorities and protected species. English Nature Research Report 479
- DEFRA/ODPM. October 2002. Consultation paper on legislative proposals for integration of the Habitats Directive provisions on conservation of European protected species into the land-use planning regime.



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Closing date for applications: 24th January 2003

Institute News

Patrons

The Institute is delighted and honoured to announce that Mr John Humphrys of the BBC Radio 4 Today Programme has kindly agreed to become a Patron. He joins Professor David Bellamy and Sir Martin Doughty as the new Patrons.

The IEEM Constitution

The proposal to apply to become a charity was reported in the last *In Practice* and it had been anticipated that the Charities Commission would have been prepared to consider the proposed Constitutional changes in advance of ratification by a General meeting. In the end this was not possible and the Constitution was amended at the AGM last week in advance of the application to the Charities Commission. The response will be awaited with interest.

IEEM Staff Changes

IEEM is pleased to report that Mr Nick Jackson has been appointed as the Education and Professional Development Officer – congratulations!. Nick has an honours degree in ecology from Plymouth University. He played a major part in the preparations for the Newcastle Conference and has recently been working on the 2003 Professional Development Programme circulated with this *In Practice*.

External Affairs

Following the meeting of the Committee on the 26th June, a response has now been made to the Department of the Environment, Food and Rural Affairs on the Woodland Grant Scheme and Woodland Premium Scheme. This was an External Affairs Committee trial and is the first response by the Institute for some time.

There are several other consultation responses in the pipeline. Subgroups are preparing responses to the Air Transport in the UK and on the Habitats Directive and the Wildlife and Countryside Act consultations. The EAC will soon be looking at the Water Framework Directive and the Impacts of Sewerage Sludge, the latter in conjunction with the Institution of Agricultural Engineers via the Society for the Environment. CIRIA is undertaking a most interesting consultation on developing biodiversity benchmarks for construction projects and IEEM would hope to make a response to this.

Any member may contribute to the consultation responses. If you have come across a consultation you believe IEEM should respond to, or you wish to be involved with the responses, contact Joel Bateman at the IEEM office email: joelbateman@ieem.demon.co.uk. The consultation responses will shortly start appearing on the website for the information of members.

Professional Development Programme

The programme for this year has now been produced - it is a mixture of 28 courses some of which have proved popular in the past and some new ideas. Many thanks to Nick Jackson for bringing the programme together and to the facilitators/tutors who have agreed to provide the courses.

Obituaries

Normally this section is restricted to members of the Institute but on this occasion it seems appropriate to mark the passing of Dr. David Arnold-Forster, former Chief Executive of English Nature. A number of members will recall the excellent keynote address he gave to the conference on the CROW Act in Birmingham, 2001. The text of that paper is given elsewhere in this edition by way of a tribute to him. A memorial service was held in York Minster which was attended by the President, Dr. David Hill.

The Institute would also like to note the passing of Dr. Geoff Mance of the Environment Agency. He was a former President of CIWEM and was active in the early negotiations to establish the Society for the Environment.

CPD Returns - return with membership renewals

Despite some reservations from a number of members, it seems that overall the response to the return of the CPD forms has been very good. The forms for 2002/2003 are included with this edition of *In Practice* and further copies can be downloaded from the IEEM Website.

IEEM Website

Do make a point of visiting the IEEM Website on a regular basis! This is now updated frequently and more information and items of news are being added all the time. In particular the latest version of the Ecological Impact Project is now available - any comments would be most welcome.

Membership Subscriptions

Membership renewals were due on the 1st October and although many members did respond to the call for a prompt response, a number did not. These have now all been contacted again with a reminder letter. This is an expensive process and the cost of several Full Memberships subscriptions is used in such an exercise. All members who have not renewed are urged to do so as soon as possible.

News from the AGM

Sue Bell is the new President !

Sue Bell is to be warmly congratulated on becoming President at the AGM in Newcastle. Will Manley was elected as Vice- President, Robin Buxton as Secretary and Colin Buttery continues as for a further year as treasurer.

President (IEEM Company Director)

Sue Bell, BSc, MSc, MIBiol, MIEEM, Principal Environmental Specialist, Scott Wilson Resource Consultants, Edinburgh.

Vice- President (IEEM Company Director)

William Manley, BSc, MPhil, PGCE, MIEEM, Principal Lecturer: Countryside Management, Royal Agricultural College, Senior Consultant: GFA-RACE Partners Ltd.

Secretary (IEEM Company Director)

Robin Buxton, BA, B.Phil, D.Phil, MIEEM, Chairman, The Northmoor Trust.

Treasurer (IEEM Company Director)

Colin Buttery BSc, MIBiol, MILAM, MIEEM, Head of Parks and Leisure, Westminster City Council.

List of Council Members elected:

Mr Mike Barker Environment and Product Quality Team Manager, Southern Water Services Ltd

Dr Peter Beale Director, Sunflower International Ltd

Dr Tim Bines Area Manager, English Nature

Dr John Box Principal Consultant, Atkins Environment

Dr Nick Carter Director of Development, British Trust for Ornithology

Ms Kathy Dale Senior Ecological Consultant, Northern Ecological Services

Mr Richard Graves* Principal Ecologist, Faber Maunsell

Mr David Jamieson Director, BTCV, Scotland

Ms Hilary Ludlow Ecologist and Landscape Scientist, The Landscape Science Consultancy

Mr Steve Pullan Project Officer, Department of Environment, Food and Rural Affairs

Ms Karen Regini* Environmental Consultant

Dr John Rose* Senior Lecturer, Sheffield Hallam University

Dr Peter Shepherd* Partner, Baker, Shepherd Gillespie

Dr Andy Tasker* Director, Warwickshire Wildlife Trust

Dr Eirene Williams Principal Lecturer, University of Plymouth, Seale Hayne

* - elected for the first time

Committee Matters

There are still opportunities and indeed a great need for further nominations to the Committees especially the **Membership Admissions Committee** and the Finance and General Purposes Committee. MAC is very keen to recruit new volunteers to deal with the rising number of applicants. So if you were considering volunteering do get your nomination forms signed and sent into the office.

There has been very little response to previous calls for members to participate in an "In Practice" editorial board which we hope to establish to enable us to plan forward features more effectively – any new offers?

North East Section

A further milestone in the development of IEEM, the Inaugural Meeting of the North East Section took place on 27th November during the Newcastle Conference. Opened by the President, Dr David Hill, it adopted a constitution for the section based on the Scottish model and also held elections for the Officers for next year. The following were appointed:

Convenor: Steve Pullan
Vice Convenor: Vacant
Secretary: Robert Mayhew
Treasurer: Andy Cherill
Committee member: David Feige

The programme for 2003/2004 was also agreed and the programme up to May is shown in the diary section.

For further local information about the North East Section of IEEM, please contact Steve Pullan MIEEM 20 Holystone Drive, Holystone, Newcastle upon Tyne NE27 0DH

Phone: 0191 2661769 or
 Email: steve.pullan@virgin.net

Please make every effort to attend the meetings of the new section.

Scottish Section

The Scottish Section's Fourth Annual General Meeting was held at 12.30 on 20 September 2002. The activities of the Scottish Section Committee in the past year were :

- 2 student events, at Stirling and Edinburgh Universities
- a successful training workshop on Phase I Habitat Survey techniques in Edinburgh
- an Autumn Members' Day in Aviemore on Monitoring and Surveillance

IEEM membership in Scotland has increased over the past year from 106 to 122 Full members, which is 9% of total IEEM membership. Student membership in Scotland is 15, which is 19% of the total Student Membership of IEEM and may reflect the success of the Student events.

The following members were duly elected to the Scottish Committee

Convenor: Kathy Dale
Vice Convenor: Julie Dewar
Secretary: Christine Welsh
Treasurer: Daniel Gotts
Member: Vicky Abernethy
Member: Kim Harding
Member: David Jamieson
Member: Scot Mathieson
Member: Neil Redgate
Member: Annie Say

Elaine Cameron, Alister Clunas and Caitlin MacFarland stepped down from the committee.

The AGM took place during the meeting at Loch Insh which is reported elsewhere.

Members News

John Box

Atkins Environment has strengthened its ecological team with the appointment of Dr John Box, FIEEM and Council Member as principal consultant, based in the company's Warrington office.

Formerly with Wardell Armstrong, John is now responsible for expanding Atkins' ecological services. He previously worked with English Nature and now brings to Atkins more than 30 years experience in ecology and nature conservation, including work in Australia on toxic algae and rainforests. He is a recognised expert on urban ecology and chaired the UK 'Man and the Biosphere Urban Forum'.

Carol Crawford

Carol's book '**A Field Guide to the Common Mosses and Liverworts of Britain and Ireland's Woodlands**' was short-listed for the 2002 Natural World Book Prize. Now in its sixth year, The Natural World Book Prize is the only book award in the UK to recognise environmental literature. Being short-listed means that the judges considered it to be one of the best natural history books of the year. The winner was Edward O Wilson's book 'The Future of Life'

In recognition of this achievement Carol received a paperweight from Bill Odie. The third edition is now on sale - available from Carol Crawford, The Natural Resource Consultancy, 4d New Bridge Street, Ayr, KA7 1JX Tel: 01292 - 280800, Email trnc@aol.com



Biological Recording, Survey and Monitoring – Joint seminar with the BES

3rd April, 2003, The University of Birmingham

Following on from recent correspondence in In Practice, the purpose of this seminar is to try to address the shortage of skills in these subject areas and chart a way forward.

The Water Framework Directive

8th April, 2003, Friends House London

The next 1-day conference will be held on the Water Framework Directive and, in particular, its significance for ecological and survey issues. This will be a departure from our recent spring visits to the Birmingham Botanical Gardens and we will probably miss the morning greetings from the mynah birds. The subject should fit in well with the seminar held in Birmingham the previous week. **Offers of papers would be extremely welcome.** This conference will try to focus on issues such as surveys - those themes likely to be very relevant to IEEM members. In this way it is hoped not to duplicate other conferences which may be held elsewhere on this wide ranging and significant subject.

News in Brief

Taxonomic Impediment

In previous issues of IP the problem of poor taxonomic skills in graduates has been discussed. It seems that members of this Institute are not the only people concerned about this issue. The Natural History Museum has been designated by DEFRA as the UK's National Focal Point for the Global Taxonomy Initiative (GTI). This is a reflection of the global need for taxonomic expertise. It seems fitting that the Museum is the focal point with its international standing as a world leader in taxonomic research.

The purpose of the GTI is to address the 'taxonomic impediment' that seriously undermines our ability to conserve, and sustainably use biological diversity due to gaps in our taxonomic system (this includes genetic research) and a shortage of trained taxonomists and curators.

A recent report issued by the House of Lords Select Committee on Science and Technology concluded, 'Taxonomists are needed to provide conservationists with tools to identify and therefore monitor the prevalence of species, by indicating which species are extinct and by indicating areas of the world with high diversity that should be conserved.' Mr Alistair Taylor was appointed as Biodiversity Liaison Officer at The Natural History Museum. He will act as the National Focal Point for the GTI. Alistair Taylor comments, 'The Natural History Museum is ideally positioned to take on this role, given its leadership in the field and worldwide reputation for scientific excellence.'

Aliens lured into a sex trap

In England, the white-clawed crayfish population (Britain's only native freshwater crayfish) is being ravaged by a larger more aggressive alien, the American signal crayfish. The signal is not only more aggressive and produces twice as many eggs, but also carries the disease, the crayfish plague. This disease devastates British white-clawed crayfish populations but only slows the stronger signal. The signal crayfish was introduced to Britain by farmers in the 1970s. Unfortunately by the 1980s the native white-clawed crayfish was heavily affected. Today the signals have invaded all but a handful of English rivers, and many in Wales and Scotland. The Environment Agency (EA) and English Nature (EN) have closely monitored the demise of the white-clawed crayfish. Project leader David Fraser, of English Nature, commented: "Despite being afforded the highest protection under national and international conservation legislation, our native crayfish are acutely threatened and their survival may depend on our ability to control the non-native species."

Eradication or even control of signal crayfish is extremely difficult. Nets and traps having failed, the EA has turned to pheromones. Marauding male crayfish are being lured into "sex traps" by pheromones. Peter Sibley (EA) said that although "pheromones had been used on land for management of pests, this was the first such underwater venture. Paul Stebbing of Newcastle University has pioneered this work. Since last August he has been placing traps in rivers and ponds with spectacular results, the crayfish come running. He is now working on extracting the male pheromones from his victims to see if he can pull a similar trick on the females."

Mr Sibley said "Signals are really the bullies of the crayfish world and the trouble they cause is not confined to crayfish. In large numbers they can be a threat to spawning salmon by taking fish eggs. They have also been known to wipe out whole areas of aquatic plants and, by burrowing into banks, they can damage the habitat of endangered species like water voles."

New nature reserve

Bridgend's coastline, so important for local people to enjoy nature on their doorstep, is the location of Wales' newest Local Nature Reserve. The announcement comes hot on the heels of the Countryside Council for Wales

(CCW) decision to encourage local authorities to establish more nature reserves close to towns and cities.

Locks Common in Bridgend, is one of a network of reserves along this coast, providing special places for people to enjoy nature including a number of different butterflies including the small blue, plants such as spring squill and birds like the skylark. The reserve also contains one of the only areas of limestone pavement in South Wales. Scott Hand, CCW's Conservation Officer in south Wales said: "This recognises that Locks Common is a great spot. There are plans to improve the site, with information panels and leaflets which will give people a greater insight into the wealth of wildlife all around them."

Pete Frost, CCW's senior community action officer, commented: "Local Nature Reserves can play an important part in improving people's quality of life. Located close to local communities and urban areas, the reserves are easy to visit so that people from all walks of life can spend time in contact with nature with all the health benefits that this can bring."

In their last Council meeting, CCW agreed to encourage the designation of LNRs in urban areas. Bridgend County Borough Council will officially launch the Reserve in the spring of next year.

Contact Pete Frost by e-mail p.frost@ccw.gov.uk or www.ccw.gov.uk

UK environmental consultancy market going strong

Environmental consultancy has been a largely unheralded success story of the UK economy for more than a decade. Its turnover has grown from £150 million in 1988 to over £900 million today. More than 720 companies are now active in the field, employing around 18,000 full-time staff.

The sector's expansion has been driven primarily by environmental legislation, with corporate reputation concerns emerging more recently as an important growth factor. The clean-up following last year's foot and mouth disease outbreak also brought in a substantial volume of work for some consultancies.

The buoyant market conditions are further reflected in full order books, high staff utilisation rates and improving levels of profitability for most environmental consultancies. An ENDS survey found that they are achieving an average profitability of 8.8% this year - a 1.7-point increase on the previous financial year.

According to consultancies' own projections, the sector's turnover could reach £1.5 billion within the next five years. However, the study's editor Liz Trew comments: "It may be little more than wishful thinking... the UK Government appears intent on avoiding new environmental legislation as part of its drive to minimise regulatory burdens on business." www.ends.co.uk

The riverbank Triffid

Himalayan Balsam (*Impatiens glandulifera*) is an exotic plant species that is currently colonising most of our river systems, and choking the native vegetation. This has the effect of removing the essential stabilising effect of the root systems of the native plants. So when the Himalayan Balsam (which is an annual plant) itself dies back each year, the riverbanks are then left largely unprotected, and exceptionally vulnerable to river spate, erosion by rain water run-off and animal damage.

The last Environment Agency survey showed the plant is now widespread throughout the country. The next survey, due in 2003/4, is likely to show a much wider incidence of the problem.

Rabies at Tayside

A volunteer bat worker has recently died from a confirmed rabies infection. The bat worker is thought to have been infected with a rabies variety found in north European Countries: European Bat Lyssavirus (EBL).

Professor Colin Galbraith of Scottish Natural Heritage (SNH) said: "This is a very sad situation and our immediate thoughts are with the individual and his family. SNH employs a number of bat caseworkers each year and they are issued with detailed advice on the Health and Safety precautions that should be taken when handling bats. This is the first time a bat-rabies case has been reported in Scotland."

Bat workers or members of the public may make enquiries to SNH about what they should do if they find a bat. Dr Andy Douse, Species Group Manager, on 0131-446-2424 (office hours). The NHS has set up a help-line to offer re-assurance and advice Tel: 0800 783 5066.

Reckless destruction of water vole habitat

In a landmark case a farmer pleaded guilty on the 18th November to recklessly destroying shelter for endangered water voles on a drainage ditch running across his Wiltshire farm. It is believed to be the first successful prosecution for water vole habitat using the recently amended Wildlife and Countryside Act.

Devizes magistrates fined Charles Butcher, 53, of Sleight Farm, Sleight near Devizes, Wiltshire £750 and awarded prosecution costs of £150 for offences under the Wildlife and Countryside Act committed in March 2001. Butcher admitted when interviewed by Wiltshire police that he had ignored Environment Agency guidelines. Butcher had contacted the Environment Agency for permission to dredge a drainage ditch and agreed to follow strict guidelines to work from one bank and leave 20m strips of bank untouched for water voles to seek refuge.

English Nature's mammal expert, Tony Mitchell Jones, said: "We don't want to stop work taking place on farms. All it needs is a small change to working practices to ensure the survival of this seriously threatened species. This case sends out a clear message that landowners should follow the guidelines to help save the water vole."

www.english-nature.org.uk

National Nature Reserves celebrate Golden anniversary

2002 marks the 50th anniversary of National Nature Reserves (NNRs) in England. The latest addition to the best wildlife sites is Sherwood Forest NNR.

In the very heart of Nottinghamshire lies the ancient forest of Birklands, an extensive area of old pasture-woodland and heath on the dry nutrient-poor soils of the Sherwood sandstone. It represents a wonderful fragment of the great forest of Sherwood, one of the most famous forests in the world, and its celebrated old oak trees have inspired visitors and writers for centuries.

Sir Martin Doughty, Chair of English Nature, said, "Sherwood Forest is a magical place for both people and wildlife and is one of the most important places in Europe for ancient trees and woodland wildlife. It is steeped in history, with magnificent old trees rich in birds, beetles and bats and is truly deserving of its status as a NNR. English Nature is delighted to recognise the management of this fantastic site by both Nottinghamshire County Council and Forest Enterprise by declaring the new Sherwood Forest NNR in Golden Jubilee Year."

Rare rediscovery

A rare anemone has been spotted at Broadhaven South this year. Anne Bunker, CCW's Marine Sites Surveyor, who made the discovery said: "There have been sightings of this anemone in the past – but they are few and far between. It was first described by Phillip Henry Gosse at a site near Tenby in 1854."

Gosse named the animal the *glaucus pimplet*, which describes the animal perfectly; *glaucous* refers to its greenish-blue colour and *pimplet* to the rows

of strongly adhesive warts that can be seen on its column or its spotted tentacles. It is often buried in gravel pools of exposed rock shores, between the mid-tide and low tide watermarks.

"Why it has turned up again in Wales after more than forty years is anyone's guess" added Anne Bunker. "They hide away in inaccessible places, so they may have been here all along and gone undetected."

www.ccw.gov.uk

The Sixth Framework Programme Towards a European Research Area

On Monday, 11th November the European Commission Directorate General for Research hosted a conference for 7,500 delegates to launch the new Sixth Framework Programme. The 17.5 billion Euro budget (yes, 17.5 billion) drew hopeful bidders from the whole of Europe. The thinking behind it is that Europe, if it is to compete effectively on world markets must have a firmly established and expanded research base. This is a major opportunity and, from the viewpoint of IEEM readers, the section on Sustainable development, global change and ecosystems offers most interest.

The objective is stated as follows:

The activities carried out in this area are intended to strengthen the scientific and technological capacities needed for Europe to be able to implement sustainable development and integrating its environmental, economic and social objectives with particular regard to renewable energy, transport, and sustainable management of Europe's land and marine resources. These activities should enable Member States, the associated candidate and other associated countries to make a significant contribution to the international efforts to understand and control global change and preserve the equilibrium of ecosystems.

The priorities are identified as follows:

- Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants from all sources, including those resulting from energy supplies, transport and agriculture on climate, ozone depletion and carbon sinks (oceans, forests and soil) in particular to improve production and to evaluate mitigation options;
- Water cycle, including soil related aspects;
- Understanding marine and terrestrial biodiversity, marine ecosystem functions, protection of genetic resources, sustainable management of terrestrial and marine ecosystems and interactions between human activities and the latter;
- Mechanisms of desertification and natural disasters;
- Strategies for sustainable land management, including integrated coastal zone management (ICZM), and including integrated concepts for the multipurpose utilisation of agricultural and forest resources, and the integrated forestry/ wood chain;
- Operational forecasting and modelling. Including global climate change observation systems.

Research undertaken under this priority will be complemented by the development of advanced methods for risk assessment and methods of appraising environmental quality.

The timescale is that the call for proposals is expected to go out around 18th December and with a deadline for submissions sometime in March, 2003. That is not much time bearing in mind that the proposal will need to be built up in considerable detail, accurately costed, and it will have to be undertaken with partners including those from the Accession Countries. This might be quite a tall order but there are 7 million euros set aside for this part of the overall programme – it might well be worth going for it. For further information you should consult the website - <http://europa.eu.int/comm/research/rtinfo/>

Recent Publications

Learning to Last: Skills, Sustainability and Strategy

Learning and Skills Development Agency

ISBN: 1 85338 793 2

Learning to Last is a joint venture from the Learning and Skills Development Agency, Forum for the Future and the government's Sustainable Development Education Panel.

Through a seminar series and this book, practitioners, policy-makers and academics consider how the principles and values of sustainable development should inform learning in the 21st century.

The seminars covered in this book are:

- 1: Citizenship, social inclusion and environmental justice.
- 2: Education for sustainable economic development.
- 3: Responsibility and education in a risk society.

Learning to Last seeks to stimulate debate and shape thinking on the need to integrate sustainability into all levels of post-16 learning.

The chapters in this book give a sense of the quality of the contributions by the different authors and the high level of debate that took place in each of the three seminars. The views expressed by the individual authors are their own. However overall thoughts point to an important shared agenda.

This publication will influence this important area of debate and action well into the future. This book is priced £15.95 and is available from the Learning and Skills Development Agency, www.LSDA.org.uk.

Hedgerow Survey Handbook – a standard procedure for local surveys in the UK

Catherine Bickmore

ISBN 1-86169-108-4

The Hedgerow Survey Handbook is an essential text, which establishes a new and consistent method of surveying hedges for wildlife. The field survey component focuses on the structural and botanical characteristics of hedgerows.

The handbook is intended for all those involved with surveying hedges including Local Biodiversity Action Plan groups, Local Hedgerow groups, ecologists, landscape managers, environmental scientists and landscape architects. It has potential applications for habitat mapping, environmental impact assessment, landscape restoration strategies and as part of landscape and/or historical appraisals.

The document and survey forms are free and can be downloaded from www.english-nature.org.uk/pubs/publication/pub_search.asp keyword search: hedgerow. Alternatively order a hard copy from: farmland.conservation@defra.gsi.gov.uk

The State of the Countryside 2002-12-04

The Countryside Agency

ISBN 0-86170-659-5

This report paints a picture of rural England in 2002 and looks at long-term trends. The report looks at four major areas of countryside management: People and communities, Services and lifestyle, Environment and recreation and Economy and Enterprise. The report includes accompanying information on the fifteen separate Headline Rural Indicators used by the Government to monitor its key objectives for the English countryside set out in the Rural White Paper, 2000, "Our Countryside: the future. A new deal for rural England".

The book is split up into 20 chapters and covers a large variety of topics including: rural crime, housing costs, traffic effects, education, biodiversity, sustainable land management, business health, employment, income and prosperity.

The future of farming has dominated the last year, and is a major topic of rural economic discussion, and is discussed in detail in the Environment and recreation section.

Overall this is a very useful publication with relevant facts and figures. A hard copy is available from the Countryside Agency for a price of £5.00 or a free version is downloadable from the website: www.countryside.gov.uk.

Making Waves

Integrating Coastal Conservation and Development

K. Brown, E.L. Tompkins, W.N. Adger

ISBN1853839124

Cost £17.95

Making Waves is an introductory book into integrating coastal conservation and development. Small sections allow the reader to acquire a broad understanding on a wide variety of topics.

Coastal zones are critical multiple-use resources, under pressure from constant demands from different sources – conservation, economic growth and social welfare. Making Waves identifies the dilemmas of managing conservation and development in coastal areas. It is packed with important information about the management, conservation and assessment of social implications of coastal resources use.

The book is important reading for researchers and students in geography, development studies and environmental planning and also for practitioners in natural resource management and coastal zone management. This book is suited to the non-expert with an interest on coastal zone conservation.

The British Uplands: Dynamics of Change

T. P. Burt, D. B. A. Thompson, J. Warburton.

JNCC Report

ISSN: 0963-8091

This report makes an important contribution to our understanding of the British uplands. The 41 papers, which make up the book have been refereed and were initially presented at a conference held at Hatfield College, University of Durham, in spring 1999. Many papers have since been updated. The editors and some of the authors had a particularly valuable opportunity to refresh the papers following a workshop held in Edinburgh on 26 April 2002, hosted by the Department of Environment, Food and Rural Affairs and JNCC. This workshop explored linkages between land use policy, research and advice in the uplands.

This report strikes at the heart of the future of the uplands as a whole when considering global warming, renewable energy and public enjoyment. It gives a focused background to the topic of IEEM's 2003 November conference: Upland Ecology, Recreation and Tourism.



Christmas and New Year



Members of Council, the Directors and Secretariat would like to wish all members a Happy Christmas and a productive and ecologically active year in 2003.

Prospective members of IEEM

The following people have applied for membership of IEEM. If any existing member has any good reason to object to someone being admitted to the Institute, especially if this relates to compliance with the Code of Professional Conduct, they must inform the Executive Director by telephone or letter before 1st February 2003. Any communications will be handled discretely. The decision on admission is usually taken by the Membership Admissions Committee under delegated authority from Council but may be taken by Council itself.

Name		Applied for Full (F) or Associate(A)	
Dr	Isabel	Alonso	F
Miss	Rachel M.	Armiger	A
Miss	Elaine C.	Austin	A
Miss	Laura E.	Baines	A
Mr	Shaun	Baker	A
Miss	Amy L.	Baldry	A
Mr	Richard A.	Barnes	F
Mr	Andrew	Bielinski	F
Ms	Tabatha	Boniface	A
Mr	Luke J.	Bristow	F
Miss	Wendy A.	Brooks	F
Miss	Petrina Z.L.	Brown	F
Mr	Patrick M.	Close	A
Mr	Mitchel A.	Cooke	F
Ms	Valerie	Cooper	A
Mr	Niall U.	Corbet	F
Mr	Russell	Cryer	F
Mr	James	Davidson	F
Mr	Christopher M.	Davis	F
Dr	Matthew J.H.	Denny	F
Miss	Josephine A.	Donnelly	A
Mr	Gary A.	Emans	A
Ms	Nicola	Farrin	F
Mr	Guillaume G.	Feldman	F
Mr	Tim D.	Frayling	F
Mr	Michael G.	Freeman	A
Dr	Janice	Fuller	F
Mr	Dave	Garner	F
Mr	Simon	Geary	F
Mr	Michael G.	Gibbs	F
Mr	Richard	Gill	A
Mr	Rodney	Gillatt	A
Miss	Maria A.	Gilmartin	F
Miss	Suzanne	Glencross	A
Mr	Andrew M.	Goodman	F
Mrs	Linda L.	Griffin	A
Mr	Leonardo	Gubert	A
Dr	Joanna M.	Haigh	A
Ms	Maria E.	Hardy	F
Ms	Philippa	Harvey	F
Miss	Katherine M.	Hayward	A
Mr	Stephen M.	Henson	F
Mr	David H.J.	Hoare	A
Ms	Jackie	Hunt	A
Mr	Christopher	John	A
Ms	Sue	Lawley	F
Mr	Jason J.	Leach	F
Miss	Amanda C.	Lockley	A
Mr	Matthew	Low	F
Mr	Peter	Massini	F
Ms	Carmen	Mayo	A
Miss	Fiona K.	McMeechan	F
Mr	Peter J.	Nicholson	A
Miss	Jane	Orr	A
Mr	Philip	Parker	F
Mr	Alistair R.	Parkes	F
Dr	Elizabeth A.C.	Price	F
Mr	Graham A.	Rankin	F
Miss	Michelle	Rees	A
Dr	Niamh	Roche	F
Mr	Richard	Roe	A
Mr	Brian K.	Stacey	F
Dr	Deborah L.	Snook	F
Miss	Joanne K.	Taylor	F
Ms	Lisa	Thomas	F
Prof.	Paul M.	Wade	F
Mr	Graham	Walsh	F
Dr	Piran C.L.	White	F

New Admissions to IEEM

IEEM is pleased to welcome the individuals listed below who have now been admitted as new members.

Name		Grade admitted	
Dr	Katherine E.	Barlow	F
Mr	Simon J.	Bracken	F
Mr	Craig	Best	A
Miss	Caroline	Bird	A
Mr	Nicholas J.	Bonsall	A
Miss	Sharon N.	Bracken	F
Dr	Amanda	Browne	F
Miss	Lindsay	Carrington	A
Ms	Rachel	Chase	A
Mr	Nicholas R.	Clark	A
Mr	Stuart M.	Colgate	A
Mr	Richard I.	Collinson	F
Mr	Glen A.	Cooper	A
Ms	Alison	Cox	F
Mr	Ian R.	Curtis	A
Miss	Louise	Denning	A
Ms	Nicola	Dunn	F
Mr	Hugh A.	Firman	F
Mr	Andrew	Foster	F
Mr	Darren	Frost	F
Mr	Dominic R.J.	Gane	A
Dr	Lorraine H.L.	Gormley	F
Dr	Adrian	Hailey	F
Mr	Stephen	Heery	F
Mr	Ian J.	Herbert	F
Miss	Rebecca Y.	Hewlett	F
Miss	Joanna	Hodgson	A
Mr	Alan	Hopkins	F
Mr	Robert	Hutchinson	F
Mr	Richard	Jennings	F
Mr	Matthew	Johns	F
Mr	David	Jones	F
Mrs	Angela M.	Khalil	F
Mr	Neil S.	Lee-Gallon	F
Dr	Martin D.A.	Le Tissier	F
Ms	Purgle	Linham	F
Mr	David S.	Long	A
Miss	Suzanne	Mazdon	F
Mr	Andrew D.J.	McIlwraith	A
Miss	Nicola A.	Mogford	F
Ms	Mieke	Muyllaert	A
Ms	Joanne	Myers	A
Ms	Catriona J.	Neil	F
Dr	Laszlo	Nagy	F
Ms	Genevieve M.	O'Farrell	F
Mr	Christopher R.	Parry	F
Mr	Simon M.	Phipps	F
Miss	Hannah	Price	A
Mr	Jonathan J.	Rudge	F
Miss	Natascha	Tilbrook	A
Ms	Susie E.	Udall	A
Mr	Christopher	Vine	A
Mr	John	Wann	F
Ms	Jan M.	Walters	A
Mrs	Catherine A.	White	F

Students

IEEM is pleased to welcome the following as new student members: Miss Natalie E. Bibby, Mr Michael K. Brown, Miss Rebecca Clews, Mr Anthony J. Giblin, Mr Rupert D.M. Heath, Miss Becky E. Leigh, Mrs Kirsty Mallindine, Mr William G. Miles, Ms Elaine Reid, Mr Stephen Rogers, Ms Frances Stuart, Mr Kenneth Taylor, Ms Amanda Vivian-Crowder, Ms Julie Wickham

Affiliates

IEEM is pleased to welcome Mrs Angie Neave and Mr Philip B Tamuno as new Affiliate Members.

Upgrades

The following have successfully upgraded their membership from Associate to Full: Mr David E. Green, Miss Karen M Hall, Mrs Deborah J Rusbridge and Ms Caroline Ware.

The Course programmes for 2003 for the Centre for Alternative Technology, The Field Studies Council, Losehill Hall, Plas Tan-y-Bwlch and BTCV are all now available. Each offers a wide range of courses that might be of interest to IEEM members. Information from:

Centre for Alternative Technology: Further details about each course can be obtained from Joan Randle.

Tel: 01654 703743, Fax: 01654 703605, E-mail: joan@cateducation.demon.co.uk.

Field Studies Council: For a copy of the FSC Courses 2003 brochure, contact FSC head Office, Preston Montford, Montford bridge, Shrewsbury, Shropshire, SY4 1HW. Tel: 01743 850 674, Fax: 01743 850 178, E-mail: fsc.headoffice@ukonline.co.uk website www.fieldstudiescouncil.org

Losehill Hall: Details from Losehill Hall, Peak District National Park Centre, Castleton, Hope Valley, Derbyshire S33 8WB

Tel: 01433 620373, Fax: 01433 620346, E-mail: training@losehill.u-net.com.

Plas Tan-y-Bwlch: Details from: Plas Tan-y-Bwlch, Maentwrog, Blaenau Ffestiniog, Gwynedd LL41 3YU. Tel: 01766 590324,

Fax: 01766 590274, E-mail: Plastanybwllch@compuserve.com.

BTCV Courses: - practically based. Details from: BTCV Training Programmes Unit, Red House, Hill Lane, Great Barr, Birmingham B43 6LZ. Tel: 0121 358 2155, Fax: 0121 358 2194, E-mail: ETN@ukgateway.net

8 January. Woods- can they be created? Northumberland National Park Centre, Hexham Wild at 7.00pm. Part of the North East Section members programme.

Details from Steve Pullan Tel: 0191 2661769 or email:

steve.pullan@virgin.net.

16 January. Improving Urban Green Spaces Open Day. Barnet and Enfield, London.

Details from website www.barnet.gov.uk

16 January. New Parks for Old. Reading.

Details from ILAM email: events@ilam.co.uk

16 January. New herbaceous vegetation for urban spaces in Britain. Sheffield.

Details from Denise Hall email: denise.hall2@sheffield.ac.uk

21 January. Summit to Sea – The Values of Scotland’s Mountains and Water in the 21st Century. Battleby.

Details from Andy Macpherson Tel: 01738877885 or website www.iym.org.uk

6 March. Achieving Water Quality Objectives using Sustainable Urban Drainage Systems (SUDS). Buxton, Derbyshire.

Details from the IEEM office or the website www.ieem.org.uk.

12 March. Professional Practice: Tendering Guidelines. Stevenage, Hertfordshire.

Details from the IEEM office or the website www.ieem.org.uk.

12 March. Butterfly Conservation in Northern England. Chilton Moor, Houghton-le-Spring at 7.00pm. Part of the North East Section members programme.

Details from Steve Pullan Tel: 0191 2661769 or email:

steve.pullan@virgin.net

15 March. Northwest England Regional Ringing Conference. Leighton Moss, Lancashire.

Details from John Wilson email: johnwilsonpanurus@callnetuk.com

19 March. Watervoles in the Uplands: a National Conference. Hope Valley Derbyshire. Details from the Wildlife Trust Tel: 01773 881188 or email: uplandwatervoles@btopenworld.com.

24 - 25 March. International Sustainable Development Research Conference. Nottingham.

Details from Elaine White Tel: 01274 530408.

25 – 27 March. BES Annual Symposium – Biological Diversity and Function in Soil. Lancaster.

Details from annual meeting bookings Tel: 02088719797 or email:

1 - 4 April. BES meeting - The carbon Balance of Forest Biomes. Southampton.

Details from www.plantsci.cam.ac.uk/forestbiomes.

2 April. Surveying for Freshwater Mussels. Beinn Eighe, Kinlochewe.

Details from the IEEM office or the website www.ieem.org.uk.

3 April. IEEM/BES Joint Workshop. Biological Recording, Survey and Monitoring. Birmingham.

Details from Linda Marsh (l.marsh@ac.uk), The University of Birmingham, School of Biosciences (Shrewbury Office), The Gateway Education and Arts Centre, Chester Street, Shrewbury, SY1 1NB (tel. 01743 355137 fax: 01743 358951) by March 21st.

8 April. An introduction to Translocation of Great Crested Newts. Warrington, Cheshire.

Details from the IEEM office or the website www.ieem.org.uk.

8 April. The Water Framework Directive. IEEM’s First London Conference. The Friends House, Euston, London.

Details soon from the IEEM office or the website www.ieem.org.uk.

17 April. Great Crested Newts – Survey Handling, Licences and the Law. Little Wittenham, Oxfordshire.

Details from the IEEM office or the website www.ieem.org.uk.

14 May. What are the lessons learnt from the Public Inquiry? Otterburn Training Camp, Otterburn at 10.00am – 3.30pm. Part of the North East Sections members programme.

Details from Steve Pullan Tel: 0191 2661769 or email: steve.pullan@virgin.net

29 May - June 1. Working and Walking in the Footsteps of Ghosts – the ecology, archaeology and management of ancient woods and associated land – coincidence, conflict and compromise, or sustainability?

Details from Paul Howden-Leach. Tel: 0114 225 2988 / 0776 203 9214 or email: shu.ac.uk/sybionet