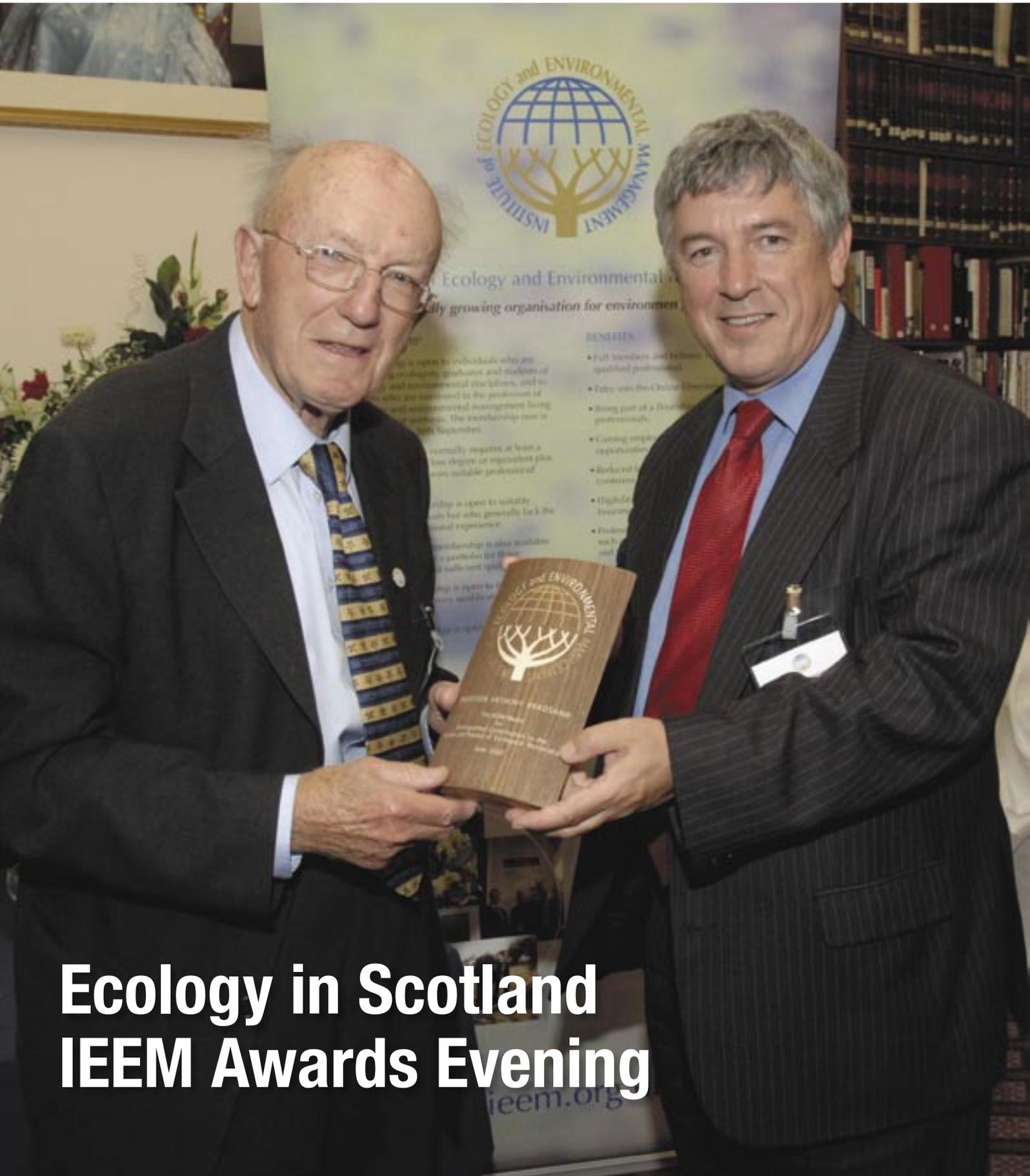




In Practice

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Ecology in Scotland IEEM Awards Evening

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Editorial

Scotland now has a new administration led by the Scottish National Party (SNP), which has pledged an 'all-out-drive' to transform environmental performance and make Scotland greener. Five themes have been identified: climate change; sustainable places; people and nature; consumption and production; and people and landscapes. The government intends to publish plans to deliver the next phase of the Scottish Biodiversity Strategy by spring 2008.

The Scottish theme of this issue of *In Practice* is timely as Scotland is moving forward into a new era of sustainability and environmental protection. Nine key organisations working in rural affairs and the environment have been tasked by Scottish Ministers to draw up proposals to deliver a single Rural Environment Service within a year, with the aim of building a simpler, more efficient service, operating as a single body, but without any change in legislation. This will include Scottish Natural Heritage (SNH), the Scottish Environment Protection Agency (SEPA) and others. In addition, the former Scottish Executive Environment and Rural Affairs Department (SEERAD) has been restructured and now comprises five Directorates. The Directorate responsible for rural delivery will be included in the Rural Environment Service. It remains to be seen whether this 'streamlining' will produce real benefits for the environment and there has been a mixed response from professionals to date.

Legislative 'streamlining' is also on the way and the government is to begin consulting on a Climate Change Bill. Cabinet Secretary for Finance and Sustainable Growth, John Swinney, said Scotland could have the most demanding statutory targets in the world and could be at the front of the global fight against climate change. He wants Scotland to become the green energy capital of Europe, although it is to be hoped that this does not mean purely wind energy but will include other renewables such as tidal and wave power. This leads nicely on to the proposed new Scottish Marine Bill, which should deliver a simpler regulatory system for the marine environment, more action on marine nature conservation, a strategic national approach and greater local control over marine and coastal areas.

There are many challenges facing environmental professionals in Scotland, not least how to balance development with conservation, such as the golf links proposed north of Aberdeen by Donald Trump. Land management in Scotland is also a major issue but in areas such as the Cairngorms National Park there are numerous initiatives to work at a landscape scale, such as the Forest Habitat Network. Balancing recreation and conservation in wild areas is a challenge facing Cairn Gorm Mountain and is described in the article by Cathy Mordaunt.

Scotland has many conservation successes, such as red kite and sea eagle reintroductions, which are now being extended to the east coast. The article on the Species Action Framework sets out the criteria for the Species Action List which focuses on the implementation of targeted management actions, including dealing with non-native invasive species.

Overall in Scotland there has been a change from protecting habitats and species in isolation to integrating humans and the natural world in a more holistic and sustainable way. This starts with education. A love of nature comes from childhood experience and we need to find ways to restore our natural connections if we are to effect change from the inside to the outside.

Kathy Dale CEnv FIEEM
Principal Ecologist, EnviroCentre Limited

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Cover image: Professor Tony Bradshaw FRS FIEEM receives the IEEM Medal from Sir John Harman, Chairman of the Environment Agency.

Photography: David Barratt, PhotoShot

Artwork on the cover will normally illustrate an article in, or the theme of, the current issue. The Editor would be pleased to consider any such material from authors.

Correction

The Envisage Wildcare leaflet enclosed with the previous edition of *In Practice* advertised badger fencing as 'Highways Agency Approved.' Please note that the Highways Agency does not operate an approvals system for this type of product.

Biosphere Reserves in Scotland - A Lost Cause?

Assessing the Potential for a New Biosphere Reserve in the Kyle of Sutherland

Brigitte Geddes, *IEEM Student Member*
University of the Highlands and Islands

The History of Biosphere Reserves in Scotland

In 2002 Scotland lost four of its eight Biosphere Reserves (BRs, cf. UNESCO Man and the Biosphere websites). This was not for any neglect of biodiversity objectives - far from it. It was quite simply because these Reserves did not fulfil the 1970s UNESCO objectives redefined for the 21st Century at the Seville Conference of the international Man and the Biosphere Committee in Seville, 1995. Amongst other things, it was found that they all lacked areas providing 'an opportunity to explore and demonstrate approaches to sustainable development on a regional scale', and 'a management policy or plan for the areas as a biosphere reserve, or designated authority or mechanism to implement this policy or plan...'

In the course of collating evidence for a dissertation exploring the potential for setting up a new BR in the Kyle of Sutherland (some 70 km north of Inverness), the author was able to establish that Scottish Natural Heritage (SNH) is one of the major agencies involved in managing our Scottish BRs. It is therefore hardly surprising that none of the de-listed BRs lost their status for ecological reasons (Price 2002).

Other European Biosphere Reserves

By comparison, because of its federal structure, Germany is not blessed with one single overarching conservation body such as SNH. Although Germany has 14 BRs, conservationists, ecologists and environmental campaigners have a much harder time trying to ensure that biological diversity and habitats are protected. It would be fair to say, however, that despite ongoing debates over conservation issues, the overall interaction between ecological and economic concerns in Germany is proportionately much more widespread than in Scotland. Naturally, this means that public awareness of the biodiversity message is a lot more advanced than in Wales, England and Scotland with only nine BRs between them.

Of course, you could argue that - geographical differences apart - Germany's history in social, economic and political terms has set a completely different agenda. The UNESCO Network of BRs is a worldwide organisation, however, and can boast a number of success stories which we would be well advised to study and observe, in case we can derive useful pointers that might inspire sustainable BRs in our own backyard.

In order to gain some insights into the reasons that may underlie BR success, the author decided to explore the Rhön BR in central Germany, approximately 100 km northeast of Frankfurt. It covers over 200,000 ha and forms part of three federal states - Bavaria, Hessen and Thuringia. With a population density of 65 km² (nearly 162,000 inhabitants),



*Bio Cattle
pasture,
Schafstein,
Rhön Biosphere
Reserve.*

there are bound to be much greater human demands on the countryside than in the sparsely-populated north of Scotland. The Rhön (like the Trossachs in Scotland or the Cotswolds in England) has always been a distinctive cultural landscape, but its existence on the edge of the Iron Curtain meant that, for quite some time, it had the reputation of being the 'Poorhouse of Germany'. The change came with unification and the award of BR status. Long-term and ingenious branding and marketing strategies, combined with determined efforts to help Rhön farmers to make the transition from intensive to extensive farming methods, have made the Rhön a wildlife haven and favourite holiday destination for visitors from all over Germany and further afield. Naturally, this has led to increased pressure on the habitats of some threatened species such as black grouse, but vast tracts of farming land are now free from pesticides and artificial fertilisers. The local brown trout is thriving again, the local breed of sheep has come back from the

brink of extinction and is making itself useful in controlling the rampant vegetation, and a Rhön-based retail chain can hardly keep up with demand for Rhön-bred 'bio beef' and 'bio lamb', to mention just two of numerous, highly popular Rhön products.

The undeniable success of branding and marketing a distinctive cultural landscape has not gone unnoticed in the UK. In early 2006 the Braunton Burrows BR in Devon managed to obtain £150,000 worth of funding for branding and marketing purposes (Bell, personal communication 2006). There have been new developments in Scotland too: in April 2005, one of our few remaining BRs – Galloway (in the southwest of Scotland) commissioned a detailed report (Hambrey 2005) examining how it might be possible to bring its management in line with guidelines laid down in Seville.. The study contains some extremely valuable observations, but may not have gone quite far enough to engage stakeholders at grassroots level: the agricultural 'foot soldiers' that have to do battle day-by-day with pests, diseases, and the vagaries of the Scottish climate. That's where the real challenge lies.

Core, Buffer and Transition Zones

There are indications that the strict delineation between core (scientific activities only), buffer zone (light recreational use) and transition zones (main areas of interaction between farming and conservation interests) may be handled in a more relaxed manner in future. It is expected that as long as activities are compatible with conservation objectives, they will be permitted in core zones. Regardless of the outcome of any such deliberations, it seems vital that the identification and definition of buffer and transition zones will have to be negotiated in round-table discussions with stakeholders from all levels of the local economy. After all, individual BRs can vary widely: some core zones are in military exercise areas (Rhön: Wildflecken); some specialise in renewable energy including wind farms (Dyfi in Wales), whereas others rich in stork habitat (Spreewald, southeast of Berlin) have implemented a complete ban on wind farms.

The Case for a Kyle of Sutherland Biosphere Reserve

There is substantial evidence for economic and general benefits from Rhön BR branding and marketing, as well as a high level of support among Kyle of Sutherland respondents for a future BR (Geddes 2006), with respondents ranging from crofters, farmers and estate owners to beekeepers and restaurateurs.

Funding Opportunities

Despite continuing pressure on the budget for rural development projects, funding may be available from a variety of sources. In fact, for long-term funding it may be better not to depend solely on UK Government or even EU sources because successful BRs are characterised by visions that extend far beyond the current generation and/or relatively short-lived political horizons. It may, therefore, be preferable to follow the funding model adopted by the Eastern Carpathian Biosphere Reserve (ECBC). The ECBC obtained combined funding of US\$26.5 million from organisations such as the Global



Heifers controlling birch regeneration in juniper pasture, Wickers, Rhön Biosphere Reserve.

Environment Fund, set up by the World Bank, UN Development Programme, and the UN Environment Programme, with various options for investment and/or use of these funds.

Money is an essential prerequisite for pump priming, but too much external support may well foster a dependency culture thus jeopardising long-term success. The goal is to get the mix just right. In that context it proved interesting to analyse the strengths and weaknesses, opportunities and threats (SWOT)

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View of Kyle of Sutherland from Culrain Railway Footbridge.

inherent in biosphere status with a special focus on the Kyle of Sutherland (on the east coast of Scotland), with its population density of 2 people km⁻² - even lower than the Eastern Carpathian BR (5 people km⁻²) - but a ready-made target market of 60,000 inhabitants (and rising) in relatively-nearby Inverness.

Quality Economics and SWOT Analysis

The important thing is to avoid attracting mass tourism with its dual threat of jeopardising the carrying capacity of vulnerable habitats and at the same time losing valuable sources of income to operators from outside the area. Instead, priority should be given to quality economics (UNESCO 2005) by for instance promoting smaller-scale tourism ventures making good use of existing bus, road and rail links. Another example of quality economics is to encourage and assist crofters and farmers in adapting their animal husbandry, agricultural and horticultural operations to direct sales and local marketing of 'bio' products. The East Sutherland Producers initiative has already made a start on this and would clearly benefit from branding/marketing/working on a larger scale. There are opportunities for archaeological tourism, health tourism, and wildlife tourism to BR sites of excellence (Price 2002) and living laboratories (UNESCO 2006). These would make use of the rich cultural heritage and crofting traditions of the area, celebrating its quality of life and forging links with new developments such as the neighbouring North West Highlands Geopark and the Camore Wood Amphitheatre at nearby Dornoch (to be completed in the next few years). Another BR-relevant development is the permaculture project being undertaken by Gledfield Estate, Ardgay. Core areas for scientific research have been identified in Ledmore/Spinningdale Wood and the River Oykel catchment, both Special Areas of Conservation, as well as present and future community woodlands in the area.

Adversarial Paradigms

Old habits die hard, but is it not high time to overcome adversarial paradigms and start bridging the chasm between conservationists and farmers, ecologists and economists? Current hierarchical structures may militate against this – it is difficult for a supertanker to change course – but a lot can be achieved by goodwill among individuals who share a common goal – by setting up introductory forums which define the

framework for a thriving BR.

Until recently, such pleas might have fallen on deaf ears. However, gradually now it is dawning on specialists that a more holistic approach might benefit even their own specialist field. For example, some economists working in the public health sector in Scotland are beginning to realise that good physical and mental health can actually make a difference to the wealth of the nation (Ward Thompson, 2006). BRs are ideally placed to help achieve such objectives.

In their study 'Economic Perspectives of Using Indicators', Osinski *et al.* (2003) examine the interrelation of ecological and economic aspects through the use of indicators. The authors quote Bräuer (2003) who argues that through the inclusion of monetary values in the assessment process it is possible to deal with issues of economy vs ecology on a factual level. The authors also quote Gerowitt *et al.* (2003) who argue that the price of an ecological good should be determined principally by its value to the public, not by the cost of production, and that a market-oriented system should be implemented for environmental goods. In a nutshell, the authors argue that by placing monetary values on ecological goods, it would be possible to enter such values into models which allow scientific assessment. The authors seem to suggest that such models could form the basis for political decision-making. Particular reference is made to a model used by Meyer-Aurich and Zander (2003) in connection with a case study from the Schorfheide-Chorin Biosphere Reserve, Germany.

What has all this to do with ecology and environmental management, you may ask yourself. On the other hand, you might feel that to continue to pursue the interests of ecology and economy in isolation from each other is exactly the sort of divisive thinking that has dropped the time bomb of climate change into our laps. How long have we heard politicians quote the phrase 'joined-up thinking', and how many examples do you know where this is actually being put into practice?

BRs offer genuine opportunities for this much-needed but ever-elusive joined-up thinking. Let us practise what others only preach and give BRs a chance. In Scotland, Scottish Natural Heritage is uniquely placed to facilitate a more proactive approach to achieving the overriding UNESCO goal: to balance the ecological, economic and social functions of BRs – by helping to set up administrative structures and introductory forums which reflect the great variety of interests that compete

for space in the countryside. The multi-faceted nature of these interests requires continual reconciliation, and it is not fair to expect that this can be achieved single-handedly by a government agency whose main priority is conservation. To pursue economic aims at the expense of ecological systems is a recipe for loss, if not disaster. We ought to ask ourselves whether the reverse is not perhaps just as true.

The full dissertation is available in as a PDF from the author: bg@allezweb.co.uk.

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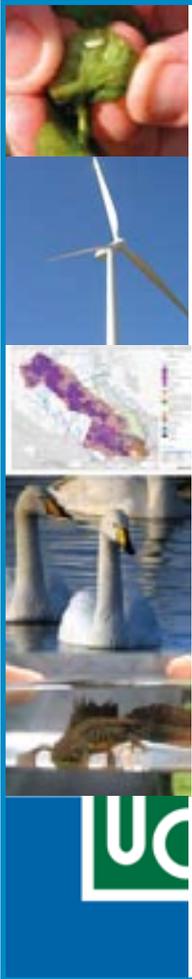
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The Species Action Framework – Managing Key Species in Scotland

Martin Gaywood

Species Action Framework Programme Manager, Scottish Natural Heritage

Background

Scotland has some of the best wild areas and most iconic species in the whole of Europe – we have a clear responsibility to look after them. Scotland's biodiversity is a vital part of our natural and cultural heritage that enriches and underpins our lives – it provides us with essential ecosystem services. However, our actions have had a profound impact on Scotland's biodiversity – and the Millennium Ecosystem Assessment has highlighted that human actions are threatening the ability of the earth's ecosystems to sustain us in the future.

Over recent years steps have been taken to address these threats at global, European, national and local levels. The UK is a signatory of the Convention on Biological Diversity and of the EU target to halt the loss of biodiversity by 2010. In Scotland, the Nature Conservation (Scotland) Act 2004 places a duty on all public bodies to further the conservation of biodiversity, and the Scottish Biodiversity Strategy sets out what we need to do over the next 25 years to conserve and enhance biodiversity.

We now need to prioritise actions, focusing on species where we expect significant gains to overall biodiversity can be achieved, and thereby benefitting the people of Scotland. Biodiversity conservation sometimes demands management of individual species.

The Species Action Framework sets out a strategic approach to species management in Scotland and presents a list of species where we believe new, focused effort and resources over the next five years by ourselves and our partners could make the most difference to biodiversity. However, we will continue to address the conservation requirements of many other species not on this list – for example, through promoting sustainable land and water management, the existing network of protected sites, and species protection legislation.

During 2006, SNH consulted on the draft framework. This process sought support for the concept, as well as suggestions for species to be included on the Species Action List. The Species Action Framework was launched in January 2007 by the Deputy Minister for the Environment and Rural Development.

Why Do We Manage Species?

Species as Components of Habitats and Ecosystems

Habitats and ecosystems contain assemblages of species, reflecting the character of their surrounding environment. Within healthy ecosystems, species populations are not fixed at particular levels, rather their abundance and distribution fluctuates and their genetic make-up alters naturally in response to environmental change. Healthy and resilient ecosystems will maintain not only biodiversity but also the services on which human life depends.

What is a Healthy and Resilient Ecosystem?

An ecosystem is a community of plants and animals interacting with each other and with their environment. Resilient ecosystems

are those capable of coping with disturbances, like storms, fire and pollution, without losing their overall structure and ability to function; to organise themselves and to recover from, or adapt to, change. A healthy ecosystem is one that continues to provide the services that support all life. It is also one in which species continue to find a niche, recognising that evolutionary forces may cause some species to decline or become extinct and new species to evolve or increase.

It follows that biodiversity outcomes are usually better achieved not by managing individual species but by improving the habitats and ecosystems on which they depend – action to promote healthy systems and sustainable land and water use so that natural processes can come to the fore.

Sometimes Management for Individual Species is Justified

However, because many habitats and ecosystems have been extensively modified by people there are circumstances where, in our view, it is justified to focus management on individual species. By 'species management' we mean: *action targeted to modify the population, behaviour, or habitat of a given species (or the human activity that influences it) in order to achieve biodiversity aims.*

'Species' management and 'broader' management are distinguishable from each other primarily by their objectives (to change the fortunes of a single species in the former situation, or an assemblage of species in the latter). Species management can of course be controversial: public attitudes about individual species may be polarised. We therefore recognize a responsibility to make the basis for species management decisions as clear as possible, and to encourage others to do so as well.

Species Identified for Management

The 'Species Action List' in the Framework identifies species for which clear, targeted action would currently be most helpful. The List was drawn up using the criteria set out below, and takes into account responses received during the consultation.

Criteria Used to Define List of Species for Management

Stage 1: Species qualifying for management:

- 1a. Native species that are critically endangered in Scotland or elsewhere, or demonstrating significant decline, or for which Scotland is a stronghold (including species that are only found here, i.e. endemic), and there is a continuing threat to the species in the immediate future.
- 1b. Formerly native species now extinct in the UK, whose international conservation status could be improved by reintroduction to Scotland or which could play a significant role in enhancing ecosystem health and resilience.
2. Non-native species present in Scotland and assessed as presenting the greatest risk to biodiversity of high conservation value.
 - 3a. Native species that are threatened and that are the focus of conflicts of interest with stakeholders with other objectives, and for which coexistence appears most insoluble.
 - 3b. Native species that threaten wider biodiversity aims whether

ecosystems, habitats, or other species.

4. Native species that provide important socio-economic benefits in the wild and whose use impacts upon biodiversity – this may include exploited species which are a conservation concern or exploited species which are not a conservation concern but may threaten wider biodiversity interests.

Stage 2: Species that qualify under Stage 1 were then assessed against questions about the practicality and feasibility of delivering benefits for biodiversity:

5. Is there sufficient knowledge of the species (ecology, requirements etc.) to inform management action? (If not then such species should become a research priority).

6. Is targeted action likely to make a difference? Assessed through three questions:

6a. Can an effective species management action be identified? Where no effective solution can be identified the situation may become a research priority. In some cases species management may realistically not be able to address the reasons for decline of species identified under Criterion 1a. This assessment should take account of the effectiveness of any management already undertaken.

6b. Would the targeted action raise awareness of biodiversity issues more broadly?

6c. Does the species have a key influence on ecosystem function so that its management would contribute to wider ecosystem health and resilience?

7. For species under Criterion 1a, particularly those that are still widespread in Scotland would 'broader management' improvements to their habitat or ecosystem be more effective in the species' recovery than action targeted at the individual species? If so, 'broader management' is the preferred approach.

8. For species under Criterion 1b would any reintroduction proposal once developed into a project be likely to meet the IUCN Guidelines, e.g. sufficient habitat and public support?

The Species Action List is not meant as an alternative or replacement for either the list of Priority Species of the UK Biodiversity Action Plan (UKBAP) or the Scottish Biodiversity List of the Scottish Biodiversity Strategy. On the contrary, it is designed to serve as an important contribution to both the UK and Scottish biodiversity processes. The significance of this new list is that it focuses on the implementation of targeted management actions.

There are some species which clearly pass the criteria but have not been included on the list – examples are included below. That is because in many cases we and our partners are already undertaking significant work on them or we have existing commitments to manage them. Other species are not on the List because we do not think they satisfy the criteria, at least not at the moment. Again, this does not automatically mean that no action will be taken on these species. Finally, others are not listed since 'broader management' is a more appropriate way of enabling their recovery – many marine species fall within this category.

Situations Where Species Management May be Appropriate to Achieve Biodiversity Aims

1. Species conservation - where targeted action is focused on the needs of a species to increase its range or population size because it is at risk in Scotland or internationally, or because it plays a vital role in achieving healthy ecosystems.

The following species will be the focus of new action under this heading for the next five years:

- Vertebrates – native species
 - Black grouse
 - Capercaillie
 - Great crested newt

- Greenland white-fronted goose
- Red squirrel
- Scottish wildcat
- Vendace
- Water vole

- Vertebrates – formerly native species

- European beaver
- White-tailed eagle

- Invertebrates

- Freshwater pearl mussel
- Great yellow bumblebee
- Marsh fritillary butterfly
- Pearl-bordered fritillary butterfly
- Pine hoverfly
- Slender Scotch burnet moth

- Plants and fungi

- Bird's nest stonewort
- Intermediate wintergreen
- Lesser butterfly orchid
- Small cow-wheat
- Woolly willow
- Hazel gloves fungus

2. Invasive non-native species - where species that are not native to a particular area threaten biodiversity aims (see further explanation below).

SNH's own priorities will relate mainly to the control of such species where they affect sites, habitats and species of high nature conservation importance including genetic as well as ecological threats. The following species will be the focus of new action under this heading for the next five years:

- Vertebrates

- American mink
- Grey squirrel (with regard to red squirrel conservation)

- Invertebrates

- North American signal crayfish

- Plants

- New Zealand pygmyweed
- Rhododendron ponticum* and its hybrids
- Sargassum muticum* (wireweed)

3. Conflicts of interest involving native species - when the behaviour of a species brings it into conflict with people's interests or with the conservation of other species or habitats.

The following species will be the focus of new action under this heading for the next five years:

- Vertebrates

- Hen harrier

4. Sustainable use of species - where a species in the wild is a resource of social or economic benefit (e.g. field sports, fisheries). Use should be carefully managed, especially if it impacts upon biodiversity aims by threatening the target species' population or affecting the food webs and ecosystems in which the species plays a part.

The following species will be the focus of new action under this heading for the next five years:

- Vertebrates

- Native deer (red deer and roe deer)

- Invertebrates

- Native oyster

Examples of species where management action is underway or being planned

The Species Action List identifies a range of species where new action is planned over the next five years. However, SNH and its partners are already carrying out, or are committed to carrying out, a range of positive management work on species which are not identified on the List. For example:

Corn bunting and corncrake
New Forest burnet moth
Hedgehog (on Uists)
Barnacle goose

Why are Some Non-Native Species a Threat to Biodiversity?

We value native species (*i.e.* primarily species which have arrived since the end of the last ice age without assistance from humans) as key parts of our natural and cultural heritage. People have introduced species to Scotland for farming, forestry or horticulture for hundreds of years. These contribute to our economic prosperity, as well as the attractiveness of our gardens and diversity of our landscapes. Some non-native species have arrived accidentally, *e.g.* in the ballast of ships.

Most non-native species never establish in the wild because they are not suited to our environment. Of those that do, a few become invasive, taking advantage of the absence of pests and diseases from their country of origin. These species can damage the Scottish environment through competition with, predation of, or transmission of disease to, native species. Some also damage economic interests in agriculture, forestry or fisheries, or threaten public health. It is costly and probably impossible to control or eradicate many of them. So efforts focus on preventing the arrival and establishment of those non-native species likely to become damaging. Action is needed to minimize the impact from any that establish and cause damage.

A programme of action on these species, which will link with the Framework, is being taken forward through the Scottish Working Group on Invasive Non-Native Species.

How Do We Manage Species for Biodiversity?

The following five principles should guide all species management:

1. Species Management is a Shared Responsibility

The overall responsibility to safeguard biodiversity rests not just with SNH but with all public bodies, private companies, voluntary organisations and individuals. They need to look at how they can contribute to the actions identified for these and other species, by integrating biodiversity aims into economic, social and land use policies. The UKBAP and Scottish Biodiversity Strategy both emphasise the importance of this partnership approach.

Public attitudes and interests inform acceptable approaches to species management. Sometimes, of course, coexisting with the natural world means that we all need to learn to live with wild species.

2. There are Ecological and Socio-Economic Aspects to Species Management Decisions

This means, for example:

- Species conservation action should take into account any socio-economic and environmental costs of management options.
- Decisions on how to deal with invasive non-native species involve both ecological and practical considerations. In many situations delay in taking action may make control impossible.
- Management to address conflicts of interest involving native species and people should take into account any risk to the species' conservation as well as the risk to economic or social

interests. Similar judgments are needed where a native species affects other biodiversity interests.

- Management to deliver sustainable use of species needs to take into account affected interest groups, as well as wider ecosystem impacts of patterns of use.

3. Species Management Benefits From a Strategic Approach

In the same way that it is better to manage habitats or ecosystems rather than species, so – when species management is appropriate – a strategic approach is better than taking case-by-case decisions. A strategic approach should consider interactions between species, and the needs of the species throughout its range rather than only in a single location. Management may need a national or regional rather than just a local approach. It should take account of broader land and water management policies, and wider environmental change. This is particularly important in light of climate change and its expected significant effects on many species across large areas.

4. Species Management Needs an Adaptive Approach

Species management needs to be regularly re-assessed against new research, survey, and monitoring to ensure the action is most likely to be effective. Adaptive management involves learning-by-doing, with responses reflecting changing circumstances, increasing knowledge and regular reviews of the methods used. Species and ecosystems are complex. We will never know everything about species and their management, but lack of complete knowledge should not be used to delay necessary but difficult action.

5. Management Activity Should Have Regard to Animal Welfare

Disease, food shortage and predation are natural processes integral to how ecosystems work. However, species management actions should follow accepted best practice in the welfare of animals and demonstrate a clear rationale where the welfare of animals may be affected through management action.

An example of how to apply the principles: Goose Management Framework

1. Species management is a shared responsibility - goose policy is coordinated and informed by the National Goose Management Review Group that includes all relevant stakeholders, and is delivered in a partnership between local land managers and public bodies.
2. There are ecological and socioeconomic aspects to species management decisions - decisions on the national policy framework, and on when a local goose management scheme is appropriate, are informed both by evidence of economic impact and the implications of different management options for the conservation status of goose species in Scotland and elsewhere.
3. Species management benefits from a strategic approach - a national policy framework, and international flyway plans, inform the development of local management schemes.
4. Species management needs an adaptive approach - local management schemes are informed by regular goose counts. Population viability analyses of goose populations at Scottish and wider levels are fed into regular reviews of the national policy framework.
5. Management should have regard to animal welfare - where control is allowed, geese are managed using humane methods with carefully controlled shooting only permitted during certain periods of the year.

The Cairn Gorm Monitoring Scheme

*Cathy Mordaunt CEnv MIEEM
Ecologist, Mountain Environment Services
Ecologist in charge of the Cairn Gorm Monitoring Scheme, 2002 - present*

Background

The Cairn Gorm funicular was completed in December 2001, following over a decade of planning and associated controversy. The planning consent required a Section 50 agreement to manage the direct and indirect impacts of the development, with a planned expansion of non-skiing visitors of over 1000% on the funicular relative to the two chairlifts that it replaced. The Section 50 agreement is designed to protect the natural heritage of the area and to ensure that the developments, particularly but not exclusively the funicular, do not adversely affect the integrity of the adjoining Natura 2000 site and areas designated a Site of Special Scientific Interest (SSSI) and a National Nature Reserve (NNR).

In essence, the Section 50 agreement requires Highlands and Islands Enterprise (HIE) as the owner and more specifically Cairn Gorm Mountain, the operating company for the funicular railway and ski area, to manage a 'closed system' at the Ptarmigan building, where the train terminates near the top of Cairn Gorm, outwith the ski season. During the ski season funicular passengers, whether undertaking snowsports or not, are required to remain within the ski patrolled area, which does not include the summit of Cairn Gorm. This system has operated since the funicular railway opened.

A Visitor Management Plan was required by the Section 50 agreement, in which the owner (HIE) and operating company (Cairn Gorm Mountain, formerly the Cairngorm Chairlift Company) undertake to set up and maintain a monitoring scheme, to identify the direct and indirect impacts of the funicular development on the surrounding area. This scheme was initiated during 1998, with baseline surveys carried out in 1998, 1999 and 2000, and continues on an annual basis *ad infinitum*.

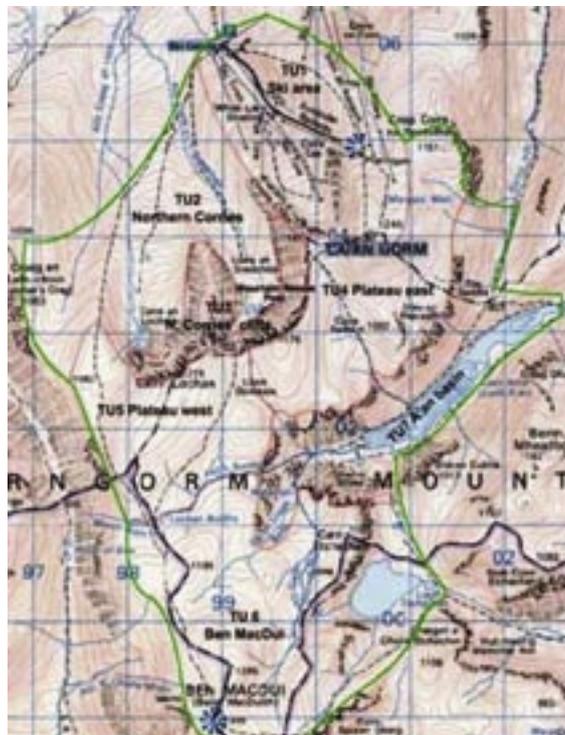
The Monitoring Scheme at Cairn Gorm

The area covered by the monitoring scheme is approximately 30 km², including the summits of Cairn Gorm and Ben MacDui, the northern corries (Coire na Ciste, Coire Cas, Coire an t-Sneachda and Coire an Lochain), Loch A'an, Loch Etchachan and the plateau area between these points. The different elements for study are:

- visitor numbers and behaviour throughout the area, by questionnaire and observation;
- footpath length and condition;

- habitat condition;
- dotterel breeding numbers;
- condition of a range of geomorphological features;
- soil condition; and
- an aerial survey of the whole area at 1:10,000.

Some elements are repeated on an annual basis whereas others may only be repeated every 10 years, or as required. The effort is adjusted according to what is considered to be under threat.



Monitoring scheme area.

Each year the operating company compiles a report containing data collected and presents this to Scottish Natural Heritage (SNH) and The Highland Council (THC), co-signatories of the Section 50 agreement. This is then independently examined by a Reporting Officer, who may undertake any necessary statistical analyses and will make recommendations to SNH and THC for any changes in the future. SNH/THC then returns to the operating company with their own requirements, based on assessment of the operating company's and the Reporting Officer's reports, for the following year.

Pre-Funicular Baselines

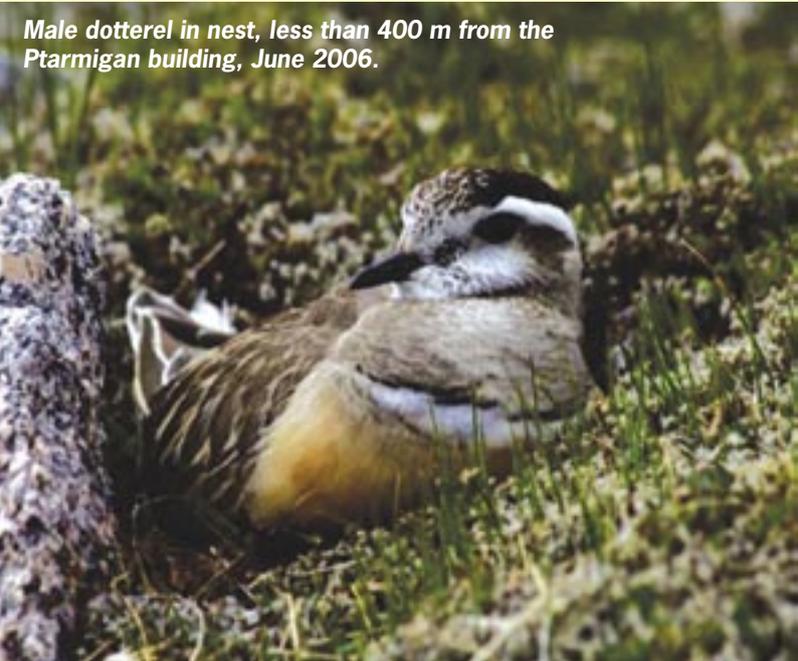
To date there has been variable success with the monitoring scheme. Some elements were successfully covered during the baseline period, while others were more problematic. Methodologies that work well in less extreme environments were found to be unrepeatable in the harsh

conditions of the Cairn Gorm plateau, while practical issues emerged relating to the stability of 'permanent' markers. In some instances, the data generated just did not have the power to detect changes at the level required to deliver the scheme.

Of those elements that have been repeated to date, only the dotterel survey and the aerial photography have sound pre-funicular baselines. The number of cars in the Coire Cas car park has also been consistently recorded, though this is done separately by THC.

Clearly it is impossible to assess the impact of the funicular without adequate baseline data. There has therefore been a shift in emphasis away from a funicular-centric focus to one that deals more generally with management requirements. While this is complex, involving ground owned by five different landowners, there is some merit in attempting to have a wider outlook. However, this does not necessarily sit comfortably with the Section 50 agreement, in that it acts as an insurance

Male dotterel in nest, less than 400 m from the Ptarmigan building, June 2006.

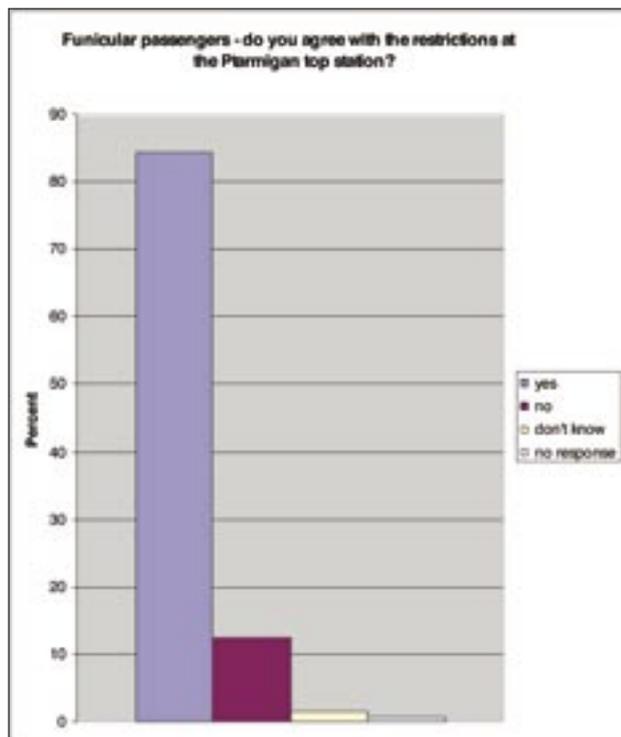


against adverse impacts but can only be brought to bear on those directly related to the funicular.

Results

Insofar as it is possible to make an assessment of the impact of the funicular and the associated access restrictions. There are now hints of some evidence of ecological improvements in the area around the summit of Cairn Gorm. This is apparent in the dotterel survey, which shows no change from the mean in their core area away from Cairn Gorm, but for two years (in 2006 and 2007) the numbers in the region around the Ptarmigan building and Cairn Gorm itself have been above average.

Other surveys, for example, made over the period 2002-2006 of visitor numbers and behaviour on the hill, show changes that are statistically significant. Path use in certain areas has increased, while minor paths and off-path use has decreased.



Level of agreement with access restrictions at the Ptarmigan among funicular passengers.

The main route to Ben MacDui, presumably because the short-cut via the chairlifts and the alternative route over Cairn Gorm has been removed, sees more traffic year on year. It is also possible to see the effects of these changes in the aerial survey.

Efforts are being made to replace the time-consuming and difficult job of collecting data by people with automatic people counters. These have had some success, but there are practical issues with their operation and downloading in this harsh environment, which have yet to be completely resolved.

Increase in use in one or two places has led to footpath damage and a greater management requirement. This is facilitated by the monitoring scheme and can be used as an early-warning system for future management requirements.

Visitor questionnaire surveys of funicular passengers and walkers show some interesting results; most funicular passengers (82%) would leave the Ptarmigan building to go for a walk if they could (though only 10% would take a long walk), while only 60% of walkers would use this short-cut to go for a generally longer walk. However, 85% of funicular passengers agree with the restrictions and that proportion appears to be growing. The provision of good interpretation appears to be crucial in generating understanding and approval, which itself leads to compliance. In terms of compliance, the recorded 'leakage' from the Ptarmigan building is a fraction of 1% of the total funicular passenger population and not considered to be at all significant.

Some surveys have not yet been repeated, namely the geomorphology and soil surveys. These will be repeated as and when SNH/THC decide that the features they cover are likely to have experienced any change. This might be triggered by, for example, changes seen in the distribution and/or behaviour of recreational users via observations, questionnaire or automatic counters.

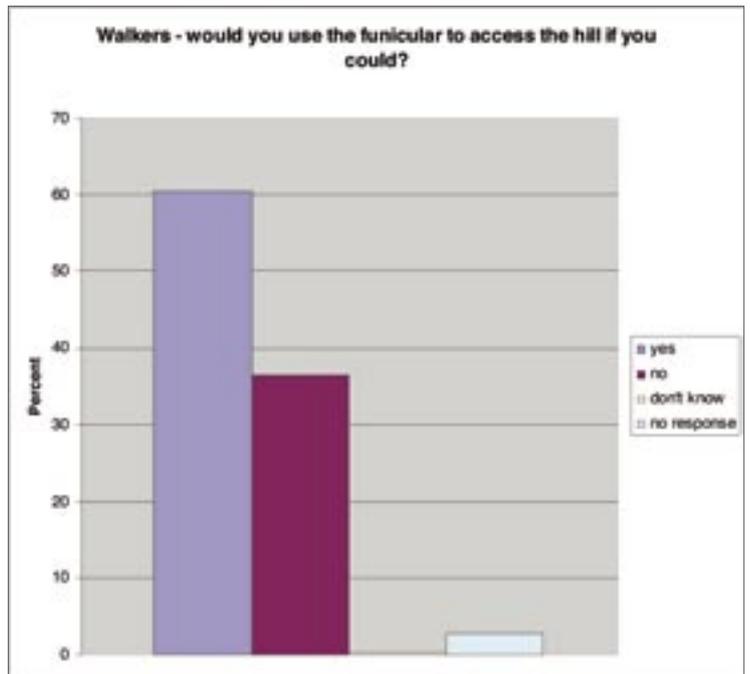
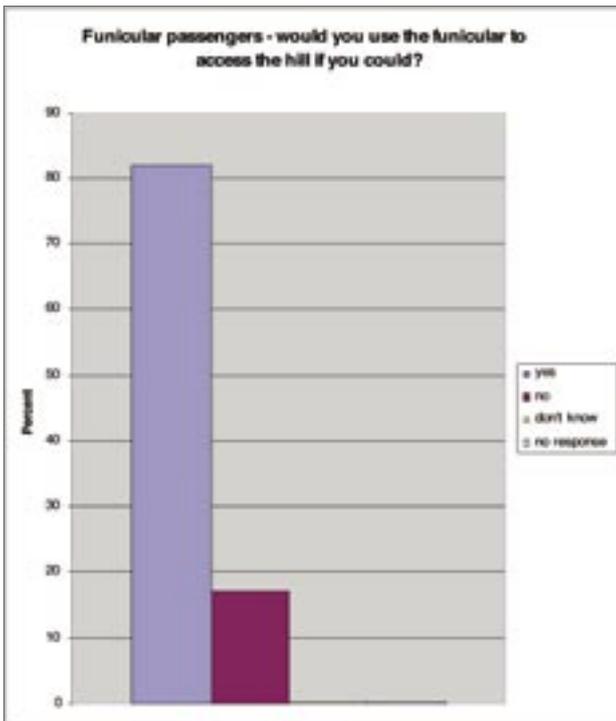
Discussion

Where robust pre-funicular baselines exist, and have been repeated, there is already a valuable data set with sufficient chronological length to allow trends to be identified. Where the pre-funicular baselines are not useable, other methodologies have had to be developed. This is a slow process; first the initial methodology has to be found wanting, then testing of each new methodology takes a minimum of one year and the assessment of the results has, on occasion, taken longer, a consequence of the number of organisations involved.

The principles that have directed the development of successful methodologies have been as follows:

- permanent features such as large boulders can be used as markers; adding markers to the environment is unsuccessful as they are seen as intrusive (and removed by people) and are subject to cryoturbation etc, so are rarely actually permanent;
- photography in conjunction with GPS is used for relocation; each element requires the other for accuracy;
- data collection needs to be physically active as static periods of more than about five minutes are intolerable in poor weather;
- allowance must be made for poor weather when planning fieldwork; for each successful day, there will be at least one day that should not be used; and
- data collected in poor conditions is often suspect and cannot be used.

Time is required before many of the elements of the current



Extent to which funicular passengers and walkers would leave the Ptarmigan building in summer if they could.

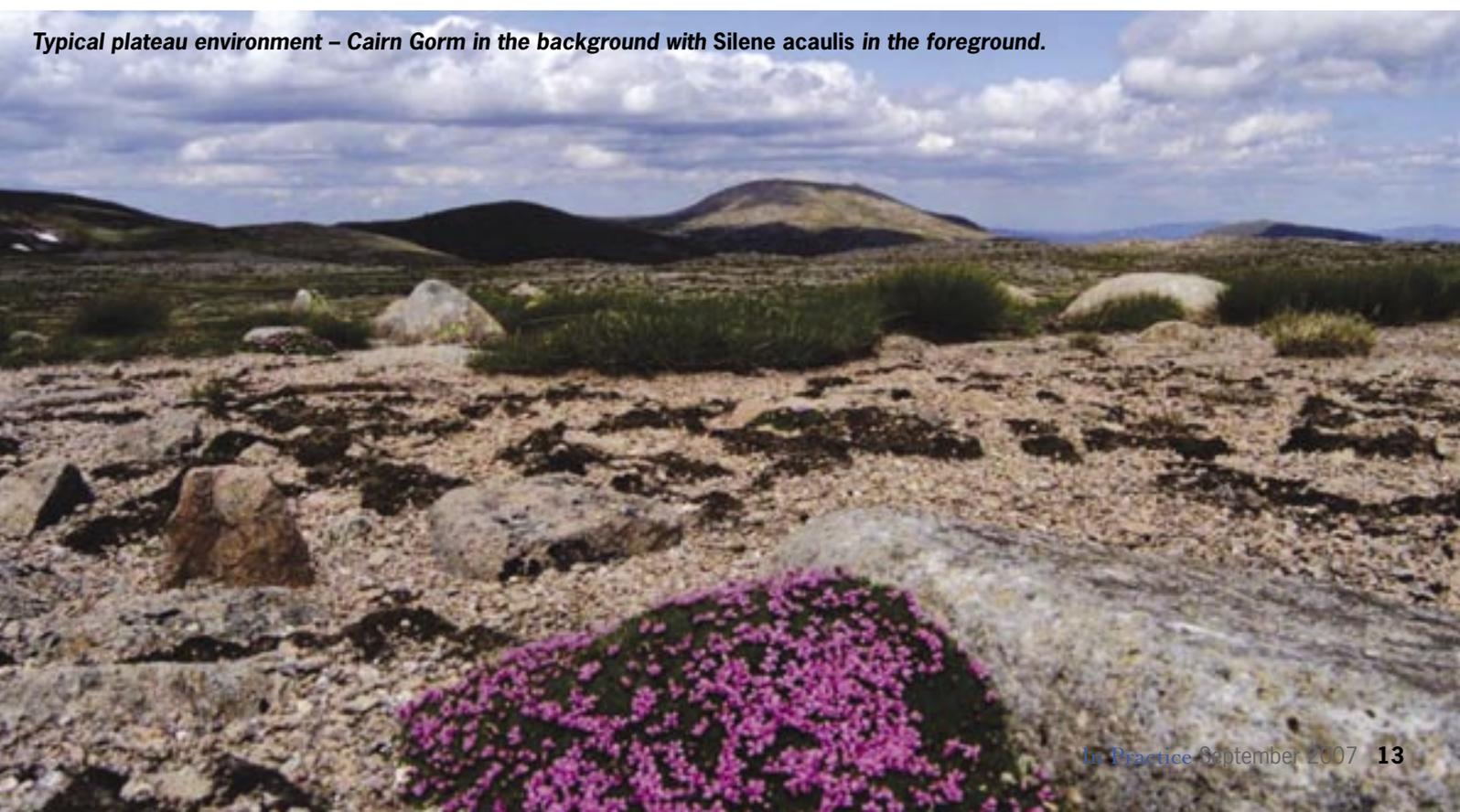
scheme can show statistically significant results. When this is finally the case, then there will be considerable scope for developing integrated management for real ecological benefits across a wide geographic area and diverse land ownership.

Conclusion

Hampered as it has been by a lack of useable pre-funicular baselines, the Cairn Gorm monitoring scheme is, nonetheless,

beginning to develop into a valuable tool for directing management in an area that experiences heavy recreational impacts as a result of the ease of access via the Coire Cas car park. While still a considerable burden on the resources of those required to carry it out, with time it should generate better data and thus a greater return on its investment (time and money). It is apparent that the value of the data goes far beyond just the impact of the funicular and covers the much wider range of impacts across the whole of the Cairn Gorm plateau and Northern Corries.

Typical plateau environment – Cairn Gorm in the background with Silene acaulis in the foreground.



Progression into the Profession

A Student's Insight into the Disparity Between Graduates' Skills and Employers' Expectations

Anonymous Student Member

With the high publicity surrounding issues such as climate change and species endangerment, ecology and environmental degrees are becoming increasingly popular subjects to study at university. There exists something of an excess of graduates with degrees in ecology, resulting in notoriously fierce competition for jobs. Despite this, prospective employers claim that job applicants exhibit a distinct deficit of the skills necessary for a career in the environmental sector. How can the attributes of job applicants and the expectations of employers differ to such a great degree?

It is my belief that the predicament is a result of misconceptions regarding the value of ecology degrees amongst those attempting to enter the profession, and even some employers. The general perception is that an ecology degree provides a graduate with the complete portfolio of skills required for employment in any branch of the environmental profession, with no other qualification necessary; in reality, this is not the case. That is not to imply that a degree is not a valuable aspect of an ecologist's education, but rather that a degree confers upon a student a very specific suite of skills.

In order to appreciate the value of a degree to a practising ecologist it is necessary to examine the nature of a typical ecology degree. The points discussed below may seem obvious to those who have read ecology at university, but they may stand reiteration since their significance is often overlooked. They are certainly not obvious to those who have had no experience of academic ecology.

1. An ecology degree is a Bachelor of Science, and as such is founded in academic science.

- In general terms, this means that the emphasis is on teaching students to discover things for themselves, rather than encouraging them to learn the *status quo*. Specifically, it grants students in depth knowledge of the way in which scientific investigations are carried out, an ability to research information in the scientific literature, and the ability to collect, statistically analyse and evaluate data and present findings through means of a formal write-up. These skills are instrumental for a student who intends to pursue a career in academic science. They are also valuable for professional ecologists when they are required to work alongside academics or extract pertinent information from the scientific literature.

2. Ecology degrees are generally taught in biology departments.

- As a result of this most of the academic staff are biologists and many of the students initially read biology before specialising in ecology, resulting in a strong biological bias. Outside the core ecology modules, students tend to take

peripheral courses in biological subjects such as genetics and cell biology rather than complementary courses offered by other departments, such as geography, geology, environmental chemistry, economics, management and policy. Consequently, most ecology graduates are better qualified for a job with biological components than a one which overlaps with the environmental science profession.

3. In most degrees there is little or no formal teaching of 'natural history'.

- By 'natural history', I refer to familiarity with domestic fauna and flora, habitats and common management prescriptions. Some universities provide a brief introduction to 'natural history' type knowledge on field courses, but these are often restricted to 1-2 weeks per year, and many universities hold their field trips overseas. There are opportunities for students to familiarise themselves with the natural world during coursework projects, but students tend to be almost exclusively interested in charismatic megafauna, and supervisors have a tendency to encourage students to specialise in very narrow fields at the expense of general knowledge. A good working knowledge of natural history is not essential for all branches of ecology, but in many of the roles a professional is called to fill, it makes things simpler: general knowledge may allow an ecologist to carry out briefer, better targeted research, and may earn him/her greater professional respect.

4. The majority of assessed work takes the form of essays and scientific write-ups.

- The degree class that a student obtains is therefore dependent upon his/her expertise in analysing and evaluating information, memorising facts and presenting findings through the written medium. Although these abilities are essential in a practising ecologist, there are also other skills an ecologist requires which are not formally assessed as part of a degree, such as field skills and verbal communication. The degree class may not necessarily therefore be a reflection of how a student will perform as a professional ecologist.



An ecology student in the field.

In summary, graduates in ecology can be expected to be fairly intelligent, have a good work ethic, possess a good understanding of the theoretical principles of ecology and biology, be familiar with the scientific process, be able to carry out research in the scientific literature, be able to collect, analyse and evaluate data and prepare written reports. It cannot however be assumed that a graduate has a knowledge of natural history or academic fields complementary to ecology, such as environmental science.

The most widely advocated method by which students may acquire a background ecological knowledge complement to their academic education is through conservation volunteering. In the summer months opportunities exist to carry out wildlife surveys, allowing a prospective ecologist to become familiar with the UK fauna, flora and habitats, and opportunities also exist to interact with the public, improving a student's communicative skills and making him/her aware of some of the political issues in the environmental sector. In the winter volunteers may get involved in habitat management, giving a prospective ecologist an appreciation of the practical side of the profession. Whatever the nature of the work a student may learn a great deal from association with experienced and knowledgeable staff and volunteers.

Prospective ecologists and employers can benefit from recognising both the value and limitations of ecology degrees, in order to facilitate the identification of additional skills necessary for a career in any specific branch of the ecology profession: the prospective ecologists so that they can acquire the skills, the employers so that they can seek job applicants in possession of them. Many ecology students, generally those who are motivated to read ecology at university after consideration of the profession, are conscious of the need to

gain knowledge of the natural world. Sadly, many students are not familiar with the profession, especially those who apply to study biology at university and then specialise in ecology due to enjoyment of or strength in the subject rather than consideration of life outside education. These students tend not to recognise the fact that they lack essential skills required for a career in the profession. Upon failure to find employment many students proceed on to do one or more Master of Science degrees, unaware that although a postgraduate education will advance their academic knowledge and skills, it will not address the gap in their learning under discussion here.

Academic staff in universities have perhaps the best opportunity to enlighten students as to the need to complement their academic learning with an applied education, but whether it be due to the failure of academics to recognise the problem, limited communication between staff and students, or the emphasis of staff on background reading (which many students find uninspiring) as the vessel by which to gain general knowledge, the fact is that in many cases the message is not getting through.

This is where organisations such as IEEM could best address the problem: through holding careers events in which professionals and students are brought together, students could be exposed to the world of the professional ecologist. Acquaintance with the nature of the professional environment may cause students to realise for themselves what skills are requisite to a practising ecologist and just what their degree does and does not provide them with. Once students are aware of the need for additional skills, it is likely that the gulf between job applicants' attributes and employers' expectations will narrow.

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Entec is a major environmental and engineering consultancy with over 800 staff and associates across a national network of offices. Due to business growth we require a number of experienced ecologists at various levels to join what is one of the UK's largest ecology consulting teams. Candidates must have a passion for ecology and nature conservation, and a desire to help shape the team's development and diversification.

Our 40 ecologists provide advice to some of the UK's leading public and private sector organisations. Our clients work in various sectors from power and renewables, to property, defence, regeneration, transport and utilities. Our work includes Ecological Impact Assessments (often as part of EIAs), advising clients on protected species issues and on how to take account of ecology in their activities, habitat management planning, habitat and species surveys, and biodiversity policy studies.

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For further information on these vacancies or to apply, please visit www.entecuk.com (Planning and Environmental Appraisal). Applications can be made on-line or by contacting the Recruitment team directly at recruit@entecuk.co.uk or (0191) 272 6386.

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Creating the environment for business



IEEM Awards Evening

Jason Reeves AIEEM
External Relations Officer, IEEM

On the evening of Thursday, 28 June 2007 distinguished members of IEEM and other organisations gathered in London to honour the efforts of some of our leading ecologists.

Professor Anthony Bradshaw FRS FIEEM, a founding member of IEEM and also its first President, was presented with the IEEM Medal for his 'distinguished contribution to the science and practice of ecological restoration'.

The award was presented by Sir John Harman, Chairman of the Environment Agency. Sir John gave a short speech before presenting the award in which he challenged ecologists to move away from 'pure' ecology and to make more of an impression on government and policy.

Professor Bradshaw is only the second recipient of the medal. The first recipient was Sir David Attenborough.

Fellowship certificates were also presented to Mrs Jenny Neff, Dr Nick Carter, Mr Paul Goriup, and Dr Martyn Kelly.

Distinguished guests at the event included Michael Allen, Chris Baines and Carlo Laurenzi.

Below you will find the citation for Professor Bradshaw, and Professor Bradshaw's acceptance speech on the next page.



From left to right: Sir John Harman, Mr Paul Goriup, Dr Martyn Kelly, Mrs Jenny Neff, and Dr Nick Carter.

The IEEM Medal: Citation for Professor Tony Bradshaw

Tony has been an inspirational force in the field of ecology and environmental management for over 40 years. Following a degree in botany at the University of Cambridge, a PhD in plant evolution at the University of Wales, Aberystwyth and work in ecological genetics at the University of Wales, Bangor, it was his move to the city of Liverpool in 1968, as Holbrook Gaskell Professor of Botany in the University of Liverpool, which was the start of his huge influence in this field.

Two parallel interests came together with research into the metal tolerance of plants and research into how to restore the waste products of an industrial Britain. His early focus was on the restoration of china clay waste in SW England, but this also extended to colliery spoil and the wastes of the post-industrial landscape in NW England, including alkali wastes and pulverised fuel ash from coal-fired power stations. Tony chose to live in the city of Liverpool from the outset and this set off his passion for urban ecology and restoration.

Tony's inspirational force worked in several ways. At Liverpool he attracted and supervised numerous PhD students, post-Docs, and many overseas visitors whose research and time in Liverpool

led to successful and influential careers in applied ecology. Tony has always published his work and shared his ideas in an open way. His seminal publication, in 1980, with Mike Chadwick, *'The Restoration of Land: the Ecology and Reclamation of Derelict and Degraded Land'*, set out, for the first time, a manual for the restoration of despoiled land, based on practical experience through research. This was the product of bringing together ecology with a deep understanding of soil chemistry, plant nutrition and the fundamental principles of plant growth.

Tony's career has been internationally recognised by the academic community through his many publications in ecological journals. He has given many invited lectures throughout the world, particularly in North America, China and Australia. He was probably the first applied ecologist to be made a Fellow of the Royal Society (FRS in 1982) and he was President of the British Ecological Society from 1982 – 1983. He retired in 1988 but even in retirement he has continued to publish, lecture and inspire colleagues. He was the first Chair of the National Wildflower Centre at Knowsley, Liverpool and, in 2000, he was the main force behind a major conference in Liverpool of the

Society for Ecological Restoration (SER 2000), where 600 people from all over the world met to share their experiences of ecological restoration.

In the late 1970s, Tony recognized a commercial demand building for advice on land restoration and environmental impacts of development, particularly from the mining/quarrying sector and from Local Government. In response to this, he set up the Environmental Rehabilitation Unit of the University of Liverpool, becoming later the Environmental Advisory Unit, staffed by restoration specialists (mostly his own PhD students!) and, over the years, this developed into a successful business, at its peak employing almost 100 staff. Tony saw, developing around him, a new profession: that is, ecologists working to apply their knowledge to solving environmental problems and providing advice to decision-makers. In response to this, Tony was instrumental in the founding of IEEM, in 1991, a professional body to support this fledgling profession, and became its first President from 1991 – 1994 and later its first Fellow. Tony guided the Institute through its difficult early years and has watched it grow, with some little satisfaction, to the present day with its 3,000 members and serving a profession which continues to

expand.

Tony's inspirational force continues to work its magic through the people he has taught and influenced, both through his writing and through personal contact. He is a man who is generous with his ideas and his time and is genuinely interested in the work of other people. He has preferred

to work behind the scenes and not to cultivate a celebrity status, which seems to be the normal practice in modern times. However, it is important to judge Tony's contribution to what really matters, that is the environmental outcomes that have resulted from his work. The world needs these skills more than ever with the challenge ahead to restore damaged

ecosystems, now exacerbated by climate change.

For all these reasons, Professor Anthony David Bradshaw FRS FIEEM, is a most worthy recipient of the IEEM Medal.

Dr David Parker
Dr Philip Putwain

Professor Tony Bradshaw's Acceptance Speech

Sir John Harman, fellow members, ladies and gentlemen.

I find it difficult to know how to begin. I am overwhelmed at the honour you are giving me, and I am very grateful. And then I must acknowledge all the very kind letters I have been receiving.

But then I think, is it really possible that I have been summoned to this gathering – to be given a medal?

The trouble is that my thoughts keep going back to the time some years ago when this Institute – or an institute - was just an idea – nothing more.

And it has now reached a membership of just over 3,000.

If anyone had said, 16 years ago, that this is what would happen, my simple comment would have been – don't talk nonsense!

But it has not been nonsense – it is true that it was a rather idealistic idea – but it has been one which has worked.

So a few thoughts from looking backwards, might not come amiss.

What many people will realise is that in the 1980s, and before that, this country had a first class body concerned with the science of ecology, so that British ecological science was a world leader. But it had one weakness - that it did not have a body behind it interested in the practice of ecology – in applying ecology to solving the practical problems that abound in this modern world.

This does not mean that there were not people who were interested in practical problems, and were working on them. But if you were one of those, you could feel rather unsupported and lonely.

And there seemed to be many practical problems that were not getting the work done on them that they needed. And there were even dark forces. When I was 25, I was told by an eminent ecologist that I was wasting my ecological knowledge by being interested in the practical problems of metal mine waste heaps. I was furious! There were problems crying out to be worked on.

It was apparent that, if as a country we were going to be effective in solving them, we needed to have some rather different ecologists from usual:

1. as a start, ecologists interested in practical problems;
2. because these problems could be, so to speak, hiding, ecologists prepared to be interested in other peoples

problems – not necessarily their own;

3. correlated with this, ecologists able to persuade people who have problems that need solving, that they could solve them – a type of salesmanship? - yes perhaps - why not? and
4. ecologists with a broad understanding about ecosystems and how they work (and sometimes don't work) – all-rounders – just as Sir John Harman has already argued.

From this it can appear that these ecologists - you - me - have to be prepared to sell their souls to the devil.

But it is not that really – you just have to be broad minded, opportunist and persuasive, which is both challenging and fun.

It leads to all sorts of serious needs – from working to a code of practice - to submitting to schemes of compulsory professional development – to being good with a net!

It is on these sorts of considerations, and others, that the Institute has been built.

We must reach out beyond narrow studies of species to finding ways to fit ourselves and our life styles into our environment.

This sounds all rather serious - which it is. It means that we have to be confident and well based in what we are doing.

But at the same time applying ecology to practical problems has many attractions. In particular it can lead you into all sorts of exciting places and unusual problems. I have almost wept at the very nice letters that people have written to me, agreeing with all this – particularly saying what fun it can involve. Which it certainly has been. But I blame that on the people themselves.

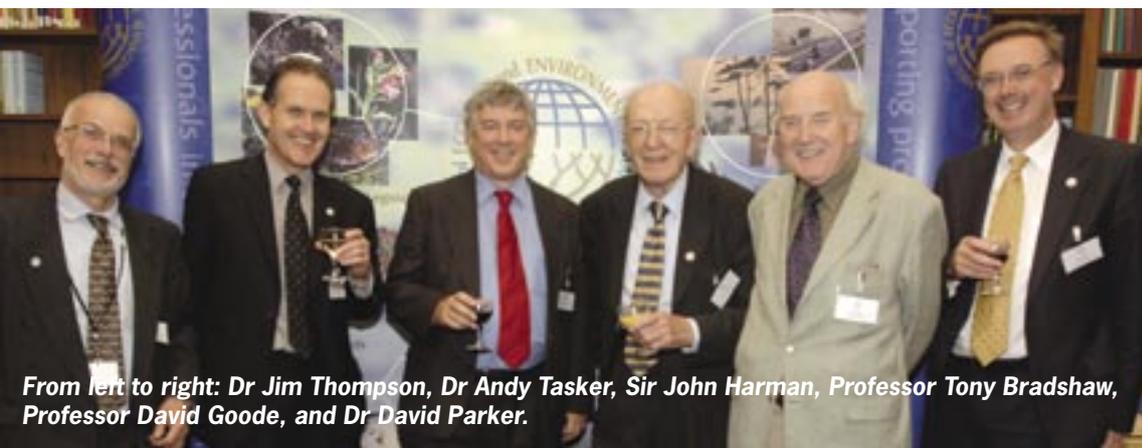
It would be interesting to make a list of the most unusual places in which members of IEEM have been involved. For my first bid, I'll offer standing 50 miles away from anywhere, on the immense iron ore waste heaps of the Hammersley Range in Australia. For my second I'll offer digging down to see what is under Liverpool pavements. For my third I'll offer camping out in an old piggery to do a survey of what turned out to be a most fascinating disused Cornish tin mine. It is a pity that sitting in front of a computer is sometimes necessary.

I would like to say, that in accepting this medal, I feel doubly rewarded.

Once for being given it for something that seemed to a group of us (not just me) to be a job that needed doing – but then one that has become more and more important as the years have gone by.

And once for doing something with many friends that I have enjoyed immensely.

I hope that present and future members of this Institute will feel the same.



From left to right: Dr Jim Thompson, Dr Andy Tasker, Sir John Harman, Professor Tony Bradshaw, Professor David Goode, and Dr David Parker.

Scrutiny and Standards

Linda Yost CEnv MIEEM
Deputy Executive Director, IEEM

As the postman delivers the post the dog is barking as she jumps up at the letter box, she misses the post and instead just puts muddy paw prints on the clean, white envelope as it lands on the front door mat. You push the dog off the post and spot the IEEM logo... could it be an invitation to become a Fellow... tearing open the envelope with great excitement you begin to read...

'Dear...

A member of the public has sent the Institute a letter of complaint regarding the professional standard of work undertaken by yourself in relation to...

As you will understand, the Institute must follow up concerns regarding work undertaken by its members, where it is brought to its notice. This is a necessary safeguard to ensure that the Professional Standards of the Institute are maintained and upheld both as reassurance for Members and also as demonstration to the outside world.

You will already have in your possession a copy of the Code of Professional Conduct, the Disciplinary Regulations and the Complaints Procedures. So, you will be fully aware of the procedures that the Institute must follow.

In making an assessment of the complaint against you the Institute requires copies of the contract, the surveys carried out and any correspondence in relation to...' GULP.

Ecological and environmental policies have risen up the agenda over the past 10 - 15 years. With this comes greater general public awareness, and willingness to contest development on nature conservation grounds. There is a statutory requirement for relevant survey work to support planning applications where there is the potential of impact on any European protected species of flora or fauna. Survey reports to support any form of planning proposal, no matter how small or large, are public documents once submitted to a planning authority, and they are coming under greater scrutiny. This means that reports of survey work by IEEM members have to stand up to this scrutiny. Whether they do or not, there is now the opportunity for another member or the general public to make a complaint.

In the past year, since the publication of the IEEM Disciplinary Regulations, the Institute has received complaints regarding the work of seven members: five related to bat surveying, one to freshwater surveying and one to a full site survey report. The complaints procedure is also proving a useful means of alerting the Institute to areas where greater guidance is needed, one of the most pressing being raising standards in report writing.

As set out in the Complaints Procedures, it is the role of



the Professional Affairs Committee (PAC) to make an initial assessment as to whether there is a case to answer. This is based on the response to the letter (outlined above) and the details received from the complainant. In fact, it is usually not quite like this. The letter comes a few days after the Secretariat has, where possible, contacted you in person to tell you about the complaint and go through 'what happens next' and deal with any immediate questions you may have. It is to your advantage to provide as full as possible response to the letter. If the PAC does not consider there is a case to answer it then writes to the member informing them of this and setting out where standards can be improved. This has happened on five of the seven occasions.

If the PAC is divided or considers there may be a case to answer then the Institute's President sets up a Disciplinary Board; this has been done on two occasions. The Disciplinary Board will write to the member setting out in detail its initial findings based on the information that has been submitted by the complainant and the 'defendant' member. It is then for the Disciplinary Board to decide if there is a case to answer. As noted in a letter to a member from the Chair of a Disciplinary Board 'It is my job to see that this whole process is conducted fairly and reasonably, fairly to you and fairly to the rest of the membership and indeed to society as we all come to depend more and more on high standards of ecological and environmental knowledge and

practice. I can assure you that I will do everything I can to uphold this principle of fairness and that our assessment will be on the basis of what seems to us to be reasonable and achievable by any member of the Institute.' The Institute will support its members, and everything relating to a complaint remains confidential unless a Disciplinary Board calls a hearing.

Members need to be asking themselves every time they undertake and report work whether they have fulfilled the following clauses:

- have ensured that no action on your part is inconsistent with or harmful to the objects of the Institute... or brought the Institute into disrepute;
- are up-to-date and maintaining high standards of awareness of new developments in ecology and environmental management;
- reported correctly, truthfully, clearly, and so far as is possible in the circumstances, fully and conveyed findings objectively;
- identified the limitations to the interpretation of information which has been utilised in reports or advice;
- when in full or part time employment make their employers aware that they have subscribed to this Code and will be subject to disciplinary proceedings by the Institute if they contravene it; and
- used their best endeavours to agree with their employer at the outset the terms and conditions under which their services are to be provided, including fees, the ownership of copyright and their obligations of confidentiality in respect of the provision of services,

as required under the General Professional Obligations and

Advice and Reports of the Code of Professional Conduct. These particular clauses are noted as being those areas that have exercised both PAC and the Disciplinary Boards. Additionally, do not forget that your CPD record should be up-to-date and that you have effected professional indemnity insurance appropriate to your professional duties.

In the event that the Disciplinary Board concludes there has been a breach of the Code of Professional Conduct it has the power to:

1. reprimand the member;
2. require the member to give undertakings in such terms as it considers appropriate;
3. fine the member up to £5,000;
4. suspend the member from membership of the Institute for such period as it thinks fit; and/or
5. expel the member from the Institute.

As already noted above, it is the Institute's role to support its members; expulsion from the Institute is a last resort and would be applicable for extreme mis-conduct. The Institute is seeking assurance of better standards and will ensure this through, for example, general advice, pointing out areas of weakness, advising on specific training requirements or through wider scrutiny of the member's written work.

Members may not realise their work could be coming under greater scrutiny. In the long run, this greater scrutiny will improve advice and recommendations on nature conservation and thereby raise the standards of the profession, which is after all our *raison d'être*.

...and as for the dog, they say stroking your pet helps to reduce stress!

Senior/Principal Ecological Consultant – Home Worker Position (£20,000 - £33,000, depending on experience)



ecosulis Ltd is an employee-owned company looking for a Senior or Principal Ecological Consultant to manage our South East regional projects. ecosulis Ltd has been providing ecological consultancy and contracting services for over sixteen years and is one of only a handful of companies to provide this combination of services throughout the UK. This will be a home working position and as such will require someone with an ability to work on their own initiative and manage a small team of ecologists.

As an employee-owned company we offer unique and long term prospects to employees. Employees of ecosulis Ltd benefit from:

- Competitive salary
- Holiday purchase scheme
- Excellent prospects for training and professional development
- A vote on strategic issues at AGMs
- Involvement in Committee Meetings (prioritising benefits to staff)
- A committed, friendly and enthusiastic team
- A green-thinking company with sustainability at its core

Subject to experience/performance, you will also benefit from:

- Inclusion in our Share Incentives Plan
- Potential for future dividends and annual bonus
- Contributory pension

Suitable candidates will have:

- An ambitious and forward-thinking outlook with at least two years recent experience in the consultancy sector
- Full membership of the Institute of Ecology and Environmental Management or have the experience and qualifications to gain membership
- Experience of survey and reporting in relation to a broad range of habitats and protected species
- A specialism in relation to at least two of the following: badgers or reptiles AND great crested newts or bats
- Experience of preparing some or all of the following: Ecological Impact Assessment, Ecological Mitigation Strategies, Appropriate Assessment, Natural England Development Licences
- Experience of scoping and preparing quotations
- Experience of meeting with clients and explaining ecological opportunities and constraints
- Experience of ecological contracting and mitigation would be an advantage, although full training will be provided

We are an equal opportunities employer. Please send your CV to info@ecosulis.co.uk



Head Office: The Rickyard, Newton St Loe, Bath BA2 9BT

Wildlife Crimes and Misdemeanours: Is There a Case for Blowing the Whistle?

Lisa Kerslake MIEEM

Director and Principal Ecologist, Swift Ecology Ltd
IEEM Professional Affairs Committee Member

Introduction

Cases featuring the practice of 'whistleblowing' in business and industry have rarely been out of the papers in the last decade; indeed, a whole new law to address the issue (the Public Interest Disclosure Act) came into force in 1999. A couple of unfortunate incidents in my consultancy career have prompted me to

think about it in relation to the profession of ecology: just where do we stand, in the eyes of the Institute and the eyes of the law, with regard to potential cases of wildlife crime that we come across in the course of our work for clients? Are members routinely reporting these to the relevant authorities? And are all consultancies approaching the issue in the same way?

The issue has been briefly discussed within the Institute's Professional Affairs Committee (PAC) and the purpose of this article is to highlight the matter and to invite views from the membership; we would like to know whether you have had similar experiences and if you feel that there is sufficient concern for more formal guidance from IEEM, possibly in the form of a new Professional Issues Series, or by some other route.

One major issue is the duty of care and confidentiality to a client and therefore it might not be wise



ecologyconsultancy

Two Senior Ecologists

Ecology Consultancy Ltd is a rapidly growing consultancy with offices in London, Norfolk and Sussex. We are looking for two enthusiastic senior ecologists, with Phase 1 Habitat survey experience, and excellent project management skills, to join our team in London. One will also need expertise in protected species work, preferably bats, and the other will be a competent field botanist.

Applicants should have 5 years experience and a commitment to ecology, nature conservation and commercial consultancy. You should have good communication and IT skills, be self-motivated and disciplined, with the ability to work to tight deadlines. We are a small friendly team so it is also important that you enjoy working closely with colleagues.

If you have:

- a relevant degree
- familiarity with environmental and ecological impact assessment methodology
- knowledge of wildlife related regulatory and policy framework

... and are interested in working for a dynamic and professional consultancy, please contact us (quoting ref **IEEM1**) for an application pack.

In return we will offer successful applicants an excellent package, including profit related bonuses, and the chance to work on a range of ecological projects nationwide.

Jane Kendall, Ecology Consultancy Ltd

t: 020 7326 0007 e: jane@ecologyconsultancy.co.uk

www.ecologyconsultancy.co.uk



to inform the authorities without the client's consent, as we might fall foul of our contractual obligations. We could therefore tell the client that they should inform the appropriate body (e.g. Natural England) and then we'd work with them to deal with it. But what if the client had refused to do that and refused to give us consent to do so, where would that leave us? Certainly we could refuse to work with them again, but it wouldn't repair the potential damage or possibly a crime which would then have gone unreported.

A less extreme example could be where there is a request from a client to remove unwelcome information from a report. Obviously in this case there is no actual law-breaking involved, but it doesn't take a huge stretch of the imagination to realise that in due course there might have been.

In consultancy work we will almost inevitably come across incidences of wildlife crime, probably more often than almost anyone else. In many cases we may be the only witness, apart from the perpetrator. If we don't report it, who on earth will? What is the point of the law if we get into trouble for upholding it?

How far should members lean in the direction of environmental protection at the expense of other aspects of upholding professional standards; ecological consultancy is, after all, a professional practice in a commercial environment: should we be defending our clients' interests in the same way as, say, a lawyer, or an accountant?

The Legal Context

The legal advice is that there may be circumstances in which disclosure may be legally justified but members contemplating such action would be well advised to consult their professional indemnity lawyers on the individual circumstances and to consider very carefully what the insurance implications might be.

Your Views and Experiences

The PAC would like to hear from any member with experience of or an opinion on this issue, to enable IEEM to decide how to consider this more fully. It would be particularly interested in hearing from anyone who has in the course of their work witnessed a possible wildlife crime and how it was dealt with, and whether they came under any pressure from their client, their company or their individual managers not to take action. It would also like your opinions on the matter even if you haven't been in this situation: whether or not you think it's an important issue and your reasons. All correspondence will be treated in complete confidence and your views and experiences can of course remain completely anonymous.

Please send any comments to the Secretariat by 24 September 2007. These will then be considered by the PAC.



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Letter to the Editor - A Response to the 'The Skills Project'

Dear Sir

Chloe Delgery's letter (*In Practice* June 2007) detailed difficulties with obtaining a first job in ecology and concluded with 'I think it is time the industry is made aware of how their potential future employees feel.' As an employer working for a major consultancy company I would like to respond with my view.

I know how difficult it is to obtain that first, all important, job. I graduated during the 'Thatcher era' when unemployment, even for graduates, was high, and ecology as a profession was in its infancy. Whilst the numbers of graduates were low (only nine graduated in my year), the number of jobs on offer was even lower: the statutory agencies had a skeleton staff, and environmental consultancy was virtually unknown. Many of us were able to gain some experience on the Manpower Services Commission schemes (established by Government to reduce unemployment statistics). I spent some of my University summer vacations conducting voluntary work, and it was this experience that led to my first job. Whilst I was fortunate in obtaining a number of contract posts (each lasting 1 – 3 years), it took me eight years before I obtained my first, permanent position, and I don't think my experience is untypical of my generation. Indeed, many of my university friends despaired of ever obtaining ecology work, and retrained in teaching, nursing and landscape architecture.

Chloe Delgery is right in stating that we should not expect junior staff to hold a complete skills set. I prefer candidates who demonstrate enthusiasm, commitment, common sense, willingness to learn, flexibility to cope with the (often demanding) job, and a basic understanding of the principles of ecology and conservation law and policy in a UK context, who will fit in well with the other members of my ecology team. With these basic qualities we can, and do, train graduates to become competent, senior staff. The challenge as an employer is to identify candidates with these qualities from the numerous CVs received; many of which are indistinguishable from each other.

It is not uncommon to receive CVs from several people who all completed the same degree. How, as a prospective employer, am I meant to distinguish between these candidates other than by what else they have done with their time? Obviously the person who demonstrates some interest and experience in ecology is going to appear more attractive than the candidate who has spent all their spare time working in a supermarket. I do understand that

people need money and have debts. Whilst I don't expect someone to spend 100% of their time volunteering, I would argue that it is possible to fit in some relevant experience around other (paid) work (e.g. conducting weekend surveys with the local badger group).

I suppose an alternative would be to put all the CVs into a hat and draw out the winning candidates – but I don't think that would be a better or fairer system for employee or employer.

In my opinion many graduates need to be more professional about job hunting. Job applications are like exam questions: there is a technique to them, and the prospective employer is looking for certain key words and facts. You may have as little as 30 seconds in which to attract and retain the attention of the employer before your CV is placed in the 'NO' pile. All too often graduates send a 'standard' response, failing to highlight their relevant experience.

This is probably of little consolation to Chloe Delgery, who states that she has been interviewed for several posts. It is not always the experience *per se* that distinguishes candidates, but the way in which that experience is described and used in response to questions as this demonstrates that you can identify the salient facts and present these clearly to a prospective employer.

The current system may not be perfect, but at least candidates know how to influence their fate.

I wish Chloe Delgery well in her search for a job. She may wish to check the Scott Wilson website (www.scottwilson.com) for graduate ecology positions.

Sue Bell BSc MSc CEnv MIEEM MIBiol CBiol MCIWEM
Principal Environmental Specialist, Scott Wilson (Scotland)

Fungi Surveys

ecosulis Ltd are pleased to introduce our macrofungi and slime mould survey services, undertaken by nationally recognised surveyors with over 16 years field experience, using the latest methodologies. This specialist service is offered for a keystone group in ecosystems that is rapidly being recognised as having significant importance for the assessment of the biodiversity value of a site.

The optimal time for undertaking fungi and slime mould surveys is late summer and autumn, although specific species surveys may be undertaken at other times of the year.

If you have a site that requires surveys, please do not hesitate to contact:

Dr Alan Feest, ecosulis Ltd, The Rickyard, Newton St Loe, Bath BA2 9BT
or email to alan@ecosulis.co.uk

Specialist surveys are also available in relation to:

- Lichens and bryophytes
- Invertebrates
- Birds
- Flora



Head Office: The Rickyard, Newton St Loe, Bath BA2 9BT

Institute News

IEEM has Finally Moved

You will all have been notified of our new Address – 43 Southgate Street – just next door. The new offices offer a good deal more space and should serve us well for a number of years to come.

Staff Changes

I am pleased to report that Harry Earle has joined the staff of IEEM as an Administration Officer, having just completed his BSc Hons in Botany and Zoology at the University of Reading. Harry joins as additional support for the administration at the busiest time of the IEEM year and takes on particular responsibility for the conference bookings and liaison with the Geographic Sections.

John Taylor has also joined us to work on a voluntary basis on our photo library following completion of his BSc in Physical Geography at the University of Exeter. The photo library has been growing at quite a rate recently and is both a very convenient and cost effective resource but we need to make really effective use of it. Some members have responded to the request for good quality photos and more would be welcome particularly of individual species or topical issues likely to be of interest to IEEM.

University Challenge

Following the positive response to the E-Newsletter, IEEM has decided to enter a team. We had over 18 volunteers and the IEEM team will be selected shortly. If our team is then chosen by the BBC, the contest will take place in Manchester on Saturday 1 and Sunday 2 December 2007 (to be confirmed) with studio recordings at Granada TV in Manchester for the actual quiz, i.e. a first round match on the first day and, should the team progress, the Semis and Final on the next day. Members in the North West may well be needed for our studio

audience! The BBC tells me that competition is really fierce and they have already had plenty of applicants.

Membership Issues

Membership renewals are due on 1 October and the usual renewal notices will be sent out shortly. This time we will be using e-mail notification where we sensibly can. Please make sure that you have informed us of your most recent e-mail address so that we can continue to contact you.

Membership Database

The old Paradox version of the membership database is now being phased out, having served IEEM well for nearly 10 years. Nick Jackson, Anna Thompson and an external consultant have developed the system to the point that a complete changeover is now imminent. Hopefully members will notice no adverse effects. This will allow us to process membership issues more efficiently and deal with the increasing number of members.

IEEM Commercial Directory

Don't forget that the entries in the Commercial Directory are being updated. You will need to register for the first time if you are not already included and if you are currently on the Directory you will need to re-register. The registration form is available on line at www.ieem.net.

IEEM Fellows

Council at its last meeting approved Jenny Neff as the latest IEEM Fellow. Jenny has made a significant contribution to recording the distribution and conservation status of vascular plants in Ireland and contributed to the *New Flora Atlas of GB and Ireland*. For the last 16 years she has run her own company, Ecological Advisory and Consultancy Services. She has made a major contribution to the establishment of the now flourishing Section in Ireland, is a Council member and also serves on the F&GP Committee. She is pictured in the awards evening report on page 17, receiving her certificate - with Paul Goriup, Martyn Kelly and Nick Carter.

Fellowship Presentation, the late Dr Paddy Coker

Following Paddy's untimely death, it had been hoped to find a suitable opportunity to present his Fellowship certificate to the Coker family but due to various circumstances this has not been possible. On 11 August 2007 Jim and Anna Thompson visited Rosemary Coker and presented her with the certificate in the garden of the house and where Paddy had planted a number of interesting trees.

The 2007 IEEM Member Survey

The Survey, done using the online survey tool Survey Monkey, opened to members on 27 March 2007 and closed on 5 June 2007. The survey was designed to find out about changes and developments in the profession and closed with 1,156 respondents (roughly a third of the IEEM membership). Some of the initial findings have already been used in an article in *The Guardian* newspaper (*Missing Monitors* by Paul Evans, Wednesday 9 May 2007, *The Guardian*, <http://environment.guardian.co.uk/conservation/story/0,,2074804,00.html>).

The winner of the £50 book voucher from NHBS, as chosen by Andy Tasker, was Paul



Mrs Rosemary Coker receives the Fellowship certificate on behalf of Paddy.

Gregory (Scott Wilson, Plymouth).

Below are some of the initial findings concerning the respondents of the survey:

- 55% were men and 45% were women;
- 55% are under 40 years of age;
- 43% have started working since 2000;
- 90% work on terrestrial ecology, whilst only 9% work on marine ecology;
- 38% are employees of consultancies;
- a third do not know if there is a Geographic Section covering their area;
- 60% earn between £20,000 and £40,000;
- 5% earn over £50,000;
- a third work more than 40 hours per week, though 70% take more than 20 days of holiday a year; and
- more than 40% said that balancing work and life was the hardest part of their job.

A complete analysis of the survey will be undertaken and the report of this will appear in the next edition of *In Practice*.

Consultations Update

Four consultations have been submitted since the last *In Practice*:

- Planning for a Sustainable Future (Department for Communities and Local Government)
- Revision of Circular 15/1999; The Environmental Impact Assessment (Scotland) Regulations (Scottish Executive)
- Draft Climate Change Bill (Defra)
- Consultation on the Draft GB Invasive Non-native Species Framework Strategy (Scottish Executive)

IEEM Website

The IEEM website is in the process of being upgraded and should be online in the next month or so. The work is being done by Jason Reeves involving an outside firm and with advice from the External Affairs Committee.

IEEM Campaign on the Environmental Liability Directive

In the last *In Practice* we reported on the Environment, Farming and Rural Affairs Commons Committee being about to undertake a new style of inquiry into Defra's implementation of the Directive. IEEM submitted written evidence to the Committee which was reported in both the written and verbal hearings. The following are the conclusions and recommendations from the report. The IEEM main case – the inclusion of SSSI's and 'permit' and 'state of knowledge' defences seems to have been taken on board and the Government's response is awaited but not with any guarantee that the IEEM case will be accepted.

Extract from conclusions and recommendations:

7. *The Minister failed to provide a clear reasoning of the Government's preference for the way it has chosen to apply the 'permit' and 'state of knowledge' defences. Defra must do so by the time it embarks on its second round of consultation on the form of the regulations to implement the Directive.*

8. *We question the Minister's claim that 90% of SSSIs will enjoy protection under the ELD and ask Defra to demonstrate how it reached this figure.*

10. *The Minister failed to make a convincing case for not extending the scope of the ELD so that, as well as protecting*

EU-protected biodiversity, it covers nationally protected species and habitats too. We recommend that the Government should exercise its discretion to include nationally-protected species and habitats within the scope of the Environmental Liability Directive. In so doing it would be able to tradeoff any criticism of 'gold plating' against the gains arising from a better and more consistent implementation of the Directive.

Reducing Risk for Remote and Lone Working

The 24 hour 365 day a year safety cover service to reduce risk associated with remote location and lone working has been joined by quite a few members. One company set up a one month trial and found the system very easy to use and the service providers very friendly and helpful; it has now signed up. Don't forget there is guidance in the *Professional Issues Series 12: Risk Assessment for Lone Workers*.

2008 Workshops – Offers Please!

The workshop programme has progressively become one of the major contributions that IEEM can make to meeting the skills gap. Around 700 people take part in the workshops every year. Nick Jackson is starting to compile the programme for 2008 and offers from members to run workshops and suggestions for new themes are most welcome. Please contact nickjackson@ieem.net.

Nottingham Conference

The programme for the Nottingham conference is on the website and has been sent to all members. The topic is already proving popular so do make sure that you send your booking form in soon to avoid disappointment. There are opportunities for poster displays and inserts in the delegate's packs.

2007 AGM

The main IEEM AGM will, as usual, take place during the Autumn Conference in Nottingham. The venue is the Britannia Hotel, the time is 17.30, and the date is 14 November 2007. Please note that the E- Newsletter incorrectly had the time as 18.00. All members are entitled to attend the AGM whether attending the conference or not. Nominations will shortly be sought for the President-Elect – to succeed Andy Tasker in 2008 and for further Members of Council. Please consider if you would like to nominate someone or stand for Council yourself.

Future Geographic Sections for IEEM

Following the pattern of recent years there will be an opportunity to launch a new Shadow Section for the East Midlands at the Nottingham Conference. There has also been interest expressed in Sections for London and the South East and Yorkshire and the Humberside. But, as always this will only happen if members want it to happen. An enquiry letter will be sent out shortly to all members in the areas so please respond if you would like to see this happen – it is up to you as members. If there is sufficient interest, support will be given centrally as it is to all of the current Sections.

IEEM Best Practice Awards 2007

This is the first time that we have run an awards competition like this and we are happy to report that we have received 22 entries for the first ever IEEM Best Practice Awards. The entries are currently being judged by the External Affairs Committee and the short-list will be announced at the end of September. Those that make it onto the short-list will be presenting a poster at the Nottingham Conference and the conference delegates will vote for the overall winner. Good luck to all the entrants.

North West England Section News

Conservation of Grasslands and Traditional Management Techniques

Thirty-two people participated in the Conservation of Grasslands and Traditional Management Techniques event on 22 June 2007 held in Slaidburn Village Hall (www.slaidburnvillagehall.com) in the Forest of Bowland. Participants attended from a wide range of organisations including Natural England, consultancies, universities, local community groups, FWAG, local farms, the Environment Agency and local authorities.

The day was split between morning talks and afternoon field visits. Following introductions from the North West England Section and *Flora Locale*, Roger Smith of Newcastle University talked in detail about the ecology and management of northern hay meadows. His fascinating lecture included an insight into: (a) the effects of nutrient enrichment upon soil microbe communities, (b) whether or not the fertilizer problem is caused by nitrogen or phosphorus, and (c) the ecology of yellow rattle *Rhinanthus minor* and its role in meadow restoration. Roger's summary points were that:

1. high plant diversity is found in traditionally managed upland Cranesbill meadows;
2. the best management combination for maintaining or increasing diversity is to:
 - a. graze with cattle in the autumn;
 - b. cut for hay in mid-July;
 - c. avoid mineral fertilizer; and
 - d. maybe avoid Farmyard Manure (FYM); and
3. restoring diversity may require the sowing of seed of missing species;
4. plan for the long term and sow legumes;
5. restoration of soil microbes, especially fungi, is associated with legumes and traditional management (no mineral fertilizer);
6. legumes provide nitrogen to maintain hay yield; and
7. yellow rattle can keep the balance in favour of herbs.

Jon Hickling of Natural England followed Roger and his talk focused on meadows in Lancashire with specific reference to NVC communities. Jon noted how the traditionally managed *Anthoxanthum odoratum* - *Geranium sylvaticum* meadow (MG3b) differed in its floristic components when compared to its Yorkshire counterparts. For example *Geranium sylvaticum* is rarely if ever encountered in the Bowland examples of MG3. Jon interestingly raised the question of whether there is any potential for eyebright, which is a partial parasite in grassland, to play a similar role to yellow rattle?

Before lunch Nigel Hutchinson of Hedgerow Landscapes gave an excellent hands on insight into practical activities including seed collecting and harvesting. He explained how he had to diversify following the 2001 foot and mouth outbreak and had subsequently evolved a successful landscape contracting business. Nigel described the different machines he uses for seed collection and hay making. He explained how they could be used in different situations and he also brought along several of his machines for closer inspection!

Participants were then divided into two groups for the afternoon field visits. The visits were to two Sites of Special Scientific Interest (SSSIs) hay meadows, Myttons Meadow and Belly Sykes Meadows, both within walking distance of the village hall.

We were fortunate to have the farmers from each of these sites present during the visits. This, on occasion, led to lively debate regarding the current status of stewardship and the impact this has on farming and wildlife. The sites are both examples of MG3 *Anthoxanthum odoratum* - *Geranium sylvaticum* meadow grassland in varying condition. As Jon Hickling had mentioned earlier in the day the meadows at the Slaidburn sites lacked some of the constant species from the published National Vegetation Classification (NVC) accounts.

Myttons Meadows are relatively low lying flower rich meadows which are in the Higher Level Stewardship (HLS) scheme and have been traditionally managed by the Cowking family for many years. In contrast Bell Sykes Meadows occur on undulating, and in places steep, land adjacent to the River Hodder. In places vegetation at Bell Sykes is flower rich and resembles that found at Myttons Meadow however several units are in 'unfavourable condition' and appeared a little rank.

In between visiting each site, a brief visit was made to a species poor pasture under HLS which is strewn with SSSI hay in later summer. Interestingly yellow rattle is becoming established in this field, as it is in other agricultural grassland in the area.

There was huge interest in this event and it was over subscribed within two weeks of being advertised. It was hoped that the event would give some impetus to (i) the further promotion of grassland conservation in the North West, and (ii) the implementation of an initiative similar to the Hay Time Project in the Forest of Bowland. It is with some optimism that we can report that following on from the event Lancashire Rural Futures are currently preparing a proposal for a 'grassland project' for Lancashire.

We are extremely grateful to both Duncan Cowking and Peter Blackwell who allowed us access to their farms and contributed enormously to the day. We would also like to thank Jon Hickling and Chris Kaighin of Natural England, Roger Smith of Newcastle University and Nigel Hutchinson of Hedgerow Landscapes who all made great contributions throughout the day.

Report by Jeremy James* CEnv MIEEM and Bernadette Lobo** MIEEM

*Bowland Ecology Ltd and North West England Section Committee

**Flora Locale

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North East England Section News

Over the year the North East Committee has comprised in alphabetical order: Barry Anderson, Ian Bond, David Feige, Caroline Gettinby, Maria Hardy, Tony Martin, Steve Pullan, Glen Robson, Andy Westgarth and Jane Young. Steve Pullan has now served ten years on the North East Committee since its inception as a Shadow Section. Under the constitution Steve is now required to step down. His contributions will be sorely missed. This was another successful year for the North East Section and thanks are due to all those listed above for their hard work on the members' behalf.

The Section's programme of regional events during the year began with a field visit at Sir Robert Campbell's LEAF Demonstration Farm in Cleveland. There were three further field excursions. In February Keith Bowey and colleagues of the RSPB's Northern Kites Partnership hosted a seminar and field visit to view roosting red kites in the Derwent valley. In April and May field excursions with Kevin O'Hara (Northumberland Wildlife Trust) and John Durkin (consultant) explored field survey methods for otters and reptiles respectively; the latter hosted at the National Trust's Gibside estate. We also had a busy programme of indoor meetings, beginning in October with Glen Robson and Hugh Watson of Entec talking on the potential impacts of wind turbines on birds and bats. Over 50 attended this meeting making it the most popular ever. Other meetings were held on seeds of local origin for habitat creation and restoration with Judith Baker (of Northumberland Wildflowers); and bat survey techniques for traditional rural buildings with Tony Martin (of E3 Ecology) both meetings hosted by Northumberland Wildlife Trust.

In April we held our first ever one-day conference. The topic was the ecology and management of grasslands; with an emphasis on the special and unique grasslands of the North East region. Eighty delegates attended to hear talks on the ecology of northern grasslands (Roger Smith, Newcastle University), whin grassland (Duncan Hutt, NWT), the Grazing Animals Project (Stephen Comber, North East Community Forest), waders breeding in inbye (David Morris, RSPB), roadside verges and magnesian limestone grassland (Andy Lees, Durham Wildlife Trust), restoring upland haymeadows (John O'Reilly, North Pennines AONB), heavy metal rich grasslands (Janet Simkin, Newcastle University) and Natural England's priorities (Dave Michell, Celia Port and Steve Pullan, Natural England). The event was hosted by Natural England, and chaired by Richard Jefferson FIEEM. The conference was a huge success and feedback extremely positive. Preparation of the conference proceedings is underway with copies to be circulated to North East members in due course. Members with ideas for future conferences with a North East flavour are encouraged to contact the Committee.

The success of the one day conference and access to central funds allows us to be more ambitious in our plans for the year ahead. A new project to be launched in the autumn is a scheme to encourage provision of training courses for members in the North East. Few of the courses in the central IEEM training programme are in our region. The Committee is exploring ways of investing some of the North East funds to run training courses locally. News of this scheme will be circulated shortly; the first step being an assessment of

members' training priorities. However, it is worth stressing that the major constraint on regional activities is not financial, but rather the time and energies of members who serve on the Committee and help in the running of events by offering to speak at meetings, lead field excursions and provide facilities for events. This year we are particularly grateful to Natural England, Northumberland National Park Authority, Northumberland Wildlife Trust and Durham Wildlife Trust for provision of venues; along with all the individual speakers who made the events such a success. As always we would be delighted to hear from members who wish to serve on the Committee or who wish to organise or offer events for the Section. Please contact any member of the Committee.

North East England AGM

The Section will be holding its AGM on 26 September at the Old Mill Hotel (Metal Bridge, Coxhoe, County Durham, DH6 5NX). The evening will commence at 6.30 pm and include a free buffet and guest speaker. Martyn Kelly FIEEM will speak on his career, interests in freshwater ecology and the EU Water Framework Directive.

North East England members will be invited to vote on two resolutions to modify the existing Constitution of the Geographic Section. At last year's AGM the same resolutions were presented but not accepted through a combination of votes against and a procedural error, which rendered the process void. Dissent sprung from the perception that the work and role of the Geographic Section in promoting IEEM's objectives deserved greater recognition within the Institute. These events coincided with, and have contributed to, a review of the terms of reference for Geographic Sections within the governance of IEEM; recently agreed at Council. The proposed changes to the Sections's constitution will make the work of the Committee less burdensome in terms of financial management (an increasing concern with the enhanced funds now available to the Section), and bring the North East in line with other Geographic Sections. The North East was the only Section not to accept the resolutions during last year's round of Geographic AGMs. The North East Committee now recommends that members vote in favour of the resolutions. Details of the resolutions will be circulated by IEEM's central office. Any members who wish to discuss the resolutions or plans for the year ahead are invited to contact the regional Committee by emailing the regional Convenor at: andrew.cherrill@sunderland.ac.uk.

Date For Your Diary

The first meeting of the '07/'08 North East programme will be held at the offices of the Northumberland National Park Authority in Hexham on Wednesday 10 October 2007. The speaker is Paul Leadbitter of the North Pennines AONB; and his topic 'The Peatscapes Project: Working towards a sustainable future for the North Pennines'. The seminar will start at 7.30 pm with light refreshments from 7.00 pm.

*Andrew Cherrill CEnv MIEEM
Convenor of the North East England
Geographic Section*

North East England Section News

The Northern Kites Project – Three Years In!

Keith Bowey
Project Manager, Northern Kites

On 7 February 2007 the Northern Kites partnership hosted a meeting of the North East Section. Members were treated to an introductory seminar followed by a field excursion to see the red kites at one of their roosts in the Lower Derwent Valley.

Background and Introduction

Northern Kites is a partnership Project between the lead partners Natural England and the RSPB, Gateshead Council, Northumbrian Water, The National Trust and the Forestry Commission, with additional funding from the Heritage Lottery Fund and the SITA Trust. The Project aims to reintroduce and ultimately, re-establish the red kite as a breeding bird in northeast England. As well as bringing the kite back to the northeast region, the Project aims to provide opportunities for people to see these spectacular birds.

In essence, the Northern Kites Project comprises four key elements:

- **wildlife** - the return of the red kite to its former range in North East England;
- **people** - the opportunity to give people and communities access to the kite, so that they can enjoy and learn about wildlife and the wider environment through the Project;
- **economics** - the chance to show how such a project can be good not just for wildlife and people, but also for the local economy; and
- **partnership** - the illustration of how partners from the charitable, private and public sectors, working in an imaginative way together can better deliver rewards not just for wildlife but also to improve local people's quality of life.

It is the Partnership's intent to show how a flagship biodiversity project, such as Northern Kites, can illustrate the importance of a healthy environment to many aspects of modern life. As a world first in re-introducing kites into an urban-fringe environment, Northern Kites ultimately aims to highlight the value and benefits brought to the region by all of the region's biodiversity.

To do this effectively, the Project must be high profile and it must work to maintain that profile throughout the lifetime of the Project (2004-2008). To this end, the Project has (in July 2004) already attracted a message of support from the Prime Minister. In November 2004, it was named in the Newcastle Journal's list of one hundred things that makes living in the north 'great'. On

25 May 2005, the MP for Blaydon, David Anderson, in his maiden speech to Parliament, referred to the red kites, alongside the Blaydon Races and the Angel of the North, as one of the iconic, defining features of his constituency. On 4 July 2005, the then Minister for Rural Affairs and Biodiversity visited the Project, in order to meet some of that year's young kites.

Red Kites

As IEEM members will know, red kites are big, beautiful birds of prey that, with their distinctively forked tail, russet plumage and a wingspan, which measures more than five and a half feet, are, in effect, 'unmistakable'. It is also a species with a strong cultural resonance and various surveys have shown it, along with golden eagle and song thrush, to be among Britain's favourite birds. Kites were once common across Great Britain, probably being our most widespread bird of prey. Three hundred years ago, the species would have been a common sight over much of lowland England, including the northeast. Red kites have been a rare species in the northeast of England for almost two centuries.

In medieval times, the species fed in the streets of London (where it was given special protection for its role in 'cleansing the streets'). Between the 16th and 19th Centuries, red kites suffered severe human persecution, with a consequent catastrophic reduction in their numbers. By the end of the 19th Century, just a handful of British birds remained, all of them in Wales.

In the United Kingdom therefore, the red kite has been a rare breeding bird for over two centuries, with a population of fewer than 20 pairs for most of the 20th Century. At its lowest ebb, during the 1930s, there was probably only a single successful breeding female in the remnant Welsh population. There was some recovery from around 1950, although this was slow. By 1989, 52 pairs were recorded nesting. The recovery speeded up over the subsequent decades, the 1980s in particular, and by 1991, it was estimated that 77 pairs were breeding.

In 1989, to address the situation, the Joint Nature Conservation Committee (JNCC) decided to reintroduce kites to various parts of the UK. Between 1989 and 2006 a variety of partner organisations have been working on a programme to return the red kite to its original British range. Up to 2002, there had been six successful re-introduction schemes, three each in England and Scotland. By this time, North East England had been identified as probably the last mainland location for such a reintroduction; 'joining of the dots' between the projects to the south and north. Northern Kites was formed as a result.

Over the Project period, Northern Kites aims to re-establish the red kite as a breeding bird in the region. The release sites for the kites are close to the heart of urban Tyneside – within three and a half kilometres of the Gateshead MetroCentre and in this respect, Northern Kites is unique in reintroducing red kites to a semi-urban environment.

At first glance, Gateshead might seem a somewhat strange choice for such a Project, but the area selected – in the Lower Derwent Valley - is right for a number of reasons. Firstly, the habitat mosaic

is perfect for kites. Secondly, much of the land, which the kites might use after release, was already in the ownership or management of organisations that manage their land holdings for nature conservation or heritage interest. Thirdly, and very importantly, the area is easily accessible to hundreds of thousands of people living in

One of the Go North East's fleet of red kite-badged buses operating in the Derwent Valley.



the Tyneside conurbation. It is worth remembering that Northern Kites is as much about people as it is the birds themselves. Whilst the northeast is well known for its rich natural heritage, many of the region's most exciting wildlife spectacles are remote from the region's main population. Northern Kites offers an exceptional opportunity to bring spectacular wildlife to the heart of the region and its people, on a daily basis. As well as bringing the kite back to the northeast region, the partners are working to provide opportunities for people to see these spectacular birds.

So, What Has Been Achieved to Date?

The Northern Kites re-introduction schedule commenced in spring/summer 2004, and 12 July 2004 saw the release of the first six red kites into North East England. Eventually, twenty birds were successfully released during July. By April 2005, of the 20 kites released in July 2004, 18 were known to be alive, the highest survival rate (90%) of any Year 1 release project, since work began on the national programme of releases in 1989.

In July 2006, Northern Kites brought to a close its programme of red kite releases. Over the summer of 2006, the Project released 33 kites at two secret locations in Gateshead's Derwent valley, which can now be revealed as the National Trust Estate at Gibside and Northumbrian Water's Lockhaugh Sewage Treatment Works, at Rowlands Gill. The 2006 releases brought the total number of kites released in the region, between 2004 and 2006, to 94 (20 in 2004; 41 in 2005; and, 33 in 2006); the original goal of the Project was to release 'up to' 80 kites over the five-year lifetime of the Project.

Within two years of the first kite releases, the species had been brought back as breeding bird to the region, after an absence of almost 200 years.

It had always been hoped that the kites released in 2004 might start indulging in some breeding activity in 2006. However, the birds exceeded expectations. Through radio-tracking work, the Project revealed that an unexpectedly large number of pairs of kites 'set up' territory. In total, this amounted to eight pairs. These initial territories translated into five 'serious' nesting attempts (in which birds built nests). Of these five nesting attempts, at least four pairs of kites laid and incubated eggs, three reached a late-stage in the incubation process, and two nests successfully hatched chicks, three young kites were fledged (see table below). Nest failures were all attributable to natural causes.

In addition, one of the Northern Kites birds released in July 2004 fledged two young from a nest near Harrogate, with her Yorkshire male.

Breeding Season Details					
Location	Early season territories	Breeding pairs	Pairs known to be incubating	Pairs fledging young	No. of young fledged
Derwent Valley	7	4	3	1	1
Teesdale	1	1	1	1	2
Totals	8	5	4	2	3

As part of a developing programme of events featuring red kites, hundreds of people, in both 2006 and 2007, have been shown the kites, as up to 35 kites roosted within 300 m of a high density housing estate in Rowlands Gill, only a few kilometres from the heart of urban Tyneside. This is the largest kite roost established in the region for over two centuries!

In the summer of 2006 just under 11,000 people visited the Kitewatch run by Gateshead Council and Northern Kites at the Nine Arches Viaduct (on the Derwent Walk) during June and July. The nesting site was just 120 metres from the Derwent Walk, where it crosses the Nine Arches Viaduct. This provided a perfect location for the public see these brilliant birds. Thanks to the efforts of

Gateshead Council, that is exactly what was done. This was northeast's first kite active nest in almost six human generations. It was located within two miles of the Gateshead MetroCentre and less than 600 m from the nearest housing estate.

The Kitewatch was tremendously successful, with visitors from across the region, the UK and the continent, dropping in to watch the kites at the nest. Visitor feedback was extremely positive with over 670 people signing the visitor book, making comments such as:

- 'A once in a lifetime experience.'
- 'Brilliant! Thank you for organising the Kitewatch!'
- 'Wonderful to see, brought tears to your eyes.'
- 'Were very glad to see the Kite. Have never seen anything like this. Thank you.'
- 'My first Kite, majestic and superb.'
- 'Wonderful sight I shall long remember.'

The chick from this nest, Geordie (the first young kite to fledge in the North East in almost 200 years), made its first hesitant flight near the nest on 17 July 2006.

EVERY kite released through the Northern Kites Project has been 'adopted' by a local school (88 schools involved) and the Project has engaged with over 150 schools to date.

It is estimated that well over 50,000 people have now seen kites in the region.

In March 2007, Go North East launched their fleet of nine Red Kite buses. Emblazoned with red kites, these travel from Eldon Square, Newcastle, via the MetroCentre, through the Derwent Valley and the heart of 'kite country'

Where to Watch Kites – Spring 2007

The majority of the 94 kites released in Gateshead between 2004 and 2006 have stayed in the Gateshead area (with at least up to 56 different birds recorded in Gateshead during winter 2006/07). That said, some birds have ventured further a-field, exploring areas of Northumberland, Durham and Teesdale. Other birds have visited Scotland and Yorkshire, with stops in Wales and the Chilterns.

The Main Kite Watching Area – Lower Derwent Valley, Gateshead

At present, kites are most easily seen between Burnopfield and Rowlands Gill, and from there, across Barlow Fell to Barlow and Winlaton. Kites are noted on a daily basis over Rowlands Gill and the National Trusts Gibside Estate. They are frequently over Barlow Fell and in the Barlow Burn (one of the main foraging locations for the birds). Grid Reference: NZ168587.

One of the best stop-off points to see kites is the Black Horse public house car park, at Barlow village. This location gives a good overview of the Barlow Burn (a small valley running parallel to the Derwent valley). Drive to the back of the pub car park and scan across the valley to see kites. Barlow Fell lies between Barlow village and Rowlands Gill. Grid Reference: NZ156609 (Black Horse pub, Barlow).

For more details about the Project or the latest information on the birds' whereabouts, contact Northern Kites, Office Suite 3b, 33 St Mary's Green, Front Street, Whickham, Tyne & Wear, NE16 4DN, Tel. 0191 496 1555, e-mail info@northernkites.org.uk or visit the Project website, which is updated on a bi-monthly basis at www.northernkites.org.uk.

The Northern Kites project is managed by the RSPB and Natural England working in partnership with Gateshead Council, Northumbrian Water, The National Trust and The Forestry Commission, with additional funding from The Heritage Lottery Fund and SITA Trust.

South West England Section News

Managing for Defence and Biodiversity

South West England Section Field Meeting, Braunton, 7 July 2007

Despite weeks of poor weather, the clouds parted on the morning of our visit to North Devon and some 15 members met to look at two very different sites linked by their military use.

Our first stop was RMB Chivenor, now home to Commando Logistic Regiment Royal Marines, the base was originally a civil airfield opened in the 1930s, becoming a RAF Coastal Command Station in May 1940. After World War II the station was largely used for training, with one of the RAF's Tactical Weapons Units (TWU) using Hawker Hunter aircraft in the 60s. In 1974, the station was left on 'care and maintenance', and finally the RAF handed the airfield over to the Royal Marines in 1994. Although few fixed wing aircraft now use the base, the RAF still has two search and rescue Sea King helicopters stationed there.

A Conservation Committee is in place to try to accommodate the needs of both wildlife and military use. Some 250 hectares in size, the main conservation interest is the grassland surrounding the runways, where several skylarks were constantly audible. Barn owls nest in an old building and there was plenty of evidence of small mammals. A management plan is in place and a hay crop is taken, although aftermath grazing is clearly not an option here.

The site adjoins the Taw Estuary and otters are known to visit, using an artificial holt constructed some years ago. Typical estuary margin plant communities were evident, with saltmarsh species below the old concrete sea walls.

Things are rarely static at the base and re-development produces quantities of waste, particularly rubble and concrete. The stockpiles are a favoured habitat for common reptiles, resulting in a need for careful management. Similarly, remnant wetland areas are being considered for enhancement, perhaps leading to creation of an educational resource for local schools.

We have been asked to provide feedback from our visit; the site has considerable potential but would benefit from a review of the management plan in order to guide its development in the hands of regularly changing personnel.

Following lunch and a brief check of the wetland created as part of the Velator Flood Defence Scheme, which has matured nicely over ten years, we moved on to the highlight of the day, a visit to the internationally important sand dune system of Braunton Burrows. The importance of this site has been recognised since the 17th Century. Privately owned by the Christie Devon Estates Trust, it is the largest sand dune system in England, extending some 6 km from north to south, where it meets the Taw estuary. From the back of the wide, flat Saunton beach to where the dune grassland meets Braunton Marsh is about 1.5 km, and the total area is some 970 hectares. It's a heavily designated site: Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), Area of Outstanding Natural Beauty (AONB), Heritage Coast and, in 2002 it became the first new style UNESCO Biosphere Reserve in the UK. It was formerly a National Nature Reserve (NNR), but was de-declared in 1996.

We were shown round by John Breeds, formerly NNR Warden and now Education Warden for the MOD. His knowledge of the site was encyclopaedic and he gave us a wide-ranging introduction.

Like many sand dune systems, water is a key issue. Braunton has been drying slowly for many years, but understanding the real causes has been tricky. However, it is now generally accepted that a combination of reducing rainfall and increasing scrub are the major problems. There is little that can be done about the first, while the second has also been extremely difficult to manage.

As rainfall has reduced, the water table has dropped and the dune slacks have become drier, with some 28% of slack communities lost. Mechanical intervention has been necessary to maintain some of the rare plants and invertebrates, with some 7 ha of slacks restored by scraping away the surface material and exposing the damp sand close to the water table. However, it's not a simple operation and with this year's heavy rainfall, some of these areas will be under water for longer than intended.

Historically, the site was heavily grazed by rabbits, which largely prevented scrub from establishing. Following myxomatosis, rabbit numbers have declined dramatically. Introduction of grazing stock has long been an ambition, and recent trials with Red Devon cattle and Devon Closewool sheep have shown good results. Grazing does require fencing, however, which is not easy on such a well used site. Mechanical removal is still a key part of scrub management, but cutting or mowing really needs following up with grazing if the flower rich areas (up to 22 species.m⁻²) are not to deteriorate.

Responsibility for site management is complex; the area is extensively used for military training, which helps to maintain areas of bare sand, but the Christie Estates have overall control, working with Natural England to ensure that favourable condition is maintained. A small section of sea defences is in the Environment Agency's remit.

Braunton Burrows has some 400 species of plants, from strandline and foredune right through the range of dune habitats to the grassland and scrub on the stable back dunes. We saw many examples, including some real rarities like water germander *Teucrium scordium* and sand toadflax *Linaria arenaria*. Many of the orchids were already over, but the hundreds of pyramidal orchids *Anacamptis pyramidalis* were stunning, as were the drifts of viper's bugloss *Echium vulgare*. Braunton is also very important for its invertebrates and the sunshine encouraged plenty of the 33 butterfly species to show themselves. We were able to find the amber sandbowl snail *Catinella arenaria* too, after a bit of a search around the margins of a restored scrape. It's only present at six UK sites and the others are all in Cumbria.

Despite a full car park when we arrived, we barely saw anyone else in our four hours in the dunes. It was a fascinating insight into the real difficulties in managing this unique site and trying to ensure that the often conflicting demands of all interested parties are addressed.

*Report by Mike Williams CEnv MIEEM,
Environment Agency*

Irish Section News

Irish Section Conference 2007

Venue: Red Cow Hotel, M50/M7 junction, West Dublin

Date: Monday 15 October 2007, 9 am to 5 pm

Theme: Irish Biodiversity – Countdown to 2010

Programme:

- The conference will be formally opened by Mr John Gormley TD, Minister for the Environment, Heritage and Local Government. As the first Green Party Minister in Ireland, it is expected that Mr Gormley will address the issue of forthcoming biodiversity conservation measures by the new government.
- Keynote speakers include Dr Ciaran O'Keeffe, Director of the National Parks and Wildlife Service, and Dr Liam Lysaght, Director of the National Biodiversity Data Centre.
- The programme will include a number of short 15-minute status reports on animal and plant groups in both the terrestrial and marine environments. Themes for the day include mammals, birds, alien species, freshwater species, and marine and botanical groups. A book of abstracts will be provided for all delegates.

There will be an Ecology Bookshop and Fieldwork Equipment supplies for delegates to the conference.

The AGM of the Irish Section of IEEM will be held at 1 pm during the conference.

The programme and booking form are available on the IEEM website at www.ieem.net/Conferences.htm.

This is likely to be a very popular conference so early booking is advised.

Reports of 2007 Workshops in Ireland

Woodland Structure

Tutor: Sasha Bosbeer MIEEM

The first CPD workshop to be held by the Irish Section was held in early April in Galway. Fourteen ecologists, mostly IEEM members, came to discuss close-to-nature silviculture and how to restructure a woodland canopy. After a morning of lectures on different silvicultural systems and the population ecology of native tree species, the afternoon was spent in a sun-bright broadleaf woodland, assessing the canopy structure and coming up with specific management options to restore the woodland to native trees. Participants enjoyed the workshop and the bluebells!

Sasha Bosbeer MIEEM

Freshwater Crayfish

Tutor: Julian Reynolds

A total of 14 members participated in this field-based workshop in north Kildare under the tuition of Dr Julian Reynolds, the foremost expert on crayfish in Ireland, assisted by Pascal Sweeney MIEEM. On the River Barrow at Monasterevin, general crayfish biology was discussed and trapping was demonstrated. The group then moved to the Slate River at Rathangan, where mink scats and otter spraints were first examined for crayfish remains. Then everybody had the opportunity to catch crayfish by a selective manual survey method, using a viewing box. A good number of crayfish were caught, examined and returned to the river. Overall the participants had a most informative, practical and pleasant day.

Pascal Sweeney MIEEM

Habitat Mapping

Tutors: Katharine Duff MIEEM and Matt Hague MIEEM

The habitat workshop held in Wicklow at Natura Environmental Consultants on 8 June was attended by eight people, some of whom were familiar with habitat mapping and some who were new to the practice. After a welcoming address by Richard Nairn, Katharine Duff gave an informative talk on how Natura tackle habitat mapping from the start of a project to the finished report. A practical mapping exercise was carried out in a woodland-farmland area at Ashford. Three groups were formed and each was provided with background mapping of the area and a tutor as well as identification keys to help them with the exercise. Each habitat was drawn on to the base map and given a corresponding 'Fossitt' code along with additional notes. All the results were reviewed and discussed before being digitised. Natura have developed a system using



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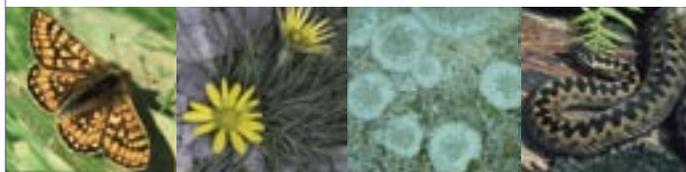
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Autocad, which allows all the different habitats as well as badger setts, bat roosts etc. to be plotted. This can then be used to build up a complete picture by adding layers of landscaping, aerial photography or other layers relevant to a project. The workshop was well run and the tutors very helpful. It showed how subjective the habitat mapping exercise can be, how habitats do not always fall into one 'Fossitt' category and so may form a mosaic of habitats composed of a series of codes. The advantages of digitising the mapping became very obvious and were explained thoroughly by Matt Hague.

Janet Slattery MIEEM

'Irish' Edition of In Practice

The editors of *In Practice* would like the March 2008 issue to focus on Ireland (north and south) following other issues with the themes of Scotland and Wales. Articles and shorter news items are invited from all members on Ireland-related topics of interest to professional ecologists and environmental managers. Anyone who would like to contribute an article should, in the first instance, contact Richard Nairn FIEEM rnairn@natura.ie who will coordinate the material from Ireland. Articles and illustrations should be supplied in digital format (MS Word and jpg formats preferred). The final deadline for material to be included is 31 January 2008, but earlier submission would be welcomed.



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ASSISTANT ECOLOGIST

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1. to facilitate active communication and exchange of knowledge between EFAEP members, and
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EFAEP is an association of environmental professionals from all over Europe and was founded in 2002 in response to the increasingly important and diverse role of environmental professionals. The restoration, protection and enhancement of the environment is no longer a secondary phenomenon but has penetrated all areas of life. In response to the growing sensitivity of society to environmental issues, the activities of environmental professionals have been steadily growing over the past decades and have become an unquestionable necessity.



EFAEP brings together professionals who are working in the field of the environment all over Europe and gives them an opportunity to exchange their experiences from their home countries, to find common solutions and to learn from successes and failures made in the current and future member countries of the European Union.



ENEP is the unique web tool EFAEP uses to connect its more than 15,000 members. It is currently the only internet site in Europe letting environmental professionals thoroughly describe their own experience and capabilities, effectively classify their skills, and quote their papers and projects in order to build a really complete profile.



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SocEnv News

The Chartered Environmentalist status establishes professional environmentalists on a par with other professionals such as Chartered Engineers and Chartered Scientists. There are currently about 4,500 CEnvS worldwide.

Further applications from members to become a Chartered Environmentalist are always welcome at the IEEM office – those who have successfully completed the process since the last edition of *In Practice* are: Miss Rachel Carrie, Dr Greg Carson, Dr Lincoln Garland and Ms Jane Orr – many congratulations!

The AGM was held on 6 June 2007 and was attended by Eirene Williams and Jim Thompson. John Brady stood down at the end of his year as Chairman and the reins were taken up by Tim Boldero of the Institution of Water Officers – congratulations Tim! John Gregory of the Institution of Fisheries Management took over as Chairman of the Management Committee and Vice Chairman. Following the formal business there was a reception where the guest speaker was Aubrey Meyer - Director of the Global Commons Institute. His message was clear – ‘global warming is real and carbon reduction targets need to have rationale behind them based on sound science and realistic goals’. He explained how the Contraction and Convergence (C&C) framework could be used as a global tool to move towards a reduction in carbon emissions equitably across the developed and developing countries. It was good to have the global warming message reiterated in his unique style.

During the reception, Alex Tait, IEEM Treasurer and Council Member and, until recently, a Board Member of SocEnv, was presented with his Honorary Fellowship (HonFSE) together with a citation recalling his many contributions to SocEnv, IEEM and the environment as a whole.

The membership of SocEnv by professional bodies continues to grow and the latest addition to this formidable list of key players in the environment is the Arboricultural Association.

Don't forget to visit the SocEnv website for further news and information -

www.socenv.org.uk

EFAEP News

European Network of Environmental Professionals

The European Network of Environmental Professionals (ENEP) is an online database of environmental professionals from across Europe that is being set up by EFAEP. It has now reached the stage where we are accepting entries onto the database from members of the constituent bodies of EFAEP, including IEEM, and we would like to invite you to enter your details onto the database.

Please also see the advert for ENEP on the previous page for more information.

EFAEP General Assembly

The last General Assembly (GA) of EFAEP was held in Prague in the Czech Republic on 1 June 2007. Jim Thompson, Mike Barker and Jason Reeves attended on behalf of IEEM.

The main topics of discussion at the GA were the new Statutes, the approval of a new member (The Association of Italian Naturalists), an update on the ENEP database and a report from the EMS (Environmental Management System) Working Group.

The next GA will be held in December 2007. A venue has not yet been decided.

On the previous day there was a seminar on various aspects of the environment:

- Vera Kessler from the VDI (German Association of Engineers) gave a presentation on environmental legislation and funding.
- Mike Barker gave a presentation on biodiversity and EU Directives.
- Jan Špacek from Lafarge addressed waste issues and energy efficiency in the Czech Republic that related to cement production.
- Carolyn Roberts from the Institution of Environmental Sciences (IES) gave a presentation on the role for universities in sustainable development.
- And finally Karel Bláha, the Czech Deputy Minister for the Environment, gave an outline of Czech policy on environmental issues. In the Czech Republic it would, unfortunately, appear that the industry, trade and finance sectors still view the environment as a burden.

An Invitation to join Countdown 2010

In 2002 the Convention on Biological Diversity (CBD) proposed a target ‘to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth’. Countdown 2010 is an IUCN initiative launched at the stakeholder conference “Sustaining Livelihoods and Biodiversity: Attaining the 2010 Target in the European Biodiversity Strategy” held at Malahide in Ireland, in 2004. The goal of Countdown 2010 is far-reaching but simple: that all governments and civil society at every level take all necessary actions to halt the loss of biodiversity by 2010.

The IUCN-UK Executive Committee supports the initiative and the UK Committee Secretariat has taken on the role of UK Countdown 2010 Focal Point. One function of the Focal Point is to encourage and increase support for Countdown 2010.

It is the actions taken by all of the Partner organisations involved that will generate the momentum to reach the 2010 biodiversity conservation target. This target provides a unique opportunity, both in its ambition and in the diversity of issues it touches upon. But just as biodiversity in itself depends on the variety of ecosystems, of species and genes, the success of Countdown 2010 rests to a large extent on the diversity of its partners and their work.

As all organisations are different, Countdown 2010 has no one-size-fits-all recipe for how you can reduce biodiversity loss within the capacity of your organisation. However, we encourage you to define some specific commitments for your organisation; even if your core business competencies are not linked directly to nature conservation, you can still play a valuable part.

If you feel that your organisation would like to contribute to the Countdown 2010 network, or you would like more information, please contact John Henson Webb at John.HensonWebb@jncc.gov.uk or visit www.iucn-uk.org.

In the Journals

Sponsored by



Jim Thompson CEnv MIEEM and Jason Reeves AIEEM

J.W. Mallord, P.M. Dolman, A.F. Brown and W.J. Sutherland.
Linking recreational disturbance to population size in a ground-nesting passerine.

Journal of Applied Ecology 2007, **44**: 185–195.

The paper reports the impact of disturbance on a woodlark *Lullula arborea* population on 16 heathland sites in southern England. These sites all had historical records of breeding woodlarks and together encompassed a range of visitor-access levels.

A model of patch use was used to quantify the area of habitat suitable for woodlarks. Woodlarks favoured patches with substantial proportions of bare ground and short vegetation. Across heaths, woodlark density (per hectare of suitable habitat) was lower on sites with higher levels of disturbance. Within heaths with recreational access, the probability of suitable habitat being colonized was lower in those areas with greater disturbance and was reduced to below 50% at around eight disturbance events per hour. There was no relationship between disturbance and daily nest survival rates. Birds on heaths with higher levels of disturbance fledged more chicks (per pair) because of a strong density-dependent increase in reproductive output.

The model predicts that the impact on the population depends on both the numbers of people and their spatial distribution. A doubling of visitor numbers has little effect, while the same number of people distributed evenly across all sites leads to a major negative impact on the population.

Many previous studies have stressed the negative effects of recreational disturbance on birds' behaviour, distribution and breeding success. However, from a conservation viewpoint, the impact at the population level is of paramount importance.

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A. Rolando, E. Caprio, E. Rinaldi and I. Ellena.

The impact of high-altitude ski-runs on alpine grassland bird communities.

Journal of Applied Ecology 2007, **44**: 210–219.

The wildlife value of treeless mountainous areas at high altitudes is increasingly threatened by ski-resort developments, in particular by the construction and enlargement of ski-pistes. The authors compared bird diversity and community composition in circular plots centred on (i) ski-runs of recent construction, (ii) grassland habitats adjacent to ski-runs and (iii) natural grassland habitats far from the ski-runs.

Plots located in natural grasslands supported the greatest bird species richness and diversity and the greatest grassland species density, whereas those set in ski-pistes were the lowest. Plots located beside ski-runs did not support smaller numbers of bird species and diversity than plots of natural areas, but they supported a significantly lower bird density. This suggests that ski-pistes, besides exerting a negative direct effect on the structure of local bird communities, may also exert an indirect, detrimental effect on bird density in nearby patches.

Richness and abundance of arthropods were significantly lower in ski-pistes than in the other plot types. Low food availability on ski-runs may be one of the factors reducing the attractiveness of these patches to birds.

Retaining the avifauna around ski-resorts is likely to involve

developing new, environmentally friendly ways of constructing pistes, such as only removing rocks and/or levelling the roughest ground surfaces, to preserve as much soil and natural vegetation as possible. Restoration of ski-pistes should promote the recovery and maintenance of local vegetation to enhance invertebrate and bird assemblages. In order not to compromise the safety of the ski-runs, it may be necessary to control encroaching shrubs through pruning and/or cattle grazing.

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J.G. Hiddink, S. Jennings and M.J. Kaiser.

Assessing and predicting the relative ecological impacts of disturbance on habitats with different sensitivities.

Journal of Applied Ecology 2007, **44**: 405–413.

Methods for assessing habitat sensitivity to human impacts are needed to gauge the sustainability of existing impacts, develop spatial management plans and support meaningful environmental impact assessments.

The authors developed a method to assess the sensitivity of seabed habitats to physical disturbance. It assumes that sensitivity is related to the recovery time of production or biomass using a size-based model that takes account of the effects of natural disturbance.

Trawling disturbance was used as an example of anthropogenic physical disturbance. Habitat sensitivity to trawling was mapped in 9 km² boxes across an area of 125 000 km² in the North Sea.

Habitat sensitivities varied widely, and a trawling frequency of 5 year⁻¹ in the least-sensitive habitat had the same ecological effect as a trawling frequency of 0.3 year⁻¹ in the most-sensitive habitat (based on production). When trawling effort was held constant but redirected to the least-sensitive habitats, the existing impacts on production and biomass were reduced by 36% and 25%, respectively.

The method described in this paper enables managers to predict the implications of changing patterns of human impact on seabed habitats when establishing spatial management plans. In the context of fisheries management, this will support the identification and selection of fishing grounds that minimize the adverse ecological effects of fishing; the selection of closed areas (both representative and highly sensitive); the comparison of management options that might reduce the overall environmental impacts of fishing; and any future steps towards the application of environmental impact assessment in advance of fishery development.

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J.H. Lawton.

Ecology, Politics and Policy - BES Presidential Address.

Journal of Applied Ecology 2007, **44**: 465–474.

The BES Presidential address and the BES Lecture which follows are always well worth a complete read and a summary rarely does justice to the content. And they are ideal material to meet that unstructured CPD requirement!

The paper poses the question of how successful has the BES been in influencing UK and EU environmental policy? What if we asked the same question of IEEM?

Many scientists hold to the 'deficit model' of turning science into policy, the view that if only politicians are told what the science reveals, 'correct' policies will automatically follow. But politicians have all kinds of reasons, some valid, some less valid, not to adopt what often seem to be common sense policies to protect the environment.

The paper explores some of the successes and failures of ecologists to influence UK and European environmental policy, using acid deposition, the collapse of global marine fisheries, GM crops and climate change, carbon dioxide and ocean acidification as examples. It reviews the literature on what social scientists have to say about evidence-based policy-making and why it often appears to be so difficult to persuade politicians to adopt sound environmental policies.

He concludes with the comment that ecologists can, and do, influence government policy on the environment, but often via complex and iterative interactions that can be painfully slow, and may require fundamental changes in politicians' belief systems, values and norms.

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P. Dasgupta.

Nature and the economy – BES Lecture.

Journal of Applied Ecology 2007, **44**: 475–487.

The paper starts with the comments that ecologists and economists have much to say to each other, yet they rarely converse. Typically ecologists do not read economics even when they come to deploy economic reasoning, and economists blissfully neglect ecology when studying the economic progress of communities and nations.

It covers a World Bank view of the recent macroeconomic history of a number of countries in the poor and rich worlds and then demonstrates how the view of macroeconomic history changes if nature is included as a capital asset in production activities.

High population growth in the world's poorest regions (South Asia and sub-Saharan Africa) has been an obstacle to the achievement of sustainable economic development in those areas. People in those regions are, on average, less wealthy now than they were 35 years ago.

When population growth is taken into account, the accumulation of manufactured capital, knowledge and human capital (health and education) has not compensated for the degradation of natural capital in South Asia and sub-Saharan Africa and, in all probability, even in the United Kingdom and the United States.

The lecture concludes that there is much further work to be conducted in understanding how ecological concerns can be incorporated into economic theory.

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J.K. Larsen and M. Guillemette.

Effects of wind turbines on flight behaviour of wintering common eiders: implications for habitat use and collision risk.

Journal of Applied Ecology 2007, **44**: 516–522.

Many offshore wind farms will be erected in shallow waters (< 40 m deep) where various coastal bird species are found. The two main issues for birds are disturbance and collision risk. The paper reports on the effect of wind turbines on the flight behaviour of wintering common eiders *Somateria mollissima* in order to identify the properties that cause disturbance and the factors that may increase their risk of collision.

The study was conducted at Tunø Knob offshore wind park in the Kattegat, Denmark. Birds were attracted through the use of

decoys located at increasing distances from the wind park.

Common eiders reacted strongly to the presence of wind turbines by avoiding them. The movement and noise of rotors affected neither the number of common eiders flying within corridors nor the number of birds reacting to decoys. This suggests that the avoidance behaviour observed was caused by the presence of the structures themselves and that eiders use vision when avoiding human-made structures. Although the disturbance effect of revolving rotor blades is negligible during daylight hours there is a need for studies to be carried out during hours of darkness and conditions of poor visibility e.g. fog and snow.

The avoidance behaviour may result in a reduction in habitat availability within and around wind farms, and raises concerns about the possible impact of the extensive development of large-scale versions in shallow offshore waters, which are the main feeding areas for sea ducks and other marine birds.

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J. Brunet.

Plant colonization in heterogeneous landscapes: an 80-year perspective on restoration of broadleaved forest vegetation.

Journal of Applied Ecology 2007, **44**: 563–572.

Afforestation of agricultural land has become an important issue in Europe during the past two decades. In particular, broadleaf plantations have been promoted as multifunctional forests for biodiversity, timber production and recreation. The aim of this study was to analyse how the colonization of ground-layer plants in recently planted woodlands is affected by stand age, spatial isolation, former land-use type and canopy species.

Colonization was studied in 50 plantations of pedunculate oak *Quercus robur* and 16 plantations of sycamore *Acer pseudoplatanus* on former arable land and open pastures in the Torup–Skabersjö area of southern Sweden. Twelve oak plantations and 10 sycamore plantations on ancient woodland sites were used as reference areas.

Woodland species richness increased continuously with stand age in plantations contiguous with ancient woodland. The oldest plantations (70–80 years) approached the species richness of ancient oak woodland. Species richness decreased with increasing distance from ancient woodlands, and there was no significant increase in species richness between stands aged 20 and 80 years in isolated plantations.

This study demonstrates that new woodland should build out from cores of ancient woodland for optimal ground vegetation development. A species-rich ground vegetation can be achieved by spontaneous colonization within 70–80 years when plantations are contiguous with ancient woods. Many typical forest species are not able to disperse across open fields and their establishment in isolated stands will require sowing or planting.

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J.R. Rouquette and D.J. Thompson.

Patterns of movement and dispersal in an endangered damselfly and the consequences for its management.

Journal of Applied Ecology 2007, **44**: 692–701.

Coenagrion mercuriale is one of Europe's rarest and most threatened damselflies. Management is currently geared towards habitat restoration of isolated subpopulations, with little attention paid to the metapopulation and landscape context.

A multisite mark–release–recapture project was carried out in the valley of the River Itchen in southern England to determine the extent of movement and the factors affecting movement of

mature adults. A total of 8708 individuals was marked.

The species was found to be extremely sedentary, with dispersal limited to an area of contiguous habitat. The median net lifetime movement was 31.9 m and 66% of individuals moved less than 50 m in their lifetime. Movements of greater than 500 m were rare and the longest recorded movement was 1.79 km. There was strong evidence for inverse density-dependent movement, with individuals moving further in low-density than high-density populations.

This means that it is unable to recolonize isolated sites and requires 'stepping stone' habitats to improve its chances of survival in the medium to long term. Suitable habitat management between sites that are beyond the dispersal distance of individuals can be used to connect or reconnect populations. The long-term persistence of *C. mercuriale* and other invertebrate species requires a landscape approach to management, with connectivity an important part of management planning. It is clear that carefully conducted studies of movement and dispersal are key components in guiding invertebrate conservation strategies.

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J. Vicente, R.J. Delahay, N.J. Walker and C.L. Cheeseman.
Social organization and movement influence the incidence of bovine tuberculosis in an undisturbed high-density badger *Meles meles* population.

Journal of Animal Ecology 2007, **76**: 348–360.

This topic continues to attract controversy and this paper is a useful addition to the debate - will policy be science lead? Recent results indicate that the culling of badgers to control bovine tuberculosis (TB) could in practice enhance disease spread.

The paper looks at the relationship between TB incidence and badger ecology in a high-density population in south-west England. The principal aims were to relate the probability of TB incidence at the level of the individual and of the social group to demographic processes, movement, social organization and disease dynamics.

The probability of an individual being an incident case was greater in groups where TB was already present. Both individuals and groups were more likely to be incident cases where the social group was diminishing in size. This suggests that the process of group size reduction rather than group size per se has most influence on disease dynamics. The likelihood that either an individual or a group was an incident case was positively correlated with both individual and group-level movement.

When the proportion of females in a social group was high, the positive association between movement and incidence was more pronounced and there was a significantly higher probability of incident cases among males.

These relationships highlight the importance of social structure in driving TB transmission dynamics in this stable, high-density badger population. The results support the idea that a stable social structure mitigates against new incident cases of disease, and that badger culling may create the social circumstances for enhanced transmission of TB.

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B. Braschler and J.K. Hill.
Role of larval host plants in the climate-driven range expansion of the butterfly *Polygonia c-album*.

Journal of Animal Ecology 2007, **76**: 415–423.

The authors studied the comma butterfly *Polygonia c-album*, which is currently expanding its range in Britain and apparently has altered its host plant preference from *Humulus lupulus* to include other hosts (particularly *Ulmus glabra* and *Urtica dioica*). They investigated insect performance (development time, larval growth rate, adult size, survival) and adult flight morphology on these host plants under four rearing temperatures (18–28.5°C) in populations from core and range margin sites.

In general, differences between core and margin populations were small compared with effects of rearing temperature and host plant. In terms of insect performance, host plants were generally ranked *U. glabra* ≥ *U. dioica* > *H. lupulus* at all temperatures.

The current range expansion of *P. c-album* is associated with the exploitation of more widespread host plants on which performance is improved. This study demonstrates how polyphagy may enhance the ability of species to track climate change. The findings suggest that observed differences in climate-driven range shifts of generalist vs. specialist species may increase in the future and are likely to lead to greatly altered community composition.

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A.P. Møller, E. Flensted-Jensen and W. Mardal.
Agriculture, fertilizers and life history of a coastal seabird.

Journal of Animal Ecology 2007, **76**: 515–525.

Leakage of fertilizers from farmland has affected levels of nitrogen and phosphorus in many coastal areas, reducing the limitation of primary productivity with consequences for timing and magnitude of the annual peak in phytoplankton and zooplankton. Such changes in nutrient availability may have affected temporal patterns of abundance of marine invertebrates and vertebrates that are the main prey of seabirds.

The authors investigated the extent to which changes in the use of fertilizers by farmers affected timing of breeding, clutch size, recruitment and longevity of a coastal seabird, the Arctic tern *Sterna paradisaea* Pont., in Denmark.

Timing of breeding advanced and annual mean clutch size increased with the increase in use of fertilizers. Annual recruitment rate, estimated as the proportion of young that were subsequently recovered as adults, was related to fertilizer use. Mean longevity, estimated as

Arctic tern.
Photo: Chris Nutley, Environment Agency



the maximum age of adult individuals, decreased in response to fertilizer use.

These findings provide evidence of fertilizer use in agriculture having significant indirect effects on timing of reproduction, clutch size, recruitment and longevity of a seabird.

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R. Lindborg.

Evaluating the distribution of plant life-history traits in relation to current and historical landscape configurations.

Journal of Ecology 2007, **95**: 555–564.

In north European rural landscapes, abandonment of small farms and agricultural intensification have led to a decline in semi-natural grassland, with associated biodiversity loss. Although species richness response to land-use change in rural landscapes is relatively well studied, few have examined its effects on plant species composition over time.

In this study, four life-history traits associated with spatiotemporal dispersal were analysed: seed size, seed dispersal attributes (e.g. awns, wings), seed bank persistence and plant longevity (annuals, perennial with and without clonal ability). The author investigated how differences in distribution of these traits among plants in semi-natural grasslands are related to current and historical landscape configuration.

The distributions of longevity and seed bank persistence, were correlated with grassland connectivity and area, whereas seed size and seed dispersal attributes were not. The proportion of short-lived plants was positively associated with current grassland connectivity and grassland area, whereas long-lived species, with and without clonal ability, were unrelated to current grassland connectivity and area.

The result suggests that there are two main strategies to persist in response to landscape fragmentation: either persist in the seed bank or disperse vegetatively. The higher sensitivity to isolation among short-lived plants and plants without clonal ability requires consideration of life-history traits to understand plant community dynamics fully over time. In the long term, reduction in historical connectivity and grassland area will thus create a grassland community dominated by clonal long-lived plants and plants with a persistent seed bank.

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L. Bonesi and S. Palazon.

The American mink in Europe: Status, impacts, and control.

Biological Conservation 2007, **134**: 470–483.

The authors examined the distribution of American mink *Mustela vison* in 28 European countries and reviewed the impacts of this invasive species and the efforts made so far in controlling it. The study revealed that mink are widely distributed across Europe and that in some countries they are apparently declining. Countries for which the impact of mink on native species has been studied show that they can have a significant effect on ground-nesting birds, rodents, amphibians and mustelids. The overall economic impact of feral mink seems to be relatively small but can be significant in specific regions. Many eradication and local control projects have been carried out throughout Europe in recent years and indicate that these actions could be effective at protecting native species. A consistent body of knowledge is starting to accumulate on issues concerning

the American mink as an invasive alien species, but, for most European countries there is currently a limited knowledge about its distribution or impacts. Taking all these observations together, the authors present some of the actions that have recently emerged as effective for dealing with this species and discuss which considerations may further encourage competent European authorities to take action to prevent and mitigate impacts of American mink.

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A. Fischer and R. van der Wal.

Invasive plant suppresses charismatic seabird – the construction of attitudes towards biodiversity management options.

Biological Conservation 2007, **135**: 256–267.

Public attitudes towards biodiversity issues and the value judgments underlying biodiversity management and conservation are still poorly understood and this has raised serious concerns regarding the effective use of public participation in biodiversity policy making. The authors conducted interviews with members of the general public in southeast Scotland. They assessed attitudes towards biodiversity management to a case study investigating biodiversity management options for an island ecosystem in which the abundance of a charismatic seabird, the Atlantic puffin *Fratercula arctica* is compromised by the expansion of a tall invasive plant, tree mallow *Lavatera arborea*. The authors found that attitudes expressed by the public are informed by both value- and knowledge-based elements. The research provides clear support for the notion that, in a conservation context, value-based principles matter to the public. Out of a set of seven conservation-related values, 'balance' and 'naturalness' were important factors that related strongly to the respondents' attitudes. These relationships were even stronger for individuals emotionally involved with the topic. The findings provide evidence that attitudes offer valuable and meaningful information to biodiversity policymakers and managers, and allow empirical insights into the way value judgments influence biodiversity management and conservation.

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C.J. Ellis, B.J. Coppins and T.P. Dawson.

Predicted response of the lichen epiphyte *Lecanora populicola* to climate change scenarios in a clean-air region of Northern Britain.

Biological Conservation 2007, **135**: 396–404.

Until now studies in the response of vegetation to predicted future climate change have focussed on vascular plants and are therefore largely unrepresentative of wider botanical diversity. This study aimed to predict the response of a cryptogam

Puffins.
Photo: Dave Martin, Environment Agency



species, the epiphytic lichen *Lecanora populicola*, to climate change scenarios. *L. populicola* is an easily dispersed species that occurs predictably in a widespread habitat, aspen stands. The study area was geographically constrained to a clean-air region of northern Britain. Using the bioclimatic envelope approach the projected climatic response of *L. populicola* is not expected to be confounded by air-borne pollution effects, or dispersal and habitat limitation. The response of *L. populicola* to seven climate variables was described, and an optimum model projected comprising two time-frames and two greenhouse gas emission levels. Model predictions suggest an overall increase in the potential range of *L. populicola*, and, by association, several other 'boreal' lichen epiphytes. Projected increases in the occurrence of *L. populicola* are associated with predicted summer drying, and indicate a likely threat to negatively associated 'oceanic' lichens.

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Ú. Fitzpatrick, T.E. Murray, R.J. Paxton, J. Breen, D. Cotton, V. Santorum and M.J.F. Brown.

Rarity and decline in bumblebees – A test of causes and correlates in the Irish fauna.

Biological Conservation 2007, **136**: 185-194.

Recent studies on British bumblebees have proposed alternative theories to explain bumblebee declines. These include the suggestion that greater dietary specialization among the rarer bumblebee species makes them more susceptible to decline, or that declines in British bumblebees are correlated with the size of species' European ranges. Here the authors use a new and independent dataset based on Irish bumblebees to test these theories. They found that most of the same bumblebee species are declining across the British Isles, but that, within Ireland, a simple food-plant specialization model is inadequate to explain these declines. Additionally, the authors found no evidence of a relationship between declines in Irish bumblebees and the size of species' European ranges. The authors do, however, demonstrate that the late emerging species have declined in Ireland (and in Britain), and that these species show a statistically significant westward shift to the extremity of their range, probably as a result of changing land use. Irish data support the finding that rare and declining bumblebees are later nesting species, associated with open grassy habitats. The authors suggest that the widespread replacement of hay with silage in the agricultural landscape, which results in earlier and more frequent mowing and a reduction in late summer wildflowers, has played a major role in bumblebee declines.

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G.F. Smith, S. Iremonger, D.L. Kelly, S. O'Donoghue and F.J.G. Mitchell.

Enhancing vegetation diversity in glades, rides and roads in plantation forests.

Biological Conservation 2007, **136**: 283-294.

Permanent open spaces in plantation forests provide an opportunity for enhancing biodiversity in plantations and in the wider landscape. The authors surveyed vegetation in 60 glades, rides and roads in 12 Irish plantation forests, and collected data on solar radiation, soil and management. They determined that variation in species richness and diversity of vascular plants and bryophytes was determined principally by soil factors and open space management, and that light levels were positively associated with vascular plant species richness and negatively associated with richness of bryophytes. In rides, the most important plantation feature in determining solar radiation levels and plant diversity was ride width. Increasing edge-to-area ratio corresponded with a decrease in beta-diversity within glades. Roadside plots most strongly influenced by road gravel and

disturbance supported the highest vascular plant, open-habitat and ruderal species richness and vegetation evenness. The authors suggest that, for open spaces to contribute significantly to the biodiversity of plantation forests, rides and roads should be a minimum of 15 m in width and glades should be a minimum of 625–900 m² in area.

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L. Bonesi, S.P. Rushton and D.W. Macdonald.

Trapping for mink control and water vole survival: Identifying key criteria using a spatially explicit individual based model.

Biological Conservation 2007, **136**: 636-650.

The authors outline how they have developed a spatially explicit and individual based model as a planning tool to identify key criteria for the implementation of trapping campaigns as a way to control open American mink *Mustela vison* populations. The authors first predicted the minimum effort required to reduce populations of mink below a certain threshold and the best time of year in which to trap mink to minimise their numbers. They then employed this methodology to predict the best trapping strategy to ensure the long-term survival of the water vole *Arvicola terrestris*, one of the species most endangered by the spread of the mink in the UK. The authors also applied the mink and water vole population models to rationalise a set of observed data in an area of 50 × 30 km in the upper Thames. The model predicted that it is necessary to remove mink for at least three months every year and that a mixed strategy of trapping during the mating, late dispersal and winter seasons is best for keeping mink at low densities. Concentrating trapping during the late dispersal and winter seasons is instead best for ensuring the long-term survival of water voles. Targeting immigrating juvenile mink as well as reproductive adults is important. The model also showed that trapping efficiency might be an important factor to consider when choosing periods in which to trap.

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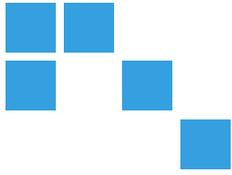
M. Baskett, F. Micheli and S.A. Levin.

Designing marine reserves for interacting species: Insights from theory.

Biological Conservation 2007, **137**: 163-179.

A multispecies approach to designing and monitoring reserve networks is necessary to protect biodiversity and ecosystem structure. To gain insight into how the interactions between species in marine communities may affect reserve design, the authors synthesized marine reserve community models and community models with habitat destruction and fragmentation, and developed new extensions of existing models. This synthesis highlights the potential for species interactions to alter reserve design criteria; in particular, accounting for species interactions often leads to an increase in reserve size necessary to protect populations. Accounting for species interactions also indicates the need to base reserve design and monitoring on a variety of species; especially long-distance dispersers, inferior colonizers, and specialists. Finally, the new model extensions highlight how, given dispersal, source populations outside reserves as well as increases in fished populations after reserve establishment may negatively affect reserve populations of competitors or prey. Therefore, multispecies harvest dynamics outside reserves and before reserve establishment are critical to determining the appropriate reserve size, spacing, and expectations after establishment. These models highlight the importance of species interactions to reserve design and provide guidelines for how this complexity can begin to be incorporated into conservation planning.

Correspondence: mbaskett@nceas.ucsb.edu



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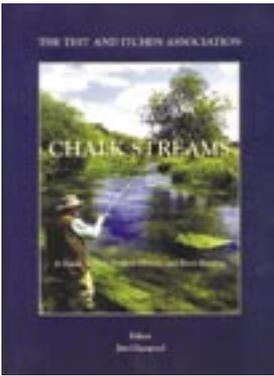
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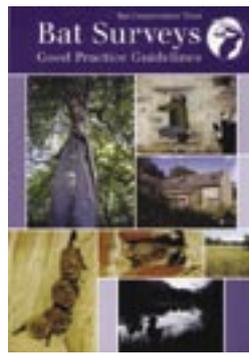


Chalk Streams – A Guide to their Natural History and River Keeping

Editor: Jim Glasspool
ISBN-13: 978-0-9555761-0-2
Available from: Sarsen Press (info@sarsenpress.com)
Price: £25.00 (+ £5.00 p&p)

This is a comprehensive guide to the natural history of chalk streams produced to mark the Centenary of the Test and Itchen Association.

Each chapter has been written by an acknowledged expert. The book has over 130 colour photographs and illustrations and covers everything from evolution to ecology to management.



Bat Surveys - Good Practice Guidelines

Editors: Bat Conservation Trust
ISBN-13: 978-1-872745-99-2
Available from: Bat Conservation Trust (www.bats.org.uk)
Price: Free download (softcover £19.99)

This really useful publication provides a guide to the type and level of survey required for different habitats, in order to adequately ascertain their use by bats. These guidelines were developed

with input from experts in the field and they provide the best current thinking on bat surveys. These guidelines have also been endorsed by IEEM and several IEEM members sat on its editorial board.

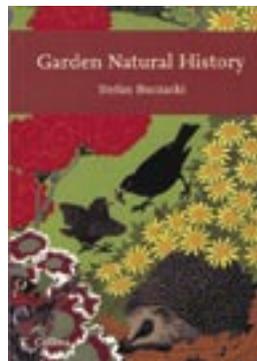


Forest Ecology and Conservation: A Handbook of Techniques

Author: Adrian Newton
ISBN-13: 978-0-19-856745-5
Available from: Oxford University Press (www.oup.co.uk)
Price: £27.50

This book describes research methods and techniques relevant to understanding forest ecology, with a particular focus on those that are relevant to practical conservation

and sustainable forest management. Methods are presented for assessing forest extent and condition, structure and composition, and forest dynamics at a variety of scales. Also described are techniques for assessing genetic variation and reproductive ecology, and for evaluating the habitat value of forests. Particular emphasis is given to state-of-the-art techniques such as remote sensing, GIS, computer modelling and molecular markers. However, traditional methods of forest mensuration and ecological survey are also presented. The methods and techniques described are generally applicable to all forest types, including both temperate and tropical forest ecosystems.

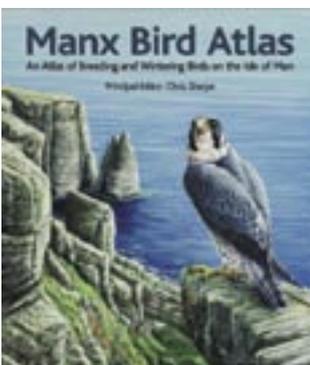


Garden Natural History

Author: Stefan Buczacki
ISBN-10: 0-00-713994-2
ISBN-13: 978-0-00-713994-1
Available from: HarperCollins (www.collins.co.uk)
Price: £25.00

This book goes a long way to correct the misconception that gardens are often viewed merely as artificial creations rather than easily accessible places to observe and encourage wildlife. By looking at gardens within

the wider context of the British ecological landscape, the author follows the garden's development as a habitat within which vertebrates, invertebrates and native and alien plants alike have been introduced and to which they have adapted. The book offers a fascinating insight into the diversity of organisms and ecological processes that constitute the garden, whilst also highlighting the role of the gardener as conservator and showing how the garden can inspire all naturalists.

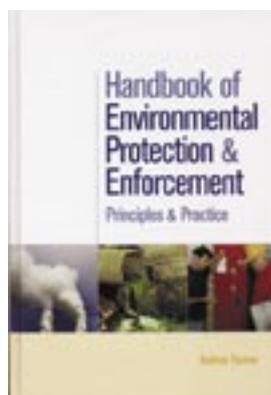


Manx Bird Atlas - An Atlas of Breeding and Wintering Birds on the Isle of Man

Editor: Chris Sharpe
ISBN-13: 9781846310393
Available from: Liverpool University Press (www.liverpool-unipress.co.uk)
Price: £60.00

The Manx Bird Atlas project was established to undertake the first comprehensive survey of all bird species to be found on the

Island during both the winter and summer. During the five-year programme of work professional ornithologists surveyed the entire Island using new and innovative survey techniques. The survey, which ran from 1998 to 2003, is the most detailed of its kind ever undertaken in Europe. Such methods have generated data that provides distribution and abundant information for 150 species.



Handbook of Environmental Protection and Enforcement: Principles and Practice

Author: Andrew Farmer
ISBN-13: 978-1-84407-309-2
Available from: Earthscan Books (www.earthscan.co.uk)
Price: £49.95

This is an authoritative guide to Environmental Enforcement Authorities/Environmental Protection Agencies, how they work and the complexities, requirements and costs of environmental

enforcement and regulation. It is also a comprehensive treatment of enforcement and regulatory principles and best practice in Europe, USA, Canada, Australia, Israel, Asia and a range of transitional and developing countries. The book would be useful reading for anyone involved in environmental policy, enforcement and regulation and compliance in government, business and industry, environmental NGOs and for lawyers and consultancies.

News in Brief

Illegal fishing traps discovered

Crayfish, eels and roach have all been targeted in four incidents of illegal fishing in Kent in recent weeks. The Environment Agency said alert members of the public had twice notified its officers of the unlicensed activity. *"All the fish species targeted were valuable either from a recreation or conservation point of view,"* said the agency's Jon Whitmore. The incidents were in Hadlow, Sheppey, Palmmarsh and Kemsley.

The new Bird Atlas 2007-11 Project

Have Buzzards continued to expand their range? Have Wood Warblers disappeared from our woodlands? Where are Meadow Pipits in wintertime? How will conservation efforts have affected declining species such as Lapwing?

From November, volunteers will be covering all the 10 km squares in Britain and Ireland to help answer these questions. Much has happened to our countryside in the last 20 years. The new Bird Atlas 2007-11 will tell us how these changes have affected our birds. The maps produced will form the basis for their conservation for the coming decades.

It's easy to take part by being a Roving Recorder. Send in any bird records, whilst out surveying in any 10 km square. For more details visit www.birdatlas.net, or contact the National Organiser daw.balmer@bto.org (phone 01842 750050).

Pearl mussels face extinction

Experts reveal criminals raid rivers, killing 1,000 at a time. Freshwater pearl mussels found in Scottish rivers could become extinct because of reckless and illegal fishing, according to a new report commissioned by Scottish Natural Heritage (SNH). The shellfish can live up to 100 years, but any population's long-term survival depends on it containing a sufficient proportion of mussels of reproductive age. According to previous records kept by SNH, the number of rivers in Scotland containing these mixed-aged populations has fallen to 62 - less than half the number existing three decades ago.

But now none out of a sample of 19 rivers examined in detail for the report has been found to have a viable breeding population. Three sites - two in the north and west Highlands and one in Angus - showed signs of being recently plundered by fishermen. According to police and SNH sources, seven alerts of illegal activities have been made to the authorities in the past 12 months. No

arrests have been made. Overfishing and environmental damage has for decades led to a decline in the species. Originally commonly found in rivers throughout the Northern hemisphere, Scotland became the one country with two-thirds of the world's stock. The Scottish Executive has no plans to license any taking of pearl mussels for commercial purposes.

Plea to gardeners

Unruly, overgrown gardens have been highlighted as a vital refuge for the nation's dwindling bumblebee population, in a countrywide survey by conservationists. Patches of garden that are left to run wild have been ranked as one of the richest for nesting bumblebees, offering better shelter and food resources than farmland and wooded areas. More than 700 volunteers took part in the National Bumblebee Nest Survey, with each scouring a garden and at least one other natural habitat to help with the understanding of the insects' favoured nesting sites. Farmland fencing was also identified as a rich habitat for the insects, with 37.2 nests per hectare. Other countryside habitats made less suitable nesting grounds, with hedgerows being home to about 30 nests per hectare and woodlands just 11 nests per hectare. Bumblebees build nests above ground or just beneath and line them with moss and leaves. Slightly neglected gardens are particularly good habitats for the bees because of the abundance of nesting options, such as compost heaps and bird boxes, and additionally the rich variety of flowers over the year.

Climate change and declining botanical skills threaten UK wild plant conservation

Challenges posed by a changing climate and a decline in botanical knowledge have been highlighted as significant threats to the conservation of wild plants in the UK. The findings are published in a new report by the Royal Botanic Gardens, Kew, Plantlife International and the Joint Nature Conservation Committee, which reviews Plant Diversity Challenge, the UK's response to the Global Strategy for Plant Conservation. The Global Strategy was drawn up under the Convention on Biological Diversity and the UK is one of 190 Parties to the Convention, which aims to halt the loss of biodiversity worldwide. Plant Diversity Challenge, launched in 2004, set out 16 targets for UK plant conservation to be met by 2010. This progress report celebrates some of the conservation success stories and admits to the challenges that lie ahead for the plant

conservation community. The report is available at <http://www.plantlife.org.uk/portal/plantlife-news.htm>.

Update on the Marine Bill

Detailed proposals for the Marine Bill have already been consulted on through the White Paper 'Sea Change' earlier this year, with work underway on the Bill itself. The Marine Bill has been deemed a 'golden opportunity to better protect our marine wildlife, and better manage and plan marine activities and development opportunities at sea' by both environmentalists and the industry sector. However, with no guarantees that the Marine Bill will feature in the next parliamentary session the Bill could well run out of time!

Exploration of the South West Canyons

320 km off Lands End, directly between the UK, Ireland and France lie the deep underwater canyons at the edge of the continental shelf. Reaching down to the abyssal plain, some 4 km below there is very little understanding as to what lives there. That is until now.

Funded by Defra, in June a team of European scientists led by the JNCC carried out an exploration to these mysterious waters to discover the composition of the landscapes and the biodiversity that dwells there. Fine muddy sands at the top of the continental shelf were found to support delicate seapens, anemones and patches of featherstars, whilst the silty clays and the chalky outcrops of rock supported much more than expected. Bright orange cold water corals, anemones, starfish and featherstars along with some fish were found to dwell at depths of 1 km.

They haven't gone away...

Red squirrels have returned to their former haunts in Rostrevor Forest. The Forest Service of Northern Ireland is planning a red squirrel activity day this month to celebrate the reappearance of the beleaguered native rodent. A spokesperson for the service said it has received a number of reports of sightings of native red squirrels in the past year - welcome news as it was feared they had vanished from the area. The Forest Service said it remained a mystery whether the red squirrels have been there all along but keeping a low profile or had recolonised from a nearby forest. The good news comes as the Government finalises an action plan to restore red squirrel numbers. Northern Ireland Environment Minister Arlene Foster told the Assembly that the Species Action Plan (SAP) should be

issued for public consultation later this year. It is understood that the plan may propose culling grey squirrels in red squirrel strongholds such as the Glens of Antrim.

Surveys to help protect submerged habitats and heritage

Defra is funding regional surveys to develop a better understanding of Britain's submerged habitats and heritage in areas of possible marine sand and gravel extraction. Although rarely attracting public attention, the constant dredging of the seabed for sand and gravel is a major contributor to the UK construction industry with nearly a third of construction aggregate requirements coming from marine sources. The aims of the surveys are to characterise the seabed habitat and heritage in the more heavily dredged areas around the UK so that future dredging can be placed into a much wider environmental context.

Offshore Marine Conservation (Natural Habitats, &c.) Regulations

Having been laid before Parliament, these regulations are due to come into force on 21 August 2007 along with the Conservation (Natural Habitats, &c.) (Amendment) (England and Wales). The Offshore Marine Conservation Regulations will introduce protection to important marine wildlife in the UK's offshore waters and will enable the designation of protected areas for sites and species of European importance.

Creation of the UK's largest man-made marine wetland begins

Almost 115 hectares have been flooded at Wallasea Island, Essex, to create wetlands, mudflats, saline lagoons and seven artificial islands. This government funded project aims to replace bird habitats lost to development, improve flood defences and create leisure opportunities.

Scottish Executive plans new Marine Bill

The Scottish government intends to introduce a Scottish Marine Bill to introduce a simpler regulatory system for the marine environment, take more action on conservation and provide greater local control over marine and coastal areas.

The Heather Trust publishes *A Strategy for the Future*

The Trust has developed *A Strategy for the Future* to identify how, as a Scottish charity that works throughout the UK, it can help protect our sensitive upland areas and promote management of them in a way that will improve their condition for future generations.

These areas are lacking a joined

up policy to manage them against competing uses. Arguably, there is nowhere in the UK that has to cope with such a large number of different, often conflicting interests. The RSPB's report *The Uplands: Time to Change?*, published in July this year, has served to highlight the concerns facing owners and managers of upland areas, and this report reaffirms the need for a more sensitive and joined up approach to the management of these areas. It is indeed 'time to change'.

Against this background, The Heather Trust has identified key areas where it feels it can help take the debate forward and *A Strategy for the Future* is available to download from the Trust's website (www.heathertrust.co.uk) or in printed form on request.

House builders urged to cater for wildlife

There was a time when planning decisions were about whose view you couldn't block or whether your new tower block was a monstrous carbuncle. Now there are quite different demands. Increasingly the planning authorities are considering the impact a development has on wildlife. And this has resulted in the emergence of a new breed of environmentally aware developers and consultants. Last year, the government published Planning Policy Statement 9, which some people interpret as a very powerful document. Two major developments for house builders are green roofs and hollow nesting bricks.

Private firms 'prey for value hunters'

The UK's dwindling number of privately owned environmental consultants firms are looking more and more like potential takeover targets, according to a new business analysis report.

Latest research shows that 354 of the UK's top 500 environmental consultants companies remain in private hands, and their values are increasing faster than those of their corporate competitors. Their exclusivity, niche products and unique services are adding to their attractiveness.

European bird conservation works

In the first scientific analysis of its kind anywhere in the world, the RSPB has shown that one example of protecting birds at a continental scale has improved the fortunes of the most threatened and vulnerable European species – signaling that conservation works, if it is enshrined in law.

In a paper published in *Science*, the RSPB shows that the Wild Birds Directive has successfully protected those species considered to be at most risk

and in need of most urgent protection and has made a significant difference in protecting many of Europe's birds from further decline.

When the Wild Birds Directive became law in 1979, the Directive required that a number of species be the subject of special conservation measures, particularly through the designation of Special Protection Areas. Importantly, today's research shows these 'special' species have not only performed more successfully than other bird species in the European Union, but also that these species have fared better in the European Union than populations of the same species in other European countries.

Bulgaria's wilderness areas under threat from property investors

Bulgaria's wilderness areas, among the largest in Europe, are threatened by property investors who use legal loopholes to contest the territories' protected status to build holiday flats. In July, Bulgaria's Supreme Administrative Court stripped the protected status from the country's largest nature area, Strandzha, which spreads over 116,100 hectares (286,890 acres) in the southeast of the country. The court ruled in favour of a major property investor, which operates in the southern Black Sea region, one of the few areas untouched by the construction boom along the coastline. A 1995 law regulating Strandzha's special status bans massive construction in the area, but the property investor succeeded in having the law nullified in court by claiming it did not set clear boundaries for the protected territory. Last year, another wild spot on the Black Sea — the Kamchia river estuary north of Strandzha — was similarly stripped of its protected status by a holiday resort investor. Environmental watchdogs have warned that over half of Bulgaria's protected wilderness areas are susceptible to the same claim as their boundaries are only vaguely defined.

Rare river dolphin 'now extinct'

An extensive survey of its habitat has failed to find any sign of the Yangtze river dolphin, or baiji. The freshwater dolphin found only in China is now very likely to be extinct. Researchers failed to spot any of the dolphins during an extensive six-week survey of the mammals' habitat. It is thought that unsustainable by-catch from unregulated fishing is the main reason behind their demise, whilst dam construction and boat collisions have also contributed. If confirmed, it would be the first extinction of a large vertebrate for over 50 years.

Tauro-Scatology, Sainthood and Canonisation

On 28 June 2007 the Great and the Good of the IEEM gathered in London to present Professor Tony Bradshaw with the IEEM Medal. Somehow Basil O'Saurus, our resident Professor of Tauro-Scatology, who is proud of the fact that he is neither Great nor Good also received an invite. Our reporter caught up with him as he staggered away after the event, having imbibed rather more Chateau Tasker than he should have done.

So, Basil, I'm sure you'll want to join all the IEEM membership and congratulate Tony Bradshaw on his medal. A fitting award for a long and prestigious career?

Absolutely. In fact, I wonder if there are not yet higher honours that should be bestowed upon Professor Bradshaw.

A knighthood perhaps? The Order of Merit?

Either would be well deserved, but I was actually thinking laterally...

That sounds worrying. Tell us more.

It is all very logical, in fact. What is Tony Bradshaw best-known for?

Reclamation of contaminated land.

In other words, he makes plants grow where no-one expected them to grow. It would not be too far-fetched to describe some of his achievements as 'miraculous'. What did the prophet Isaiah say? Something about the wilderness becoming a fruitful field?

I think I can see where this is leading, but go on.

When a client asks a consultant to do a piece of reclamation work, we tend to express their relationship in the language of a business contract but suppose we replaced this with religious phraseology. So, we could imagine Tony Bradshaw's pioneering work on spoil heaps as an intercession on behalf of a client in order to bring about a miraculous transformation of a patch of contaminated land. Are you still following me?

Absolutely. Saint Tony of Liverpool. It has a nice ring to it. But what are the next steps?

None at all. Because living people cannot be canonised and we all wish Tony Bradshaw a long and healthy retirement.

Hear hear.

But, taking the long view, I think we could send off a few examples of Tony Bradshaw's miracles to the Vatican and see what happens.

I've just thought of an obstacle. Do we know whether or not he is a Catholic?

No idea. But he has lived in Liverpool for long enough that we can probably swing this argument without too much difficulty.

OK. I'm just about convinced. How about looking to see if there are other IEEM members deserving of canonisation.

Anyone involved in fisheries management, for example? There are lots of good biblical precedents here. 'Cast your net on the right side of the ship, and ye shall find. They cast therefore, and now they were not able to draw it for the multitude of fishes'. John chapter 21 verse 9, if you're interested.

But we don't know if that was an example of sustainable management, do we? Fish stocks in Galilee might have crashed afterwards. And what do you think Peter and Andrew did to prices in the fish market in Capernaum?

Very true. We had better pass over that example. My preferred example here comes from Isaiah again. Chapter 27 verse 4: 'Fury is not in me: who would set the briars and thorns against me in battle? I would go through them, I would burn them together'.

Fantastic, biblical justification for scrub bashing. Haven't we all spent hours swiping away at brambles in the name of habitat protection at some point in our careers?

Usually when we are young and eager, which means that we do it for nothing so that we can put it down as 'work experience' on our CV. So it counts as 'charity', too.

We probably need a second opinion on whether a Middle Eastern 'briar' is strictly synonymous with our 'bramble' and a theologian might argue that we've taken the verse out of context but, aside from minor matter such as that, we're all on the road to sainthood?

We just need to live lives of heroic virtue.

No more evenings of debauched living at IEEM conferences, you mean?

Something like that.

I think that the number of candidates for sainthood might be dwindling rather fast ...

No-one said that it was going to be easy.

And what about the prospects for Saint Basil, Patron Saint of Tauro-Scatologists, maybe?

I blew it years ago. Proverbs chapter 18 verse 28: 'Even a fool is thought wise if he keeps silent, and discerning if he holds his tongue'.

Enough said. Thanks again for your time, Prof.

New and Prospective Members

As stated in the last *In Practice* we will now use both our E-Newsletter and *In Practice* to publish the names of applicants for Full and Associate membership. This should speed up the application process.

APPLICANTS

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 12 October 2007. Any communications will be handled discreetly. The decision on admission is usually taken by the Membership Admissions Committee under delegated authority from Council but may be taken directly by Council itself. IEEM is pleased to welcome applications for Membership from the following:

APPLICATIONS FOR FULL MEMBERSHIP

Ms Amanda K.E. Barton, Mr Nick Crouch, Ms Siobhán Egan, Dr Nancy Jennings, Mr Ian P. Morrissey, Miss Lisa F. Rigby, Mrs Gillian M. Tardivel, Mr Paul D. Vorwerk, Dr Jonathan Watt, Ms Janice Whittington

APPLICATIONS FOR ASSOCIATE MEMBERSHIP

Mr Colin W.A. Nisbet, Mr Sam M. Phillips

ADMISSIONS

IEEM is very pleased to welcome the following new Members:

FULL MEMBERS

Dr Paul Baker, Mr Brian Banks, Dr Oliver E. Barnett, Mr Paul Beatson, Ms Adele Beck, Dr John D.S. Birks, Miss Alice L.G. Chapman, Mr Martin J. Cranshaw, Dr Bella Davies, Mr Mark R. Gash, Mr Alan Gibney, Mr Rhoderick D. Goater, Miss Leona J. Graves, Mr Peter J. Hancocks, Miss Victoria Hanslip, Mr Christopher M. Hatch, Dr Richard J. Hornby, Miss Allison L. Hulbert, Mr Lee R.F.D. Knight, Mr John Lamb, Miss Esther B. Lycett, Mr Muhammad Aftab Majeed, Dr Paul J. McCann, Mr Davog McCloskey, Dr Mark J. McCorry, Mr Daireann McDonnell, Ms Noreen McLoughlin, Mr John A. McMullen, Dr Anthony J. Prater, Dr Alex J. Ramsay, Mr Alan G.H. Shepherd, Ms Ann J. Sherwood, Mr Bruce Shortland, Mr Simon L. Smart, Mr Matthew N. Smith, Miss Jennifer Sneddon, Miss Elizabeth Spedding, Mr Alan E. Stealey, Miss Diane Taylor, Mr Stuart R. Thomson, Mr Thurston H. Watson

ASSOCIATE MEMBERS

Mr Daniel Alder, Dr Nicholas P. Askew, Dr Fintan Bracken, Mr Peter Carr, Mr Andrew Constable, Dr Joanne L. Denyer, Miss Jessica Durkota, Miss Michelle E.R. Eaton, Miss Emma Fisher, Miss Victoria C. Gaillard, Mr Patrick Howard, Mr Mark Iley, Miss Kate Lyon, Mr Robert W. Martin, Dr Charlotte E. Sanderson, Dr Cróna A. Sheehan, Ms Abigail E. Stancliffe-Vaughan, Ms Sarah Watson

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Miss Julia I. Barrett, Miss Camilla Burrow, Miss Emily J. Cook, Ms Debbie Cotton, Mr Neil P. Hairsine, Miss Emma J. Heskey, Ms Rebecca Moran, Mr Andrew B. McMullan, Miss Gabriella O'Sullivan, Mr Andrew Poinen, Mr Colin W. Porter, Mr Paul J. Roscorla, Miss Fiona S. Ross, Mrs Lara Salido Graña, Mrs Joanna C. Shipton, Mr Carl R. Taylor, Miss Elizebeth R. Wilcox

UPGRADES

The following have successfully upgraded their Membership:

ASSOCIATE to FULL MEMBERSHIP

Miss Laura Donnelly, Mr Paul D. Keeling, Miss Laura Snell, Miss Eleanor Seaborne, Mr Roland Stonex, Mrs Emma Suddards, Mr Christopher J. Toohie, Mr Jonathan Taylor, Ms Catherine Weightman

What's on October – December 2007

27 September 2007. IEEM Scottish Section Conference and AGM.

People and Wildlife in National Parks.
Drymen.
www.ieem.net/Conferences.htm

2 - 3 October 2007.
Introduction to Freshwater Macroalgae.
Ambleside, Cumbria.
www.ieem.net/News%20and%20Events.htm

2 - 4 October 2007.
Towards a coherent network of Marine Protected Areas.
Scarborough.
www.coastms.co.uk

9 - 11 October 2007.
The Global Environment 2007.
London.
www.ciwem.org/events

10 October 2007.
Exploring Tomorrow's Low-Carbon Countryside.
University of Reading.
www.merl.org.uk

11 - 12 October 2007.
Planning and Design for Heritage and Development: Projects, Policies and Practice.
Dún Laoghaire, Ireland.
www.dlrcoco.ie/heritage/conference

15 October 2007.
IEEM Irish Section Conference and AGM.
Irish Biodiversity - Countdown to 2010.
Dublin.
www.ieem.net/Conferences.htm

16 - 18 October 2007.
Beyond Consultation - Good Practice in Stakeholder Participation.
Wye, Kent.
www.dialoguematters.co.uk/training.htm

19 October 2007.
Climate Warming and Species' Ranges: who will be winners or losers?
Birkbeck, University of London.
Free evening lecture.
environment@fce.bbk.ac.uk

26 October 2007.
The British Flora: effects of habitat modification and climate change.
Birkbeck, University of London.
Free evening lecture.
environment@fce.bbk.ac.uk

26 - 27 October 2007.
Exploring the power of nature photography.
Royal Geographical Society, London.
www.wildphotos.org.uk

31 October 2007.
Environmental Management Update 2007.
London.
www.coastms.co.uk

31 October - 2 November 2007.
International Conference on Coastal Management 2007.
Cardiff.
www.coastalmanagement2007.com

1 November 2007.
Adaptive Management and Offshore Wind Energy.
London.
www.coastms.co.uk

1 - 2 Nov 2007.
Trade-offs in Conservation: deciding what to save.
London.
ZSL symposium. www.zsl.org

2 November 2007.
Can Birds Fly from Climate Change?
Birkbeck, University of London.
Free evening lecture.
environment@fce.bbk.ac.uk

3 November 2007.
Ireland Birdwatchers' Conference.
Oxford Island, Northern Ireland.
shane@swolsey.biz

8 November 2007.
Technical seminar and workshop: wild plants for landscape and biodiversity.
Newcastle-upon-Tyne.
www.floralocale.org

9 November 2007.
Adaptation for High Biodiversity under Climate Change.
Birkbeck, University of London.
Free evening lecture.
environment@fce.bbk.ac.uk

13 - 15 November 2007.
IEEM Autumn Conference and AGM.
Making the Connections – A Role for Ecological Networks in Nature Conservation.
Nottingham.
www.ieem.net/Conferences.htm

13 - 15 November 2007.
Beyond Consultation - Good Practice in Stakeholder Participation.
Wye, Kent.
www.dialoguematters.co.uk/training.htm

16 November 2007.
Case Studies of Adaptation and Mitigation Measures on Specific Sites.
Birkbeck, University of London.
Free lecture.
environment@fce.bbk.ac.uk

23 - 24 November 2007.
Mammal Society autumn symposium.
Advances in EclIA for Mammals.
London Zoo.
www.abdn.ac.uk/mammal/conferences.shtml

IEEM workshops with places still available:

- | | |
|-----------|---|
| 3 - 5 Oct | Management Planning for Nature Conservation and Protected Areas |
| 5 Oct | Introduction to NVC Survey |
| 18 Oct | Tree Identification |
| 25 Oct | Evaluation and Impact Assessment in Ecology |
| 21 Nov | Native Tree Species in Winter |
| 28 Nov | Winning Approaches |
| 12 Dec | Reedbeds, Bitterns and Biodiversity |
| 18 Dec | Winter Scoping Surveys |

More information - www.ieem.net

Centres offering course programmes that might be of interest to IEEM members. Information from:

Centre for Alternative Technology
Centre for Alternative Technology,
Machynlleth, Powys, SY20 9AZ.
01654 705950
www.cat.org.uk

Field Studies Council
FSC Head Office, Preston Montford,
Montford Bridge, Shrewsbury,
Shropshire, SY4 1HW.
0845 345 4071
enquiries@field-studiescouncil.org
www.fieldstudiescouncil.org

Losehill Hall
Losehill Hall, Peak District National
Park Centre, Castleton, Hope Valley,
Derbyshire S33 8WB.
01433 620373
training.losehill@peakdistrict-npa.gov.uk
www.losehill-training.org.uk

Plas Tan-y-Bwlch
Plas Tan-y-Bwlch, Maentwrog, Blaenau
Ffestiniog, Gwynedd LL41 3YU.
01766 590324
Plastanybwllch@compuserve.com

BTCV Courses
BTCV Training Programmes Unit, Red
House, Hill Lane, Great Barr, Birmingham
B43 6LZ.
0121 358 2155
info@btcv.org.uk
www.btcv.org