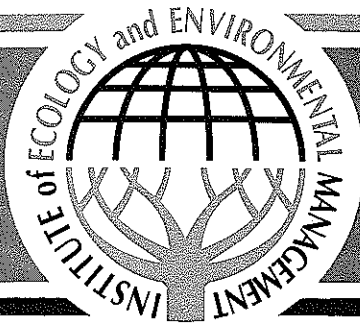


Volume 1
Number 1
Oct 1991



BULLETIN

Yet Another Professional Institute!

Peter Edwards

Why do we need yet another professional institute? Who is going to join it, and what will it do? The working party set up by the BES spent two years investigating these questions before it finally concluded that a new organization was essential to represent ecologists and environmental managers. One of its most important sources of evidence in reaching this conclusion was a questionnaire issued during 1990 in the *BES Bulletin* and in the BANC journal *ECOS*. Ultimately, the membership of any organization is self-selecting, and the IEEM will come to reflect the concerns and interests of those who choose to join it. However, it may be of interest to paint a profile of the interests and concerns of the respondents to the questionnaire. The questions concerned the need for a new institute and whether the working party's proposals were supported; respondents were also asked about their current employment and their professional affiliations, and were invited to comment on the proposals.

A total of 650 replies was received, which from the previous experience of these journals, was an exceptionally strong response. The verdict was overwhelming. Ninety per cent of respondents believed there was a need for a new institute to represent ecologists and environmental managers, and supported the proposals. **Strong support, long overdue, vitally important and urgent** were among the most frequent comments. Several replies endorsed the need for a code of conduct based upon fundamental principles of environmental ethics. As one comment put it, **a code of practice and evidence of professional competence are urgently required to eliminate the 'cowboys'**. There were several calls that the institute should set high standards of entry in order to gain credibility, but others were concerned that there should be the opportunity for entry for those without formal qualifications in a relevant subject.

Most of the respondents who opposed a new institute did so for two main reasons. One group expressed an antipathy to professional bodies of any kind, some suggesting that they were elitist and served only to provide letters to place after one's name. One respondent, himself an employer of ecologists, even stated that he would discriminate against anyone who was a member of IEEM. However, the majority of dissenters felt that existing organizations, and particularly the Institute of Biology

and the Landscape Institute, already provide adequate professional representation for ecologists and environmental managers. There was concern that another institute would be confusing, and would reduce the effectiveness of the existing organizations.

The supporters of IEEM had clear views about what the institute should do, providing a challenging agenda for the IEEM:

Establish career structure and raise the status of 'genuine' ecologists; Regulate standards of ecological practice and consultancy, and prevent the profession being brought into disrepute; Provide a link between academics and industry; Provide equivalent status to other professions; Enhance the public perception of ecology and fight against the brown bread and sandals syndrome; Limit the activities of people doing underpriced consultancy.

There were also strong opinions about what the institute should not become, many of which reflected dark suspicions about professional bodies as exclusive cliques and cartels. One respondent described his **concern that it should not be a middle-ground professional price and career determining cartel**. Another reflected, in even stronger language both the urgent need for an institute, and the potential pitfalls, **Ecology/environmental management as a profession is in a desperate state of identity crisis. The term 'ecology' has been bastardized almost beyond hope of recovery by populist pulp-mongers and academic ass-holes. A new institute will have to fight for the survival of the discipline, and will need to be aggressive, forward-looking, international, and boldly publicist—its target is world opinion. But I fear this final chance will be squandered by woolly-minded self-satisfied, pusillanimous academics, and the profession's last stand will fade out in the mess of club tie pins, conversaciones, and bogus academic titles**. We were pleased to note that despite these strictures, the respondent did ask to receive further details!

Several practical problems were raised in the comments, such as how eligibility for membership can be gauged, and how standards of professional practice can be enforced. These are clearly major issues which IEEM will have to tackle. However, by far the commonest complaint was the cost of membership. Many respondents, especially those in the voluntary sector, objected that the likely subscription would be more than they could afford. Some asked whether a two-tiered subscription was possible, to allow for those on low incomes. As we indicate elsewhere, the subscriptions are relatively modest compared with those of comparable professional bodies, and are the minimum needed to support an effective organization. However, many ecologists and environmental managers are notoriously poorly paid (itself a powerful argument for a strong professional body) and the cost of membership is clearly a serious difficulty.

...continued on page 16

IEEM Bulletin Volume 1, No. 1, October 1991

Editor: Jacqui Morris Editorial Assistant: Sue Everett

The IEEM Bulletin is published quarterly by the Institute of Ecology and Environmental Management. It is supplied to all members of the Institute and is also available on subscription (apply to the IEEM office for details).

The IEEM Bulletin will publish news, comment, technical papers, letters, Institute news, reviews and listings of meetings, events and courses. The IEEM Bulletin invites contributions on any aspect of ecology and environmental management but does not aim to publish scientific papers presenting the results of original research.

Contributions should be sent to: The Editor, IEEM Bulletin, Winkfield, Station Road, Plumpton Green, East Sussex BN7 3BU.

Opinions expressed by Contributors to the IEEM Bulletin are not necessarily supported by the Institute.

Advertising: Please contact the IEEM office for rates.

Institute of Ecology and Environmental Management

Chairman: Professor A. D. Bradshaw

Secretary: Dr Peter Edwards

Treasurer: Phillip Edwards

Acting Executive Director: Paul Goriup

IEEM Office: 36 Kingfisher Court, Hambridge Road, Newbury, Berkshire RG14 5SJ.

Tel: 0635 37715. Fax: 0635 550230.

The Institute of Ecology and Environmental Management is a Company limited by guarantee, no. 2639067.

Contents

- 1,16 Yet another professional institute!**
Peter Edwards & Paul Goriup
- 2 Editorial: The Institute and its relationship with other bodies**
A. D. Bradshaw
- 3 Professional Focus: Ecological consulting and NGOs**
David Hill
- 4 Legal Matters: The Environmental Protection Act - an overview**
Graham M. Jukes
- 6,7 Technology: GIS for environmental professionals**
Michael J. Clark
- 8-10 Institute Report: 1991-6 Development Plan**
Phillip Edwards, Sue Everett and David Stubbs
- 11 In Parliament**
- 12,13 Briefings: Forestry Commission's Extended Woodland Grant Scheme**
Carol Crawford
- Countryside Stewardship Scheme, Grants from English Nature, The Living Churchyard**
- 14 Publications**
- 15 Diary**

Designed and produced by The Nature Conservation Bureau Limited, Tel: 0635 550380.
© Institute of Ecology and Environmental Management 1991

The Institute and its relationship with other bodies

Once the environmental movement began and the advice of scientists, lawyers and other experts began to be sought professionally, there was a need for a professional institute. So the formation of IEEM might have taken place at any time in the last decade. Yet it did not; it was very slow in coming. It is interesting to ask why, because the answers can give a key to what IEEM stands for and how it will work in future.

Ten years ago work in ecology was watched over and encouraged, very effectively, by the British Ecological Society. But its general aim and ethos was the promotion of the academic discipline, and it is not unfair to say that it was dominated by academics. The BES held resolutely to the view that the concerns of professional practice were not its responsibility. It was an academic, scientific society whose job it was to support science and leave practice to the individuals actually doing it.

The practitioners, a burgeoning number of ecologists and of other more broadly experienced environmental managers, found themselves rather on their own. Some turned to the Institute of Biology, or the Landscape Institute. Those concerned with nature conservation formed the British Association of Nature Conservationists. Countryside managers were sandwiched between BANC, the Associate of Countryside Rangers and the Institute of Landscape and Amenity Management. Each group in its own way found some of the support it needed, but this was obviously not the answer, since the survey carried out before IEEM was formed found that most practitioners were not members of any of these bodies.

The rest is history. Independently, BANC and BES decided that something more ought to be done for professional ecologists and environmental managers, or their skills would be marginalized and they would be usurped by people whose specialist training was small or none. During the formation of IEEM the Institute of Biology was consulted and it agreed to act as a parent for the new organization. Significantly, the Royal Geographical Society also agreed, realizing that the geographers who had specialized in ecology and environmental management and were now in practice needed support. There were useful discussions with the Institute of Environmental Sciences. The position has been left open; perhaps in future some one may propose that the two organizations should amalgamate, which would not be unwise in view of the likely complementary nature of their developing memberships.

So where do we go from here? What is most certain is that the different sorts of ecologists and environmental managers with their different allegiances all need each other. The profession is a growth industry. Consultancies have multiplied and their staffs have increased in amounts that would have been inconceivable 30 years ago. Ecologists are standing up in enquiries, courts and other situations, where everyone else has a professional qualification. There is a need for professional recognition and support.

It is notable that as a result of the new developments, the Landscape Institute has initiated a series of meetings of all the bodies involved, on professional representation of environmental scientists and managers. It is possible that an umbrella body will be set up under the auspices of EFEP, the European Federation of Environment Professionals, but this organization is itself only in its infancy. It is certainly the intention of IEEM to maintain close working relationships with other groups involved in ecology and the environment. The four founding organizations will no doubt see to this from their representation on the Council of IEEM. But it is obviously only common sense, and to everyone's good, that we go forward together and not separately in frigid isolation.

Professor Tony Bradshaw was nominated by the BES to serve on the Interim Council of the Institute of Ecology and Environmental Management and was elected Chairman of the Interim Council in March 1991.

Ecological Consulting and Non-governmental Organizations

David Hill

During the 1980s the growth in public environmental awareness together with new legislation from the European Commission on the necessity for environmental statements provided a new market for environmental consultancy work. The number of consultants soared as a result. Although some were subsequently swallowed up by their more profitable competitors, the provision of environmental services has never been better, nor has demand ever been greater. The general financial thrust of the 1980s also forced market awareness on the non-governmental organizations concerned with environmental issues, not least because they saw a new outlet for their expertise and the information they held.

Many NGOs are well placed to take on a consultancy role but few have accepted the challenge. Many of the local conservation and wildlife trusts have the kind of expertise and knowledge that could be used to improve considerably some of the environmental impact assessment work that is being carried out. If they were to release their data in an organized fashion it could have a positive influence on the serious land-use change decisions being made as well as yield a significant income. If a Trust decides to set up a consultancy wing it is important that it does not interfere with the forward plan of the organization. Under no circumstances should the financial end alter or direct the organization's policies. The consultancy wing should also maintain impartiality. This may cause difficulties for the organization concerned if its main remit is campaigning for conservation – fighting the very people who are contracting the consultancy wing to undertake an impact assessment.

One example of an organization that took the contract route to development is the British Trust for Ornithology, whose expertise lies in providing the scientific base for conservation. I decided in 1989 that the time was right to launch the BTO's Research, Development and Advisory Service (RDAS). The aim of RDAS was to undertake contracts that would boost the Trust's core research activities and output as well as yield income to support the Trust's other developments. While this may have been seen by some as a high-risk direction of expenditure, the rewards have substantially improved the BTO's image over the past two years. Contract income has shot up from a mere 8 per cent of total income six years ago to a staggering 49 per cent in 1990 (representing £522,000), with a further rise in total income expected in 1991.

So what considerations were needed at the outset? First, it was important to look in detail at the current contracts being undertaken. It became apparent that the BTO was actually losing money on practically all of its initiatives because of the method used to calculate costs. The second stage was to revise the costing procedure. We achieved this by modifying a version of a formula used by a government agency that undertakes a very significant commercial contracting operation. Capital administration costs (management, secretarial, accounting etc.), together with non-pay expenditure, scientific salaries and depreciation costs,

were divided amongst the complement of scientific staff available to undertake the contracts. The sums were divided by 220 days per year to arrive at a daily consultancy fee based on the full economic cost. A check can be made on the accuracy of the daily rate by 'selling' all of one's scientific staff to one big contract. The figure should equal the organization's total expenditure. The system is customized on a spreadsheet so that at the beginning of each financial year new data on budgeted expenditure and the number of staff in each grade is entered to produce the new daily rates for the coming year. No longer do overhead rates need to be guessed at – they can be calculated on the basis of the known expenditure profile over the whole organization.

The third stage was to design promotional material and build up a database of clients and potential clients. We produced a colour brochure and a condensed version as a leaflet. The initial expense has been worthwhile. We now have about 450 clients' names and addresses; among them are a number of government agencies and departments together with commercial consultants, engineers and land managers.

The main necessity and marker of success is when companies regularly make contact with your organization and ask you to tender for a contract. It is necessary to know your market and to clearly understand your client's requirements and, of course, to have some idea of the resources available. The information in your project proposal is vital. If possible it is always advantageous to propose to plan the research or management requirements for the client, which in effect enables you to be one step ahead of your competitors should the contract be placed out to tender.

One way of overcoming the problem of over- or under-selling is to provide the client with a series of three costed options, stating clearly what will be achieved under each. It is important to state that the most expensive is the ideal, but that the other option should produce, say, 70–80 per cent of the goods they are seeking. The proposal should detail abstract, background, objectives, methods, output and data handling, personnel and timing and price. It is important to talk about 'price' rather than 'cost'. Once a contract has been won it is important to issue a letter of agreement, signed by both parties, if the contractor does not issue a formal contract himself.

We have recently secured contracts on: the consequences of proposed tidal barrages on estuary wading birds for the Department of Energy, Mersey Barrage Corporation and Severn Tidal Power Group; organic farming regimes for the Ministry of Agriculture, Fisheries and Food; modelling bird distribution in relation to land use (and predicting the consequences of land use change) for the NERC, RSPB and Shell; the use of gardens by birds for Waltham Centre for Pet Nutrition; and investigating the effects of hunting on migrant birds in Europe for the EC. In addition, we have secured a large number of environmental impact assessments relating to bird ecology from a variety of customers.

We anticipate continued growth in demand for services, particularly in view of the trends in environmental impact legislation and the European Commission's Wild Birds Directive, which makes member state governments responsible for monitoring their ecological heritage, encouraging them to restore lost habitats and prevent the loss of extant ones. We need to build on our professional image. This in itself takes time, money and considerable thought and planning in attempting to be ahead of the market requirements. If this can be achieved the consultancy will prosper.

Dr David Hill, Director of Development, British Trust for Ornithology, The Nunnery, Nunnery Place, Thetford, Norfolk IP24 2PU. Tel: 0842 750050. Fax: 0842 750030. David Hill will be pleased to give advice to NGOs wishing to set up a consultancy wing.

The Environmental Protection Act 1990 represents the most fundamental change to pollution control and the protection of the environment in the UK since the passing of the Public Health Act 1936. Within its nine Parts it has, in one Act, drawn together the strands of previously disparate environmental control legislation and is the mechanism by which the UK will adhere and adapt to stringent emission control legislation being produced by the European Community.

The initial need for the Act was identified by government early in 1980 as a result of the growing need and requirement for the UK to be able to adopt and integrate the increasing amount of environmental control legislation coming from the EC. The framework of existing controls in the UK had been in force since the turn of the century and related principally to air controls of the large industrial processes covered by The Alkali Etc. Works Regulations Act 1906; the protection of the public from nuisances; the provision of adequate controls on the pollution of water and the provision of a basic waste disposal system, all laid down in the Public Health Act 1936. Later controls in the Clean Air Acts 1956 and 1968 and the Control of Pollution Act 1974 created the disjointed approach to control measures, which could not be amended easily to adapt to the new European approach and take pollution control measures through to the 21st century.

The Royal Commission had reported, amongst other things, on best practicable environmental option and the concept of integrated pollution control. Armed with these reports and the directives on emissions from large combustion plants, discharges of chemicals to water and the looming controls on waste, civil servants began work on a series of consultation papers and on developing a framework, which used these concepts and ideas to produce a completely new system of enforcement and control on air, water and waste pollution from industrial processes and to produce a comprehensive system of waste collection and disposal using the concept of a duty of care.

The consolidation and improvement of the nuisance provisions in Part III of the new Act grew out of a need to make controls on non-scheduled processes more efficient and effective. The remainder of the Act was added as public expectations on new environmental controls grew and the realization that the increasing legislative timetable would make a further Environmental Bill difficult to manage. A further constraint, and to a certain extent opportunity, to change environmental controls from discharges to water was occasioned by the government's commitment to privatization of water services, which preceded the Environmental Protection Bill in the form of the Water Act 1989.

Part I. Integrated Pollution Control and Air Pollution Control by Local Authorities

This Part of the Act came into operation on 1 April 1991 and industrial processes have been scheduled for control either by Her Majesty's Inspectorate of Pollution (HMIP) or by local authorities. Industrial processes have been split for the purpose of enforcement into a two-part schedule and those processes falling into category A will have the concept of integrated pollution control (IPC) applied by a single Inspectorate, HMIP. Integrated Pollution Control will apply the principle of Best Practicable Environmental Option (BPEO), and Category A industrial processes will have controls applied to all possible waste streams. It covers waste streams to air, water and land, and the approach will be to minimize those waste streams to ensure that the Best Practicable Environmental Option for the process is applied, and that authorizations and controls will be applied to all emissions.

The new approach is based on a prior authorization procedure, although industrial processes will be subject to phasing in over a period of time. After that phasing in period it will be an offence to carry out a prescribed process without an authorization. Such authorizations will

The Environmental Protection Act—an Overview

Graham M. Jukes

have stringent conditions applied and those conditions will apply the concept of the use of Best Available Techniques Not Entailing Excessive Costs (BATNEEC). There has been considerable debate about the application of BATNEEC. Until the system is fully in operation it is difficult to judge the concept's application or effectiveness. This area of the new approach will continue to be the subject of scrutiny over the next few years.

Those processes detailed as category B industrial processes will be subject to a similar prior authorization procedure administered by local authority environmental health departments for air only. It has been argued that the concept of IPC should be applied to all schedule B processes by local authorities acting as agents for the appropriate enforcing body. At present, however, those processes discharging substances to water will be regulated by the National Rivers Authority discharge consent system, and discharges to land will be controlled by the Waste Regulation Authority using the new controls in the Act.

The harmonization of powers between the central and local inspectorate mirrors the tried and tested system of enforcement under the Health and Safety at Work etc. Act 1974, and greatly enhances local authority powers in respect of controls on industry and the protection of the local environment. The liaison between the central and local inspectorates will be maintained by the Local Authority Unit currently administered by HMIP. The Local Authority Unit's priority tasks to date have been the production of over 83 process-specific guidance notes for local authorities, which will form the basis of the BATNEEC considerations to be applied to the conditions in an authorization. The cost of this new system will be borne by the fees charged to each industry for the granting of authorizations. A major feature of the system contained in Part I of the Act is the requirement for the enforcing authorities to set up public information registers, which will contain details of the authorizations and the conditions applied to processes.

Part I of the Act represents a great step forward in controlling emissions from industrial processes and ensuring that the environmental controls are maintained. While the onus has been placed firmly on industry to ensure that their processes comply with the law, the enforcing bodies have a major resource problem to resolve. There are an estimated 5000 processes that will fall under HMIP control and an estimated 27,000 processes that will fall under local authority control. While the system is being phased in over a period of years, HMIP has been consistently understaffed in the past and local authorities are currently having major difficulties with their resource allocations. This is due in part to the increasing amount of new legislation having to be enforced and the introduction of the community charge system. As a result it is likely that the system will take much longer to implement than was envisaged at first, despite the recent announcements of increased recruitment for HMIP staff. Practitioners, however, remain convinced that the system of control is far superior to that of the past and should, when fully implemented, provide an excellent framework for increased environmental controls in the future.

Part II. Waste on Land

The Act imposes a duty of care on anyone who imports, carries, keeps, treats or disposes of waste. It requires them to take all reasonable steps to make sure that the waste is collected, transported, treated and disposed of by appropriately licensed individuals and lays down procedures for enforcing compliance with that duty. An offence is created if waste is dealt with by anyone who has not obtained a waste management licence. These measures, with the controls in the Control of Pollution (Amendment) Act 1989 providing powers and penalties to control fly-tipping, represent a major overhaul of waste management in the UK. When fully operational these powers should provide for a vastly improved and regulated waste management industry.

The new system also provides for the formation of local authority waste disposal companies (LAWDCS), which take over from the existing authorities, thereby creating 'arms length' disposal companies and the separation of regulatory and disposal responsibilities. The regulatory aspects of the new system will be provided by waste regulation authorities. Public registers are required to be kept, which detail licence conditions and enforcement actions. This Part runs side by side with the system of IPC and is part of the integrated approach to pollution control that will be forced by HMIP on prescribed A process industries.

The Act also requires the setting of recycling plans for waste collection authorities and provides for a system of recycling credits to be provided, although there is some confusion as to how this system is to be operated and audited. At present, while the need for adequate recycling systems has been addressed by the Act, the practical operation of the system seems to warrant further consideration.

Part III. Statutory Nuisances and Clean Air

The system of Statutory Nuisance enforcement is a well tried and tested system going back to the Public Health Act 1875, for controlling a whole manner of activities that are either harmful or merely annoying to others. The system of control, however, was considered cumbersome and overly bureaucratic and was in need of revision. This Part of the Act has consolidated and widened the scope of action that can be taken, both in relation to noise nuisance (most recently dealt with under the Control of Pollution Act 1974) and air pollution. It came into operation on 1 January 1991 and, while it is too early to provide detailed judgment on the practical changes, the early indications are that the provisions will work.

Part IV. Litter Control

The Act has introduced a new regime for the control of litter and one that will be complex and difficult to enforce, but which is nevertheless much needed. The enforcement powers creating offences for dropping litter on streets and public open spaces by the public will, it is envisaged, back up the new responsibilities on local authorities, who have a duty to maintain designated areas and keep them litter free.

Part V. Amendment to the Radioactive Substances Act 1960

The effects of the amendments to the Act are to transfer the licensing responsibilities to HMIP. It removes Crown Immunity and sets out a system of public access to information.

Part VI. Genetically Modified Organisms (GMOs)

The Royal Commission on Environmental Pollution's deliberations and the two European Directives on Genetic Modification are embodied in this Part of the Act, which places a general duty on persons keeping GMOs to ensure a safe environment and provides for an inspection and registration system. GMOs will be increasingly used in agriculture and

industry, and the regulations that set out the risk assessment procedure, in force from October 1991, are important controls.

Part VII. Nature Conservation

The creation of three new bodies for England, Scotland and Wales and the splitting of the old Nature Conservancy Council sent major tremors through conservation organizations in the UK. As a result the government agreed to a joint committee to be set up to co-ordinate national policies. The concerns still remain, however, and it is feared unnecessary duplication of work and failure to develop a national policy will result, compounded by the diversion of money away from the implementation of conservation measures in order to set up the new bodies.

Part VIII. Miscellaneous

There are a number of powers and duties ranged together in this section, which in themselves are extremely important and essential in backing up previous Parts of the Act. The fact that they are contained within a miscellaneous section belies their importance and their effects. This Part contains powers to deal with the restriction on the importation of substances hazardous to environmental and human health, restrictions on the importation and exportation of waste, powers to obtain information about hazardous substances, the duty to appoint officers to deal with stray dogs and the powers of the Secretary of State to give financial assistance to environmental organizations. I will focus on two other aspects: the duty on local authorities to maintain registers of contaminated land and the control of the burning of crop residues.

The section on registers of contaminated land does not come into force until the end of 1991. The exact form of the registers is not yet known but the effect will be to ensure that local authorities take all necessary steps to identify contaminated land within their areas: a task many have been reluctant to do for far too long.

The burning of crop residues creates an annual hazard for humans and animals alike and such fires are a major source of complaint and smoke nuisance. Regulations introduced in March 1991 will phase in the ban on burning of crop residues, which will ultimately take effect in March 1993. Until that time local authorities will have to consider the nuisance factors created by burning before deciding to take action, although some leniency will be exercised while other methods of crop residue disposal are introduced.

Part IX. General

This part includes powers to give effect to European Community and other international obligations.

Conclusion

The Act creates the framework for increased environmental controls and as such it is extremely welcome. Like the Control of Pollution Act 1974 before it, the Act promises much. Parts of the Control of Pollution Act 1974 were never implemented and while the prospect of non-implementation of Parts of the Environmental Act are very slight, the major concern is for effective implementation. Effective enforcement of environmental controls requires adequate resourcing. No system can be run on the cheap and it must be recognized that ultimately the consumer will pay. Fortunately, the general public is with us at present, but with the prospect of economic recession will the Act be allowed to be as effective as it could be when environmental controls may mean plant closure and job losses?

Graham Jukes is Under Secretary at the Institution of Environmental Health Officers, Chadwick House, Rushworth Street, London SE1 0QT

GIS for Environmental Professionals

Michael J. Clark

One of the basic tenets of professionalism is that decisions and judgements should be founded on a sound basis of information. In the environmental context this challenge is of more than usual complexity, since the information concerned is extremely diverse in character and origin, and often only fulfils its potential when it is considered in conjunction with a multitude of related factors. Since environmental management has adopted an increasingly holistic viewpoint over recent years, it is no surprise that management requirements have added to the pressure to develop fully integrated information systems. Furthermore, the spatial nature of many of the data sets involved explains the enthusiasm with which environmental professionals have turned to Geographic Information Systems (GIS). While in no way replacing the traditional values and skills of the environmental scientist, GIS does provide a framework within which very large amounts of information can be handled creatively and presented clearly and effectively.

Why GIS?

At the heart of most scientific information systems lie the data sets, which will be extracted and manipulated in order to turn them into something that does genuinely 'inform'. Much environmental data has a spatial dimension and this attribute provides two useful properties. First, the pattern of distribution often can be used as evidence for the interpretation of the factors controlling the variable: the distribution of a given species may throw light on the controlling factors that determine the habitat, and may also interact with the time dimension to illuminate the sequence of development of the pattern. For more than a century, environmental scientists have made use of this approach, and more recently have developed statistical and numerical techniques to assist them in identifying, describing and interpreting distributions. Secondly, spatial location can be used as an index to tag the many descriptors of that location. Long before Information Technology (IT) emerged to support the process, scientists recognized that painstaking comparisons of maps, images, logs and descriptions could build up a comprehensive description of the phenomena at a given location. In this sense, the locational grid reference can be as important as the specific name in identifying the individual.

GIS provides a computational technology to support, enhance and extend these very fundamental and traditional notions of locational reference and spatially-interacting distributions. All the available GIS packages have two components: a database and a graphic interface. The database holds the information and makes it accessible to the user efficiently and effectively. The graphics interface permits spatial data (maps, images, surveys) to be entered into the system, and provides a display for the information in the database. The system will receive information from different scales and projections, merge it, and perform the essential tasks of 'integration', which can vary from simple addition of data sets to complex modelling algorithms. While this is a boon even in the case of relatively small multivariate problems, it can become critically important with major 'corporate' data sets.

Environmental applications

Although there are many research applications for GIS, it is in the operational and planning sphere that we see most clearly the justification for GIS purchase and use—even though the business justification may require an element of visionary faith. The Nature Conservancy Council is an excellent example, since it blended a clear notion of its GIS requirements with some quite heavy and rigid management and financial boundary conditions. The way in which the system was defined and its purchase justified makes instructive reading (Budd, 1991), as does the very honest statement of the training and data acquisition load that had

to be carried before the system was operational. Although the notional cost-benefit expectation spreads across five years from installation, the 'real' justification for many environmental professionals is likely to be that the system is already at work solving problems—for example, predicting the ecological impact of the Burry Inlet (South Wales) barrage, and modelling the distribution and abundance of moorland birds across parts of Scotland. The NCC has found 50–90 per cent reduction in specific tasks such as survey plotting, verification, profile plotting and boundary digitizing, and further savings are apparent through bringing the GIS operations in-house.

To match the growth in the use of analytical GIS, there has been a steady growth in the availability of spatial digital data. For NERC's Institute of Terrestrial Ecology (ITE), for example, the need to respond to an information-hungry future has been met through the establishment in 1989 of the Environmental Information Centre (IEC) to handle image analysis, database management and GIS. As well as supporting an archival role, the IEC has pioneered techniques to use spatial data to solve environmental problems. The progression is subtle but very important: in celebrating the 25th anniversary of the Biological Records Centre (BRC), the ITE has opened up new horizons in the exploration of causal links between environmental parameters and the presence of biological organisms by incorporating the BRC within the IEC.

It is not fanciful to suggest that previously databases have played a passive storage role, whereas the creative structure of GIS encourages active analysis—manipulating information rather than merely extracting it. Nowhere is this more apparent than in the case of NERC's Institute of Hydrology, where long interest in data handling and archiving has provided a foundation for the development and marketing of WIS—a Water Information System. WIS is a general product in that it uses industry-standard software components such as SQL, ORACLE, or INGRES, and a UNIX operating system, but it is specifically designed for the water industry. In particular, it offers an effective approach to handling time series data from spatially distributed stations, and is thus a powerful spatial hydrological tool.

In many other cases, environmental applications are based entirely on generic GIS software, with the user taking the necessary steps to identify the subject-specific needs and ensure that they are being met by the system. Applications range from an innovative exercise in applied soil mapping for planning conservation and development at the Cranfield Institute of Technology (Hodgson and Whitfield, 1990) to a continental-scale digital mapping approach at the British Antarctic Survey. GIS are proving equally attractive to small as well as large organizations, and many agencies that are not currently involved at operational level are looking to feasibility or prototype studies. For example, the Marine Conservation Society and the Royal Society for the Protection of Birds share the problem of dealing with a highly complex, dynamic and multivariate spatial world—exactly the context in which GIS can offer robust information handling, sophisticated modelling and effective presentation of results and patterns.

Data – the fuel for GIS

It would be unfortunate to underestimate the pivotal role of the data providers. Without data, the most sophisticated GIS soon runs dry, and nowhere is this more important than in the context of base maps. Although small-scale digital map data are available from the AA and Bartholomew, and the largest utilities may well be involved in the map digitizing process in their own right, it is to the Ordnance Survey that most small and medium-scale users will look for topographic maps. The enormous task of creating the digital map database for Great Britain is some way from completion, and even then there will be more work to do in structuring these data to meet all the requirements of GIS, but considerable progress has now been made, particularly for the urban areas where the market is most immediate. The Ordnance Survey of Northern Ireland (OSNI) has gone one stage further by establishing a fully integrated approach to a Northern Ireland GIS based on a structured map database that was common to all major government and utility users. The target launch is the mid-1990s, but it is important in the meantime that users have a common core of expectation for the basis of their GIS planning. Since GIS derives data from many sources, similar effort has been put into the provision of satellite image data, with the National Remote Sensing Centre (working in partnership with the British National Space Centre) playing a leading role.

A way forward

A brief introduction to such a major field as GIS is unlikely to convert those who are resistant to IT, but it may serve to alert many neutral observers to the fundamental shift that is taking place internationally in the way that environmental data are handled professionally. It is unlikely that any environmental professional—large or small—will be able to operate for long without coming up against this particular product of the information revolution. For example, Friends of the Earth is taking water quality data from the regions of the NRA, and combining these within a GIS with the statutory water quality standards to identify and map cases of sub-standard quality. The mobility of computer data and the integrative capability of the GIS open up exciting possibilities for the profession—though this potential requires a co-ordinated approach to avoid duplication or conflict of effort. Such a community of interest permits a freer and a more constructive interchange of information for the constructive use of all, but this freedom can be usurped by the commodity value of data unless great care is taken.

Many potential new users will be taking an exploratory path through journals, conferences, exhibitions and demonstrations towards the purchase of GIS. Others will prefer to place contracts out of house on a consultancy or agency basis. All, however, need to start *thinking* about GIS. What are the data constraints? How do such systems influence the analytical, modelling or predictive outcome? What errors and uncertainties might lie behind the impressive graphic output? There is a professional necessity to confront such issues and, not surprisingly, an active research community to support this review. The NERC Unit for Thematic Information Systems (NUTIS, University of Reading) has been influential in developing and evaluating technical solutions to spatial environmental information needs (NERC, 1991), with a host of applications, but the research base spreads beyond this.

Following a Parliamentary inquiry into the handling of geographic information (Department of the Environment, 1987), the Association for Geographic Information was established to provide a professional forum for information suppliers and users. A number of research centres also turned their focus towards GIS and its applications. A network of such work was created in the Regional Research Laboratories (RRLs) funded by the Economic and Social Research Council. Despite this apparent social focus, several RRLs have taken a leading role in developing

approaches to handling environmental information: for example, the North West RRL (University of Lancaster) has demonstrated the effectiveness of logit regression modelling using the complete BTO Breeding Birds Atlas data, and is also developing advanced statistical modelling techniques for ecological spatial data. On a more general basis the Wales and South West RRL (University of Wales College of Cardiff) has demonstrated the effectiveness of building up a large multi-agency information system (WALTER, the Wales Terrestrial Database), to handle a variety of land-use and rural resource information (Higgs and Bracken, 1990).

Another component of the WSWRRL, the GeoData Institute (University of Southampton) has demonstrated other aspects of GIS use by developing decision support systems for river and flood management with the National Rivers Authority—Thames Region (Clark *et al.*, 1991), and on establishing and managing a spatial information system for the environmental management of open spaces with the City of Southampton (Ball *et al.*, 1990). As is typical of the research institute activity, such practical GIS projects build into more general application designs. Thus GeoData work for the Ministry of Agriculture, Fisheries and Food on the economic and environmental implications of sea-level rise on the South Coast has permitted the construction of a major Coastal Region Information System (CORIS), which is the basis for valuation of the coastal resource at risk under different scenarios of coastal change and defence policy (Clark *et al.*, 1990).

Confused? Such a reaction would be understandable, but a substantial support effort is building up to lead new users effectively and efficiently towards the best of GIS. The first aim is not necessarily to become a GIS expert, but simply to recognize that GIS is now a part of the environmental profession and a worthy partner in the search for greater understanding and better management. It is not always an easy path to follow, but even the most skeletal review of current activity demonstrates that the end does in this case justify the means.

References

- Ball, J., Edwards, P.J. and Williamson, N. 1990. Ecological database for Greenways. *Landscape Design*, 195, 40-41.
- Budd, J. 1991. Mapping in the NCC, 1988-91. *The Cartographic Journal*, 28, 21-26.
- Clark, M.J., Gurnell, A.M. and Edwards, P.J. 1990. A GIS approach to management decision making for the coastal environment. *Proceedings, EGIS 90 First European Conference on Geographical Information Systems, Amsterdam, The Netherlands, April 10-13, 1, 189-198.*
- Clark, M.J., Gurnell, A.M., Davenport, J. and Azizi, A. 1991. Integrated river channel management through GIS. *IWEM 91 Technical Papers*. Institution of Water and Environmental Management, 17.1-17.11.
- Department of the Environment. 1987. *Handling Geographic Information: Report to the Secretary of State for the Environment of the Committee of Enquiry chaired by Lord Chorley*. HMSO, London.
- Higgs, G. and Bracken, I. 1990. Statutory designation and land-use changes—a case study from mid-Wales. *Journal of Rural Studies*, 6(3), 279-290.
- Hodgson, J.M. and Whitfield, W.A.D. 1990. *Applied Soil Mapping for Planning, Development and Conservation: A Pilot Study*. HMSO, London, 38pp.
- NERC. 1991. *NERC Unit for Thematic Information Systems 1989-1991 Report*. Reading, 22pp.

Michael J. Clark, GeoData Institute, University of Southampton.

Specific contact points: Association for Geographic Information (AGI), 12 Great George Street, Parliament Square, London SW1P 3AD (for general information). Dr J. Budd, English Nature, Northminster House, Peterborough PE1 1UA (Environment Special Interest Group). The AGI Yearbooks and News are gold mines of up-to-the-minute information.

SUMMARY

Aims of the programme

To raise the profile of the profession of ecology and environmental management

- to establish the professional reputation of the Institute
- to give ecologists and environmental managers equal status with other professions

To establish, maintain and enhance professional standards

- to set standards of qualifications for membership
- to establish and maintain high standards of professional practice

To promote an ethic of environmental care within the profession and to clients and employers of the membership

- to develop initiatives and contribute to policy developments relevant to the profession and its aim of promoting environmental care amongst the membership, other practitioners and the client and employer base

Priorities 1991-6

To establish a sound, active and professional membership base, with a minimum of 1200 Full members by October 1992.

Establishment of the membership base is a fundamental priority as this will be the cornerstone to developing the three aims. Membership provides funds, signifies a power base and provides the impetus, initiative and authority for development of activities.

To provide professional and effective services to the membership and to develop training and career development programmes.

This aspect of the Institute's work will be crucial to attaining its objective to establish, maintain and enhance professional standards. In addition, the Institute is mindful of the need to encourage future ecologists and environmental managers and will assist in the development of careers in the profession.

To establish links with relevant institutes, environmental bodies, the client and employment base, in the UK and overseas.

Interaction with other environmental groups and professional bodies is considered essential to the development of the Institute and its aims and objectives. Not only will this activity help to develop the profile and professional reputation of the Institute but should help concentrate effort, and avoid duplication of activities, in key areas such as training.

To progress the development of the Institute's aims and objectives in Europe and in developing countries.

The Institute is keen to assist in the professional recognition of practitioners overseas and will work through appropriate agencies to progress this activity.

Institute of Ecology and Environment Draft Development Plan

Phillip Edwards, Sue Everett

The Institute is currently drafting its development plan for 1991-96. The summary given here lists some of the key objectives and priorities identified so far and is a very brief distillation of the plan. The draft plan is available in full to IEEM Council, committee and group members. Comments on this summary would be welcomed from anyone with an interest in the development of the Institute and should be sent to Sue Everett at the Newbury Office.

Management, structure and operation

Objectives

- To develop and enhance the activities of the Institute through
- encouraging participation from the membership
 - employing a sufficient number of professional and other support staff
 - maintenance and development of office premises
 - development of information technology resources
 - managing funds effectively and by fundraising

Status and structure

Actions

Apply for Chartered Status in 1996. (Note: The Institute was registered as a limited company in 1991 and has applied for Charitable status) As soon as possible after the Inaugural meeting, develop the structure of the Institute through the membership, initially by appointing members to key committees and to special interest groups. (Note: the following committees may be established according to the institute's byelaws: Membership Admissions, Professional Affairs, Domestic Affairs, International Affairs, Finance and General Purposes. Sub-committees which will need to be established soon include: members' training and education and career development. A fundraising committee and Bulletin editorial board have already been established) Ensure that the membership of all committees reflects the proportion of men and women members of the Institute. Ensure that a good flow of information is communicated between staff, honorary officers, committees and groups.

Staff

At present IEEM employs an Executive Director (part-time) and an Administrative Assistant. Projections for staffing needs will be developed when this plan is in final draft. Some immediate priorities for 1992 have been identified and include: Training Officer, Education Officer, Training and Education Assistant, further secretarial support.

Premises

The Institute is currently housed in a business unit in Newbury, Berkshire. Space is available for expansion at this unit. The desired location of premises (e.g. a move to London) needs to be decided.

Finance

Objectives

To operate within available funds: (1) ensure that core activities are

Environmental Management Development Plan 1991-6

by *Robert and David Stubbs*

adequately resourced; (2) make effective use of membership subscriptions; (3) obtain external funding for development activities that cannot be resourced from core (membership fee) funds

Actions

- Form a fundraising group (formed 1991).
- Develop and implement a strategy for raising funds from donors.
- Develop other fundraising sources in conjunction with general development of membership services.
- Obtain charitable status and organise covenancing of subscriptions from October 1992.
- Identify fundraising priorities.

Marketing and profile

Objective: Develop the membership, and public recognition of the Institute, as quickly as possible by promoting the Institute widely.

Actions

- Develop a profile with the client and employment base and publicise the benefits of Full and Associate membership.
- Develop a strategy for promoting IEEM membership to students; link this in with promotion of IEEM Approved Courses.
- Develop a publicity schedule for each IEEM event, including training courses, conferences, workshops and seminars.

Membership services

Objectives

Establish a suite of membership services that will satisfy the needs of the membership in terms of professional services, training and provision of information.

Admission and certification of members

Objectives

- Maintain standards of entry and qualification, and procedures for admission, and review them periodically.
- Establish methods for public recognition of IEEM members.

Training programme: continuing professional development

Objectives

- to develop a wider and practical understanding of ecology and environmental management
- to provide help and training in relation to new areas of work and responsibilities associated with the profession
- to provide help to members involved in private practice and business management

Note: It will be the policy of IEEM to avoid duplication of effort with respect to training, with emphasis on working on a cooperative and coordinating basis with other related organisations and organising special IEEM courses only where gaps exist.

Actions

- Appoint a Training Committee to develop the training programme.
- Employ a Training Officer, and arrange adequate support.
- Ask IEEM members and Special Interest Groups to identify their training needs.
- Consider developing criteria for membership training and re-training requirements, as outlined in the bye-laws.

Bulletin

Objective

Develop and promote the bulletin in line with the growth of the membership, its demands for information and according to the resources available.

Actions

- Develop the Editorial Board (1991, soon after the Inaugural Meeting).
- Recruit advertising for the bulletin as soon as possible.
- Investigate publication of the Bulletin by an established publishing house and/or in association with another appropriate publication.

Special interest groups

The Bye-laws state that 'Special Interest Group may be established for the purposes of pursuing the Objects of the Institute among those members practising within a prescribed area of ecology and environmental groups management'. The establishment of Special Interest Groups is a priority because it will be through these groups that members will be able to define the needs of their sector of the profession.

Representing the members (professional needs)

Action: IEEM will represent members' interests and concerns through relevant professional bodies, trade unions and other organisations.

Register of ecologists and environmental managers

Action: Publish a Register of Ecologists and Environmental Managers.

The register would not aim to duplicate existing publications but would concentrate on providing detailed information on individual ecologists and environmental managers. This would both provide a service both for members and to the client and employer base.

Members' directory

Action: Compile a directory of members annually and publish this in the spring issue of the Bulletin each year.

Regional groups

The establishment of regional groups is not considered a top priority within the first three years of the Institute's establishment, and in any case will be established according to local demands.

Conferences and events

Seminars and workshops, linked in with the training programme and other key elements of the Development Programme, will be given priority over 'conferences' so that effort is concentrated on providing targeted and informative material on issues relevant to the profession. The Institute will also keep its members fully informed of any relevant conferences and events which may be organised by other bodies, by publishing details of these in the Bulletin diary.

Professional indemnity and other insurance

Action

Investigate: (1) bulk-purchase discounted insurance for IEEM members, including professional indemnity insurance, and (2) a group insurance for marine ecologists who dive commercially.

Business and other specialist advice

Action: The Institute will investigate providing a general advice service on business matters and on environmental law.

Environmental Care

Objective: Develop initiatives and contribute to policy developments relevant to the profession and its aim of promoting environmental care.

Promoting good practice

A major aim of the institute is to promote good practice in the profession of ecology and environmental management. The areas of work relevant to this aim will include: the training programme, the Code of Conduct, maintaining a watching brief over the membership to ensure that good standards of practice are maintained, contributing advice on issues and policy developments affecting or likely to effect members' interests, providing information through the Bulletin and through other publications, promotion of the Institute to the client base and the establishment of a disciplinary and complaints procedure to deal with infringements of the Code of Conduct by IEEM members and other matters of default.

Actions

The Code of Professional Conduct will be reviewed and upgraded in early 1992, following consultation with the membership. The Professional Affairs Committee will establish disciplinary and complaints procedures.

Responding to issues and initiating developments

Action: The institute will provide an input to and give initiative on issues and policy developments which are likely to affect the interests and practice of its members.

Career Development

Objective: Develop the educational and career development infrastructure for future ecologists and environmental managers.

This will necessitate action with other organisations working in this field.

The priorities are to identify the career development needs of the profession and transmit this information to secondary and tertiary level education and through vocational training initiatives. This will (1) provide people interested in entering careers in the profession with sufficient information allowing them to make an informed choice about the most appropriate options for training and education, and (2) persuade academic institutions and statutory providers of education that they establish courses which are relevant to the needs of ecologists and environmental managers.

IEEM Approved Courses

Actions: Develop criteria for IEEM Approved Courses; Establish and maintain a Register of Approved Courses

Career development and training modules

Development of the career modules will necessitate cooperative activities with groups such as the Institute of Biology, BES and other supporting bodies of IEEM, Council for Environmental Education, Association of Countryside Rangers, CSTAG, Joint Nature Conservation Committee and CoSQUEC. IEEM Special Interest Groups will have a prime role in developing this aspect of the programme.

Actions

Ask IEEM Special Interest Groups to identify career development requirements for their sectors of the profession as a priority. Form an education sub-committee. Employ an Education Officer to take forward the career development programme, including the development of a series of training modules. Promote the training modules amongst schools, higher education institutes and other appropriate groups. Develop a work experience placements scheme through the membership.

Disadvantaged groups

Action: The institute will investigate ways forward to assist career development for disadvantaged groups.

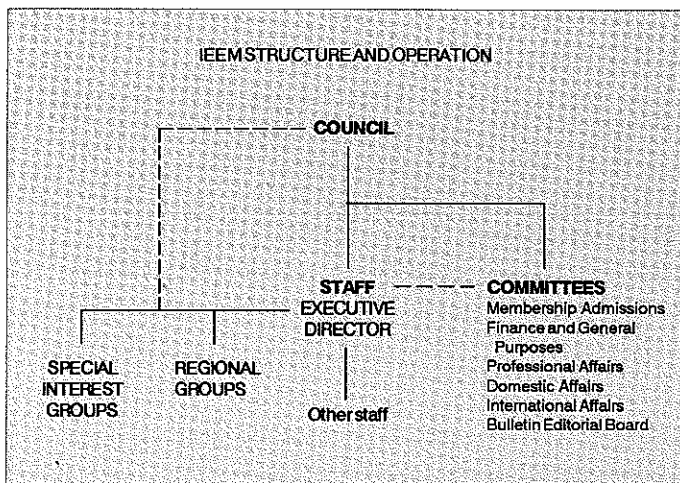
International Developments

Objective: To raise the profile of the profession of ecology and environmental management in Europe and in developing countries and to increase the number of qualified practitioners in these areas.

Actions

Maintain representation on The European Federation of Environmental Professionals and develop initiatives through this group. Join IUCN. Compile and maintain a database of European contacts. Consider appointing a European Officer if demands show that this would be necessary and appropriate. Investigate the development of accreditation for practitioners in developing countries and other ways by which the Institute could further its aims and objectives in developing countries. Investigate the development of an international exchange network for ecologists and environmental managers.

Phillip Edwards and David Stubbs are members of the Interim Council. Sue Everett is a member of the management team currently providing the Secretariat to the Institute.



Natural Heritage (Scotland) Act 1991

The Natural Heritage (Scotland) Act 1991 received the Royal Assent on 28 June and comes into force on 1 April 1992. Its prime purpose was to set up Scottish Natural Heritage as a replacement for NCC for Scotland and the Countryside Commission for Scotland, but on its way through parliament it was amended to require an independent review if landowners dispute the scientific grounds on which a Site of Special Scientific Interest has been designated. The new review body – the Advisory Committee on SSSIs – will be appointed by the Secretary of State for Scotland from 'among persons who are not members of Scottish Natural Heritage or of any committee appointed by it having scientific qualifications and experience in relation to flora and fauna or the geological or physiographical features of the land'. Its purpose will be to consider objections or representations concerning land notified as SSSI from 1 April 1992. Similarly, the Committee will be referred representations from owners or occupiers of land notified as an SSSI since the commencement of the Wildlife and Countryside (Amendment) Act 1985 and for any SSSIs notified not less than 10 years ago. In these cases Scottish Natural Heritage has a statutory duty to consider representations with respect to reasons specified in the SSSI notification which have ceased to be valid.

The amendment has resulted in a fundamental change in which the operation of nature conservation law is operated in Scotland, as opposed to England and Wales. The amendment was approved with inadequate consultation with the Joint Nature Conservation Committee, the body authorised with coordinating national and international nature conservation policy and activity. As a result its Chairman, Sir Fred Holliday resigned, and the Chairman of Scottish Natural Heritage, Magnus Magnusson, expressed extreme disquiet.

The Wildlife and Countryside (Amendment) Act 1991

This Act closes a loophole in the Wildlife and Countryside Act, 1981, that made it difficult to prosecute landowners for offences involving killing or taking of wild birds or other protected animals on their land where the incident was a 'result of a lawful operation and could not have reasonably been avoided'. This loophole gave *carte blanche* to any landowner who, for example, ploughed nesting sites of protected birds (because agriculture is a lawful operation). The Amendment Act makes it an offence for a landowner to knowingly cause or permit the illegal killing or destruction of protected species on his or her property. This provision will also enable prosecutions of landowners with respect to illegal activities of people in their employ (e.g. gamekeepers). As such it gives much welcomed new power to bodies such as the Royal Society for the Protection of Birds, who continue to be concerned about the illegal killing, by shooting and poisoning, of birds of prey.

The Badgers Act 1991

The Act received Royal Assent in July and will come in force on 25 October 1991. The Act makes it an offence to cruelly ill-treat any badger, forbids badger-digging and places restrictions on methods of killing and taking badgers. Additionally, it will be illegal to damage or destroy a badger sett, obstruct the entrance or access to a sett, cause a dog to enter a sett or disturb a badger when it is occupying a sett.

However, the Act contains a number of 'let out' clauses. These include a licensing arrangement for science and research, disease management, preventing damage to land, crops, property and stock, for development purposes, agriculture and forestry operations, land drainage purposes, archaeology and fox control for livestock, game or wildlife protection. Designated licensing authorities will be the Nature Conservancy Council for England, NCC for Scotland, Countryside Council for Wales, Ministry for Agriculture, Fisheries and Food and the Secretary of State for Scotland (according to the purposes for which the licence is required). Additionally, the Act allows for hunts to temporarily stop up setts using specified methods and materials, providing the sett is not dug into and that the materials used are not packed hard into the entrances. Specified materials are 'untainted straw, hay, leaf litter, bracken, loose soil, a bundle of sticks or faggots'. Any person who stops up a badger sett for the purposes of hunting foxes with hounds may only do so with the authority of the landowner or occupier and has to be authorised by a Hunt recognised by the Master of Fox Hounds Association, the Association of Masters of Harriers and Beagles or the Central Committee of Fell Packs. Hunts are required to keep a register of all 'authorised' persons.

Planning and Compensation Act 1991

The Planning and Compensation Act received Royal Assent on 25 July and will be introduced in stages by Commencement Orders. Among the first of its provisions to come into force are those to control mineral operations where permissions were granted under Interim Development Orders in the period between the Interim Development Act 1943 and the Town and Country Planning Act 1947. Under these provisions, which come into force in late September 1991, mineral operators claiming to have IDO permissions will have to apply to the appropriate county planning authority for the permission to be registered. Registration will be accepted on the basis of evidence of the permission being granted. Once permission is registered the mineral operator will have to submit a scheme for the working, restoration and aftercare of the site for approval of the planning authority; such schemes will be subject to the usual consultation procedures. If planning consent is given the cost of meeting any additional conditions will be borne by the mineral operator in line with the modern practice of 'polluter pays'. A further report on this Act will be included in the next issue of the *Bulletin*.

Advertise in this space

Telephone 0635 37715 or fax 0635 550230 for rates

Countryside Stewardship

The Countryside Stewardship Scheme, launched by the Countryside Commission in June, is designed to conserve, manage and re-create some of England's most valued landscapes. It has been developed in close co-operation with English Nature and English Heritage and with the support of the Department of the Environment and MAFF.

All who manage suitable land—farmers (including tenant farmers), estate owners, voluntary bodies and local authorities—and are able to enter a 10-year agreement with the Countryside Commission are eligible to apply. Applicants may select a combination of measures from the scheme's menu. Proposals should suit the characteristics of the land and offer good potential for environmental improvement and public benefit. Incentive payments are made annually in arrears and are reviewed on a fixed 3-year cycle with the first review in 1994. Applications may be made between 25 June and 31 October in 1991 and in subsequent years between 1 May and 30 September. Application forms and further information from the Countryside Commission, John Dower House, Crescent Place, Cheltenham, Gloucestershire GL50 3RA. Telephone 0242 521381. Fax. 0240 584270.

Grants from English Nature

Nature Conservation Grants

Project grants are available for individuals or voluntary organizations involved in a wide range of projects costing over £200 and involving activities promoting nature conservation, including all aspects of site management and interpretation, computerization, wildlife appeals, independent management reviews, training and literature production. Grants are normally up to 50 per cent of costs and cannot be awarded retrospectively. Staff-post Grants aim to help voluntary organizations set up key posts and are funded for up to three years on a sliding scale (normally 60 per cent, 50 per cent and 40 per cent) towards salary and employment costs.

Volunteer Action Grants

These grants are available to County Trusts and equivalent voluntary bodies holding charitable status to reimburse volunteers' travelling expenses for nature conservation activities, including reserve management, fund-raising and membership drives, exhibitions and talks. Each organization may apply for between £200 and £1000 a year.

Community Action for Wildlife

English Nature has grants of between £200 and £5000 available for urban nature conservation projects run by community groups, local authorities and voluntary bodies. Most projects will be given 50 per cent funding but those that make use of voluntary labour may receive 100 per cent of material costs. The kinds of projects considered are: improving existing areas for wildlife; promoting enjoyment of wildlife by providing interpretive facilities; and innovative projects to promote wildlife and its conservation, organizing green fairs, for example. This initiative runs until 28 February 1992 or until funds are exhausted. More information available from English Nature, Northminster House, Peterborough PE1 1UA (Telephone 0733 340345) or Regional Offices.

The Living Churchyard

Grants of up to £500 are offered for 50 per cent funding of projects to manage churchyards for wildlife. The money may be used to purchase tools and materials or for training and planning. Details and application forms from Miss E. Dennis, Churchyard Conservation Scheme, The Arthur Rank Centre, Stoneleigh, Kenilworth, Warwickshire CV8 2LZ. Telephone 0203 696969 ext 339.

Countryside Stewardship Scheme: summary of measures and incentives

Annual payments £/ha

Conservation of salt marsh		£20/annum
Conservation of chalk and limestone grassland, natural coastal vegetation, lowland heath and in-bye meadow and pasture		£50/annum
Regeneration of heather on enclosed moorland		£15/annum
Plus		£50/annum for first five years
Conservation of waterside pasture and meadow		£70/annum
Regeneration of heather moor on agriculturally improved land		£50/annum
Plus		£50/annum for first five years
Creation of permanent chalk and limestone grassland		£210/annum
Creation or restoration of waterside landscapes or natural coastal vegetation on improved land		£225/annum
Re-creation of lowland heath on improved land		£250/annum
Plus on suitable land:		
Supplement for additional restoration or re-creation works on chalk and limestone grassland, waterside landscapes, coastal land or in-bye pasture or meadow		£40 first year payment
Supplement for special heather regeneration works		£50 for first five years
Access		£50/annum

Capital payments

Scrub management	scattered scrub	£100/ha
	dense scrub (more than 50% ground cover)	£250/ha
Pond	restoration	£2/ sq. m
	creation	£4/sq. m
Creation of scrapes		£1.40/sq. m
Sluice for water-level control:		
	soil-bund	£40
	timber	£140
	concrete	£400
Stone wall:	repair	£7.50/m
	restoration	£15/m
Top wiring of stone wall	£0.60/m	
Hedge banks:	repair	£10/m
	restoration	£25/m
Tree and shrub planting	£0.65/plant	
Tree guards:	rabbit guard	£0.20/guard
	tube	£0.20/guard
Pollarding		£17.50/tree
Coppicing bankside trees		£12.50/tree
Hedge planting		£1.75/m
Hedge laying		£2/m
Hedge coppicing		£1.50/m
Bracken control:	chemical	£85/ha
	mechanical	£50/ha
Clearance of eyesores	£120	
Field gate		£125
Bridle gate		£100
Stile		£30
Footbridge		£125
Post for sign or waymark		£4
Sign		£4
Waymark		£1
Bench		£30
Assistance with the cost of technical advice or management plan preparation		£125
Fencing:	post and wire	£0.80/m
	sheep fencing	£1.20/m
	rabbit netting	£0.40/m
Water:	supply	£0.40/m
	trough	£25

The Forestry Commission's Extended Woodland Grant Scheme

Carol Crawford

The Evolution of Forestry Commission Grants

The Forestry Commission (FC) recently announced changes to the Woodland Grant Scheme which extends existing opportunities for enhancing woodlands for conservation. The original aim of the FC Forestry Grant Scheme (FGS) introduced in 1981 was to encourage the expansion of private forestry and increase timber production. It offered higher grants for broadleaves than for conifers but the proportion of private broadleaved planting stayed at 10 per cent of all private planting until 1986.

In 1985 the Broadleaved Woodland Grant Scheme (BWGS) was launched. It aimed to encourage the rehabilitation of existing broadleaved woodlands, and the planting of new ones. BWGS catered for a wide range of objectives such as encouraging the greater use of broadleaved woodland for amenity, wildlife, recreation, game and shelter. Timber production had to be one of the objectives. The improved rates of broadleaved planting grant in BWGS compared with FGS and its provision for naturally regenerating broadleaves resulted in the proportion of private broadleaf planting rising to 17 per cent in two planting seasons.

The FC Guidelines for the Management of Broadleaved Woodland issued in 1985 contained special guidelines for the Ancient Woodland Sites identified in the NCC Inventories of Woodlands. In 1988, following the changes in tax arrangements for forestry, the Woodland Grant Scheme (WGS) superseded both FGS and BWGS. It offered higher grants for all new planting and restocking. By 1990, 40 per cent of all private planting was broadleaved. The aim of WGS was to encourage the expansion of private forestry which was in balance with the needs of the environment. The FC issued guidance on this, for example The Forests and Water Guidelines (1988) and the Forest Nature Conservation Guidelines (1990).

In 1988 the Native Pinewood Scheme was introduced. It offered the broadleaved rate of grant for regenerating pinewoods in their native range from local seed sources. By May 1991 applications had been received to re-establish 5,250 ha of native pinewoods.

The Farm Woodland Scheme (FWS) was also launched in 1988 by MAFF, national Agriculture Departments and FC. It provides annual payments for taking land out of agriculture and planting grants. WGS features a Better Land Supplement (BLS) for planting areas of arable land or improved grassland too small to qualify for FWS. In 1990 BLS was doubled for conifers and trebled for broadleaves.

The Extended Woodland Grant Scheme

The extended WGS, launched in June 1991, offers management grants as well as establishment grants. The most notable feature, however, is that the aims have been widened so that timber production need no longer be among the objectives. This means that grants are available for creating and managing woods solely for environmental purposes.

Though the smallest area that normally qualifies for grant is still 0.25 hectare, smaller woods may be accepted if they can be thought of as woodlands. The minimum width for a qualifying wood has been reduced from 30 to 15 metres, which should attract more farmers wishing to establish or manage shelterbelts.

Establishment grants

The rates of grant for planting, restocking and natural regeneration remain at the old WGS rates i.e. £975-£1,575 per ha for broadleaves and £615-£1,005 per ha for conifers (the rate depends on the size of area) plus BLS of £400 per ha of conifers and £600 per ha broadleaves where applicable). The Native Pinewood grant has been brought into the scheme.

- FC will grant aid up to 20 per cent open ground in each scheme: roads, rides and land for environmental purposes. This gives scope for creating or retaining other wildlife habitats within schemes e.g. ponds and species-rich grasslands.
- The principal tree species should be silviculturally suited to the site and appropriate to the management aims. Where nature conservation is a significant aim, native species will be preferred.
- Up to 10 per cent of the total grant-aided scheme can be composed of shrubs such as hawthorn and holly, so long as they are ecologically appropriate to the site.
- There is more scope for establishing new areas of coppice woodland throughout the country, both of traditional species such as hazel and oak and short rotation species: poplars, alders and willows.

Management grants

There are two types of management grant: standard grants and special grants. They are intended as contributions towards costs of operations necessary to maintain and improve woodlands and will be available initially over a 5-year period. Afterwards applicants may enter further plans for further 5-year periods.

Management plans may be submitted now but will not qualify for a management grant until 1 April 1992, after which the grant will be paid annually in arrears.

- *The Standard Management Grant* is for conifer woods aged 11 to 20 years and broadleaved woods aged 11 to 40 years. It will help fund essential silvicultural operations such as respacing; protective operations such as deer control; or steps to bring woods up to current environmental standards, e.g. landscaping treatments, creating wildlife glades or erecting bird boxes. The annual rate of standard grant is £10 per ha for conifers or £25/ha for broadleaves (or for woods under 10 ha: £15 and £35 respectively).
- *The Special Management Grant* is for woodlands of special environmental value of any age from 11 years upwards: Ancient, semi-natural woodlands in the NCC Inventories; prominent woods in National Parks, National Scenic Areas, and other areas nationally designated for their environmental value. Woodlands may also qualify if the owner has proposals for non-commercial recreational facilities that will be open to the public. This grant is towards the costs of operations aiming to maintain and improve the special value e.g. freeing native trees and shrubs encroached upon by conifers and developing trails and interpretive facilities. The annual rate of special grant is £45 per ha in woods less than 10 ha and £35 per ha in larger woods.

Conclusion

The Forestry Commission is to be congratulated on the comprehensive and flexible nature of its extended Woodland Grant Scheme. Environmental managers now have enhanced opportunities to demonstrate how woodlands of value to the public and wildlife should be created and managed.

Carol Crawford, *The Natural Resource Consultancy*,
4D New Bridge Street, Ayr KA7 1JX.

Book notices

Research for Practical Arboriculture

Edited by S. J. Hodge. Forestry Commission Bulletin 97, HMSO, London, 222pp., £17.50 (SB).

One of the most difficult aspects of professional work is to keep abreast of new developments and technical information when leading a busy life. It is easy to fall into the trap of using solutions to problems that are out of date or less than the best of current practice. This applies particularly in landscape restoration, where a great deal of research has been carried out but the results are still not yet always applied.

This book is therefore to be welcomed, because it reviews progress in the practical and applicable aspects of research in arboriculture. Topics covered include water stress, soil physical conditions, storm damage, air pollution, salt damage and disease, taken from the point of view not only of what are the problems but how they can be treated. The book is well edited and produced and will be of particular value to landscape practitioners.

Environmental Assessment. The Treatment of Landscape and Countryside Recreation Issues

Richard Stiles, Christopher Wood and David Groome, Countryside Commission, 1991, ISBN 0 86170 2719, 52pp., £6.50 (SB).

This document deal with successive stages involved in carrying out an environmental assessment, abundantly and usefully illustrated with maps, drawings, photographs and useful case studies. Chapters deal with successive stages involved in carrying out an environmental assessment, from determining whether one is necessary through to monitoring the impacts of a project.

Nature Conservation: The Legal Framework and Sustainable Development

Neil Hawke, Leicester Polytechnic Environmental Research Unit/NCC, 1991, ISBN 0948 997 63X, 63pp., £00 (SB).

This booklet covers the legal framework for planning, environmental assessment, EC and international law, administrative law principles, the Wildlife and Countryside Act, highways development and additional regulatory controls. Unfortunately, some key aspects of law relevant to nature conservation are missed out, notably Limestone Pavement Orders and the requirements upon National Park Authorities to produce maps of major semi-natural habitats.

The Green Business Guide

John Elkington and Peter Knight with Julia Hales, Victor Gollancz Ltd, London, 1991, ISBN 0 575 04675 9, 25pp., £16.99 (HB).

The book aims to provide practical and down-to-earth advice on how companies and other organizations can achieve competitive environmental quality standards.

Who's Who in the Environment

The 3rd edition of the Welsh volume of Who's Who in the Environment is available free from the Countryside Council for Wales, Plas Penrhos, Ffordd Penrhos, Bangor, Gwynedd LL57 2LQ (Tel: 0248 370444). The Scottish equivalent (2nd edition) is available from the Countryside Commission for Scotland, Battleby, Redgorton, Perth PH1 3EW (Tel: 0738 27921) and the English directory is available from the Environment Council, 80 York Way, London N1 9AG (Tel: 071 278 4736).

Survival of the Fairest: can women make it to the top in the conservation movement?

Rosemary Teverson, for BANC. £6.00 from BANC, c/o The Nature Conservation Bureau Ltd., 36 Kingfisher Court, Hambridge Road, Newbury, Berks RG14 5SJ. In this highly readable report, women working within the conservation movement voice their opinions for the first time as to how they see their current roles and future prospects. Results of a specially commissioned survey into the status of women in conservation are analysed. The questionnaire survey indicated that 49% of the respondents suffered from patronising attitudes from their male colleagues, 36% had their opinions dismissed, while 13% had suffered sexual harassment.

In-Service Training in Nature Conservation: Directory of Providers, March 1991

Available from: External Training Manager, English Nature, Northminster House, Peterborough PE1 1UA.

River Water Quality and Red Grouse Populations and Moorland Management

The first two in a new series initiated by the British Ecological Society available for £2.95 each from Ecological Issues Booklets, Field Studies Council, Preston Montford, Montford Bridge, Shrewsbury SY4 1HW.

Journals, Bulletins and Newsletters**Heritage Coast. The Bulletin of the Heritage Coast Forum.**

A regular publication on all matters concerned with heritage coasts in England and Wales. Issue No. 5 (June 1991) focused on Environmental Health issues; issue No. 6 will cover Managing Coastal Change. Free from Heritage Coast Forum, Manchester Polytechnic, St Augustine's, Lower Chatham Street, Manchester M15 6BY.

Integrated Environmental Management.

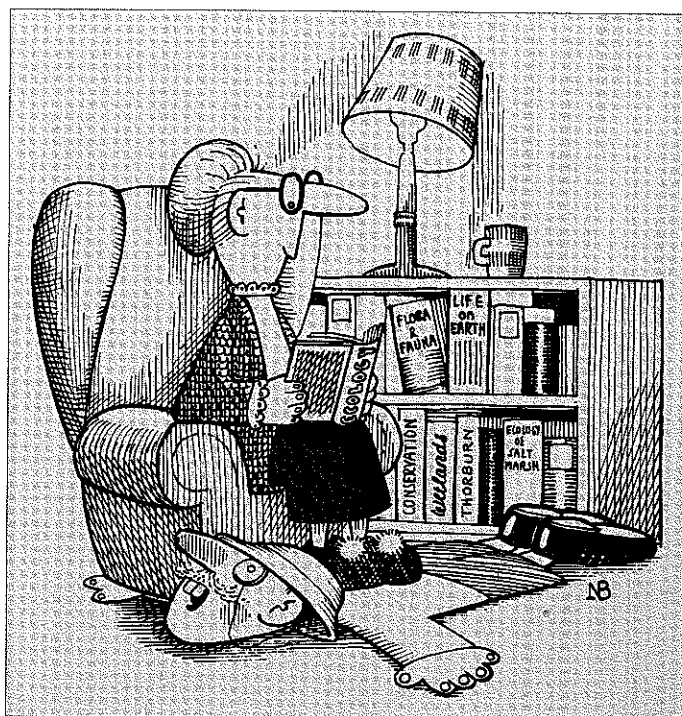
Editor: Professor Peter Calow, Institute of Environmental Science and Technology, University of Sheffield. Blackwell Scientific Publications. Aims to provide information and advice so that people in business can respond effectively to environmental legislation. Issue No. 1 (24pp.) appeared in August. Subscription £195 per year (10 issues), concessionary rate of £65 for academics. Articles in the first issue cover the Single European Act and its implications for environmental legislation in the EC, the integrated approach to pollution control, the rise of the environmental audit and experience with environmental impact assessment in the UK.

Enquiries: Anna Rivers, Integrated Environmental Management, Blackwell Scientific Publications, Osney Mead, Oxford OX2 0EL.

Environment Law Brief: A Concise Update for Companies on the Impact of Environmental Regulation and Law.

Editor: Stephen Battersby, Environmental Policy Research Unit, Robens Institute, University of Surrey. Legal Studies & Services (Publishing). Published 10 times a year (8-12pp. per issue), this newsletter provides summaries of news, cases, developments overseas and in the EC and parliamentary business. Subscription £95 per year.

Enquiries: Sue Kerry, Legal Studies & Services (Publishing) Ltd, 57/61 Mortimer Street, London W1N 7TD.



Cartoon by Neil Bennett

In each issue of the Bulletin we shall publish brief details of forthcoming meetings, events and courses that may be of interest to members. If you are organizing a meeting, event or relevant course please send details to the Editor well in advance.

- 1991**
- 7 October.** Environmental Law: the European Dimension. Contact: Philip Mead. Tel: 071 831 0801. Fax: 071 405 1387.
- 7-8 October.** Forestry Trust. Countryside managers course. Two one-day courses at Hockeridge to show how timber production can be reconciled with wildlife, landscape and amenity objectives. Contact: Charles Gray, Tel: 0734 323523.
- 7-11 October.** Conservation and the Planning System. Sponsored by the Countryside Commission. Training course on how the planning system can protect and promote conservation and recreation sites. Losehill Hall, Castleton, Derbyshire. Contact: Peter Townsend, Peak National Park Centre. Tel: 0433 20373.
- 9-11 October 1991.** Arfordir 91. Nature Conservation and Heritage Coasts. St David's, Pembrokeshire. Contact: Tim Badman, Heritage Coast Forum. Tel: 061 247 1067.
- 14-15 October.** Contaminated Land. A practical examination of the technical and legal issues. Organized by IBC Technical Services Ltd. London W1. Contact: Amanda Wright. Tel: 071 236 4080
- 16 October.** 21st Century Forests: The Environmental Potential. Cannock Civic Centre, Staffs. BANC Conference. Contact: Mark Davies. Tel: 0543 505488.
- 16-17 October.** Scottish Peatlands: The Way Forward. Inverness. Contact: Dr Brennan D. Soane, Scottish Peat and Land Development Association. Tel: 031 445 2147.
- 21-22 October.** The Practicalities of Formulating, Implementing and Monitoring Environmental Strategies and Action Plans. London W1. Contact: IIR Ltd. Tel: 071 4120141.
- 21-23 October.** Pollution Management. Organized by IBC Technical Services Ltd. London. Contact: Amanda Wright. Tel: 071 236 4080.
- 21-24 October.** National Society for Clean Air and Environmental Protection Conference and Exhibition. Floral Hall & Devonshire Park Exhibition Hall, Eastbourne. Contact: NSCA. Tel: 0273 26313.
- 21-25 October.** Integrating Nature Conservation in Countryside Recreation. Sponsored by the Countryside Commission in conjunction with English Nature. How to manage countryside sites to maintain or enhance their nature conservation interest while providing for informal recreation. Losehill Hall, Castleton, Derbyshire. Contact: Peter Townsend, Peak National Park Centre. Tel: 0433 20373.
- 22-24 October.** International Ecological Conference on Sustainable Economic Development and Ecology—21st Century. Sofia, Bulgaria. Contact: Association of Bulgarian Ecologists, Conference Committee, 1040 Sofia, 18 Vitoshka Blvd, Bulgaria.
- 22-25 October.** Symposium on Environmental Change and the Ecological Effects. Beijing, China. Contact: Professor Liu Jingyi, Symposium Secretariat, P.O. Box 934 Beijing 100083, China.
- 23 October.** Plantlife Peat Inquiry—Public Hearing. Natural History Museum, London. Contact: Melanie Oxley. Tel: 071 938 9111.
- 24 October.** Defining Solutions to Environmental Problems. Royal Society of Arts. Contact: Hally Ingram, Environment Council. Tel: 071 278 4736.
- 28-29 October.** Advances in Environmental Assessment. Organized by IBC Technical Services Ltd. London. Contact: Alison Jones. Tel: 071 637 4383.
- 14 November.** Seminar on Wildlife Corridors. Organized by the Working Panel of Local Authority Ecologists. Contact: Lisa Kerslake, Tel: 0602 823823 (ext.4557).
- 18 November.** Land-Use Change in Britain. Royal Geographical Society, London. Contact: Alison Glazebrook. Tel: 071 5895466.
- 20-21 November.** Environmental Auditing. Organized by IBC Technical Services Ltd. London. Contact: Amanda Wright. Tel: 071 236 4080.
- 21 November.** GIS in Conservation. International Convention Centre, Birmingham (Association of Geographic Information conference). Organized by English Nature and English Heritage. Contact: Derek Hilder, Tel: 0789 268102.
- 23-24 November.** Northumbria Coastal Conservation Fair. Contact: David Hurst, RSPB, Tel: 091 232 4148 or Chris Probert, Northumberland National Park, Tel: 0434 605555.
- 25-28 November.** Communicating Environmental Issues. Snowdonia National Park Centre. Contact: Margaret Griffith, Tel: 0766 85324/85334.
- 27 November.** Plantlife Peat Inquiry—Public Hearing. Natural History Museum, London. Contact: Melanie Oxley. Tel: 071938 9111.
- 7-14 December.** International Conference on Land-Water Interactions. New Delhi, India. Details: Dr B. Gopal, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi 110067, India.
- 17-19 December.** British Ecological Society Winter and Annual General Meeting. Contact: Dr N Smirnov, Dept of Biological Sciences, University of Exeter, Hatherly Laboratories, Prince of Wales Road, Exeter EX4 4PS.
- 1992**
- 17-26 January.** Countryside Interpretation Training Course. Sponsored by Countryside Commission. Losehill Hall, Castleton, Derbyshire. Contact: Peter Townsend, Peak National Park Centre. Tel: 0433 20373.
- 20-24 January.** Practical Application of Countryside Law. Contact: Margaret Griffiths, Snowdonia National Park. Tel: 0766 85324/85334.
- 27-31 January.** Enjoying the Countryside—Adopting the New Approach. Sponsored by the Countryside Commission for senior office-based staff to review the importance and implications of government organization policy changes and legislative changes. Losehill Hall, Castleton, Derbyshire. Contact: Peter Townsend, Peak National Park Centre. Tel: 0433 20372.
- 3-7 February.** Interpreting the Heritage Coast. Snowdonia, Wales. Introduces interpretation skills required by staff involved in coastal management. Contact: Margaret Griffiths. Tel: 0766 85324/85334.
- 17-20 February and 5 March.** Management Strategy and the Environment: The Next Competitive Edge. Contact: University of Bradford Management Centre, Executive Development Programme, Heaton Mount, Keighley Road, Bradford, West Yorkshire BD9 4JU. Tel: 0274 733466.
- 5 March.** Management Strategy and the Environment one day follow up. (See above).
- 23-25 March.** Climatic Change, the Carbon Cycle and Peatlands. University of Nottingham. Contact: Dr R. Smith, Harper Adams Agricultural College, Newport, Shropshire TF10 8NB.
- 5-8 April.** Aquatic Ecology: Scale, Pattern and Process. University College, Cork, Ireland. BES/Am. Soc. Limnology and Oceanography. Contact: Dr Paul Giller, Dept. of Zoology, University College, Cork, Ireland. Tel: 021 276871 ext 4137 or 4355. Fax: 021 274034.
- 7-9 April.** Vegetation Management in Forestry, Amenity and Conservation Areas. York. Contact: Dr E. J. P. Marshall, Dept. of Agricultural Sciences, University of Bristol, IACR Long Ashton Research Station, Bristol BS18 9AF.
- 27-29 April.** International Symposium on the Future of Mediterranean Landscapes. N. Tuscany, Italy. Contact: Almo Farina, Museum of Natural History, 54011 Aulla, Italy.
- 27 April-1 May.** International Conference on Forest Vegetation Management: Ecology, Practice and Policy. Auburn, Alabama, USA. Contact: Dr Dean Gjerstad, Forest Vegetation Management Conference Co-ordinator, School of Forestry, Auburn University, AL 36849-5418, USA.
- 16-24 May.** National Environment Week. Contact: Gerard Derby, Civic Trust. Tel: 071 930 0914.
- 18-22 May.** 3rd International Symposium on Highway Pollution. Madrid, Spain. Contact: Dr R. S. Hamilton, School of Applied Science, Middlesex Polytechnic, Bounds Green Road, London N11 2NQ.
- 7-11 September.** 6th European Ecological Congress. Marseille, France. Contact: Dr D. Bellan-Santini, Centre d'Océanologie de Marseille, Station Marine d'Endoume, Rue Batterie des Lions, F-13007, Marseilles, France.
- 13-17 September.** INTECOL IV International Wetlands Conference. Columbus, Ohio, USA. Contact: Columbus '92 IV INTECOL Wetland Conference, School of Natural Resources, Ohio State University, 2021 Coffey Road, Columbus, Ohio 43210, USA.
- 14-18 September.** 12th International Conference of IBCC and EOAC. Bird Numbers 1992, Distribution, Monitoring, Ecological Aspects. Noordwijkerhout, The Netherlands. Contact: Conference Secretariat Bird Numbers 1992, Van Namen Westerlaken, Congress Organization Services, P.O. Box 1558, 6501 BN Nijmegen, The Netherlands.
- 14-19 October.** 9th International Symposium on Problems of Landscape Ecological Research. Czechoslovakia Federal Republic. Contact: Institute of Landscape Ecology, Slovak Academy of Sciences, IXth International Symposium, POB 23/B, 949.01 Nitra, Czechoslovakia.
- 21-23 October.** Founding Congress of the Federation of European Zoologists at the Royal Belgian Society of Zoology, Belgium. Contact: Dr H M André, RBSZ, Musée royal de l'Afrique centrale, Leuvense Steenweg, 13, B-3080 Tervuren, Belgium. Tel: 32 2 767 5401. Fax: 32 2 767 0242.
- 12-19 November.** Waterfowl and Wetland Conservation in the 1990s—a global perspective. Petersburg, Florida, USA. Contact: IWRB, XXXV Executive Board Meeting, Slimbridge, Gloucester GL2 7BX, UK.

Overall, this questionnaire was extremely informative in reflecting the strength of support for a professional body whose principal focus is with the concerns of those working in the fields of ecology and environmental management. The comments were particularly helpful and raised a wide range of complex issues, which the newly formed institute must address urgently. We very much hope that the respondents whose opinions led the working party to recommend the establishment of IEEM will now play an active part in making the new institute an effective and influential professional body.

Peter Edwards was nominated by the British Ecological Society to serve on the Interim Council and was elected as Secretary to it in March 1991.

Results of the questionnaire included in BES Bulletin and ECOS

	Support proposal		Do not support proposal		All resp. No.
	No.	%	No.	%	
No. of replies	558	100	62	100	620
No. positive replies					
Need for an institute	543	97	16	26	559
Support for proposals	558	100	0	0	558
Belong to a prof. body	211	38	39	63	250
Eligible for membership	519	93	53	85	572
Likely to join	475	85	16	26	491
Professional membership					
Institute of Biology	112	20	23	37	135
Landscape Institute	22	4	7	11	29
R.T.P.I. ¹	17	3	0	0	17
I. of Chart Foresters	15	3	0	0	15
I. of Environmental Sciences	9	2	1	2	10
I.W. E.M. ²	2	0	2	3	4
I.F.M. ³	4	1	0	0	4
I.L.A.M. ⁴	4	1	0	0	4
Employment (total)					
Private consultant	90	16	15	24	105
Consultancy practice	68	12	3	5	71
Academic institute	126	23	19	31	145
NCC/CC	66	12	7	11	73
Government institute	33	6	6	10	39
Utility	15	3	1	2	16
Industry	6	1	4	6	10
Local government	108	19	6	10	114
Voluntary bodies	109	20	12	19	121
Other	64	11	11	18	75
Requesting more information	493	88	33	53	526

1 Royal Town Planning Institute

2 Institute of Water and Environmental Management

3 Institute of Fisheries Management

4 Institute of Landscape and Amenity Management

FOUR QUESTIONS ANSWERED

Over the last six months of IEEM's existence, letters to the Executive Director commonly ask one or more of the following four questions - so here are the answers in bulk!

1. How does IEEM differ from similar professional organisations working in the environment?

The first point to realise about IEEM is that it is principally concerned with the environment and its conservation as an ecological (rather than, for example, physical or engineering) entity. It is the only professional institute offering full membership for all practitioners in this field whether their background is in biology, geography, law or other disciplines. This focus is emphasised for the first time by a British Institute in the Fundamental Principles incorporated in the Code of Professional Conduct, which amounts to a form of Hippocratic Oath for good environmental practice.

2. Given its broad coverage, how does IEEM ensure that potential members are properly screened before admission and monitored thereafter?

This matter has been extensively discussed by various working groups in the years leading up to the formation of IEEM and several Constitutional measures have been adopted as a result. An application will only be considered if the person clearly meets the qualifying criteria, has two sponsors, and (shortly) following publication of the application in the Bulletin. The Membership Admissions Committee then examines each application and votes on it independently: any non-unanimously accepted application is examined more thoroughly and the necessary action taken. Membership has to be renewed annually. Finally, the member must observe strict adherence to the Code of Professional Conduct at all times, and a complaints procedure is available for reviewing evidence of malpractice which can include immediate suspension in case of gross violations.

3. Is IEEM registered with the Inland Revenue to exempt the cost of the membership subscription?

An application for this exemption has been made to the Inland Revenue. However, such subscriptions are usually regarded as a legitimate business expense when (as they ought to be) they are paid by the member's employer. Self-employed members will need to seek guidance from their accountants.

4. Why is the subscription so high when ecologists are so badly paid?

IEEM is not a mass-membership organisation or learned society that simply provides members with a journal. It has to develop proper services to assist in the professional development of its members: these will amount to at least £80,000 by the end of 1992. At the very least, IEEM will campaign to improve the pay of ecologists so that they can afford the subscription - which is anyway relatively modest and will be held constant for the first three years! We will also be asking employers to consider paying the subscriptions of their employees - a number of organisations are already doing this.

Paul Coriup