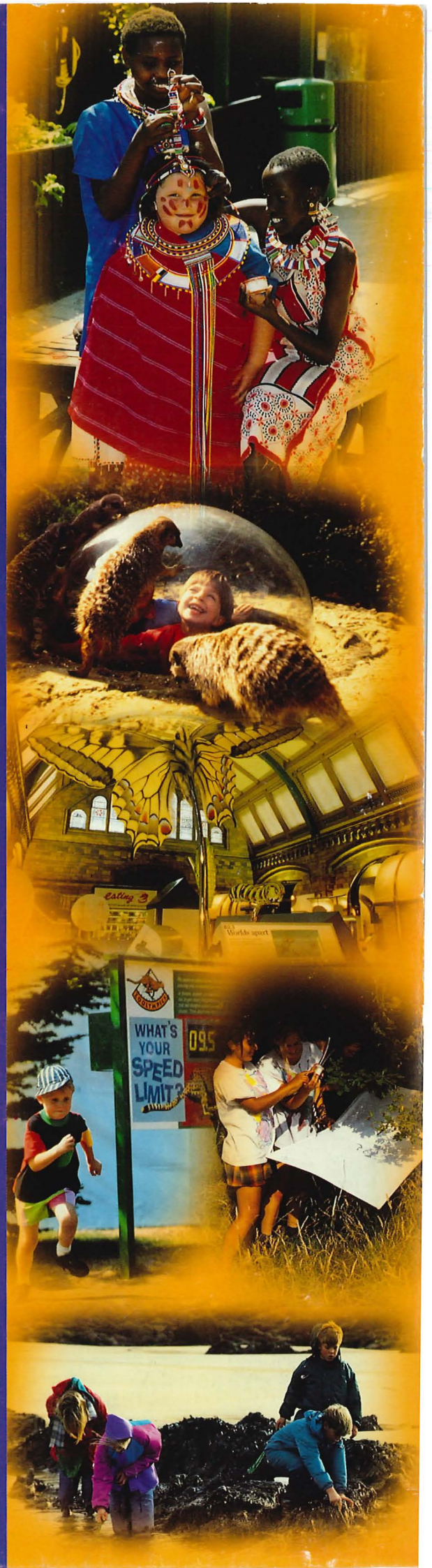


Educating for Life

Guidelines for Biodiversity Education



Council for Environmental Education



BIODIVERSITY

Educating for Life

BACKGROUND

In 1996 the CEE Biodiversity Education Working Group secured funding from the Department of the Environment to carry out research into site-based biodiversity education provision. The research reviewed a range of provision including nature reserves, national and country parks, wildfowl and rare breed collections, zoos, museums and aquaria, field and urban study centres, botanic and public gardens, arboreta and woodlands and community-based programmes.

The aim of this research was to identify good practice in the developing field of biodiversity education, leading to guidance for providers and practitioners. *Educating for Life* is one of the outcomes of the research that contributes towards this aim.

Erratum

Page 6, caption to illustration.
The second sentence should read:
The evening primrose is used in the treatment of eczema and breast pain.

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We gratefully acknowledge all those organisations and individuals who contributed to the research on which this booklet is based.

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Castle Eden Dene NNR/David Elcome

INTRODUCTION

from Doug Hulyer, Chair of CEE's Biodiversity Education Working Group.

Good education is, in part, about increasing access to the knowledge and skills needed to make informed decisions about our relationship with the rest of the living world. It is inevitably concerned with the development of attitudes and values. It is also, by its very nature, challenging and contentious. Biodiversity is a key concept – and to some a new concept – within this educational process.

Throughout the country there are many dedicated people working to raise awareness of biodiversity issues within their education programmes. Some belong to well-established networks, meet regularly and share experience and expertise – but there are many that do not. I know how stimulating it can be to pool resources and share ideas and skills, both within and across different fields. The spirit of partnership is the spirit of the age, and biodiversity issues can be the great rallying point for seemingly diverse professional worlds.

It is the hope of CEE's Biodiversity Education Working Group that *Educating for Life* will encourage new partnerships and help establish understanding of the importance of biodiversity within the education process.

*Doug Hulyer is Director of Education and Public Affairs
at The Wildfowl & Wetlands Trust.*

THE CHALLENGE

Educating for Life

This booklet is aimed at all those who have opportunities to increase people's awareness of the importance of biodiversity and encourage their commitment to safeguard it. In particular it is aimed at those who work in organisations which can offer appropriate experiences to the public, whether they are museums, botanical or zoological gardens, nature reserves, country parks or urban farms. It is offered as guidance to those who are already running programmes, and who may want to review their current practice. Equally, it is offered as a set of principles to those who may be considering running such programmes, but who may be unsure where to start.



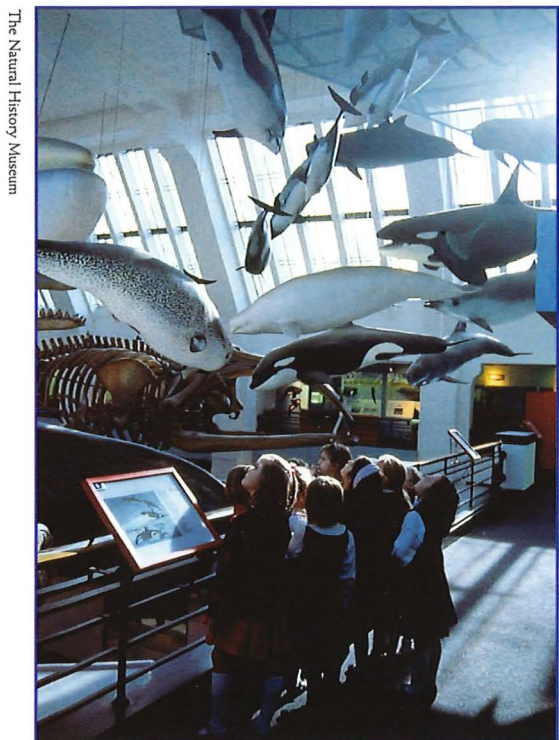
Common Ground

100 varieties of Devon apple displayed on Apple Day 1997 at Eggesford Gardens, Devon

Despite being able to buy exotic fruits from around the world, we are generally faced with just a few common varieties when choosing traditional fruit or vegetables from the supermarket or greengrocers. The implications of this loss of biodiversity – both for the genetic health of species and for our cultural heritage – could be profound.

This booklet is also intended for a wider audience. We believe it has something important to say to the Local Agenda 21 co-ordinator, to those working in the travel industry, to curriculum planners, to farmers and landowners, and also to the supermarket managers who are literally surrounded by the products of biodiversity (and therefore opportunities for raising awareness) every moment of the working day.

The material for this booklet is based on research into nearly 200 centres and other organisations in England which provide educational experiences related to biodiversity. We therefore believe that it represents an authoritative view of what constitutes good practice in biodiversity education.



The Natural History Museum

Whale-watching

Capturing people's imagination is the first step!

Biodiversity

WHY NOW?

Educating for Life

The state of the living world has been a matter of concern for many years. So what's special about now? Well, for one thing, the political climate is right. In 1992 the UK was a signatory to the United Nations Convention on Biodiversity, one of the outcomes of the Rio Earth Summit. As part of that agreement, the UK Biodiversity Action Plan was launched in January 1994. The overall goal of the UK Action Plan is 'to conserve and enhance biological diversity within the UK and to contribute to global biodiversity through all appropriate mechanisms'. One of its priorities is to increase public awareness and involvement through the targeting of key sectors.

Political support has therefore never been stronger. But perhaps more importantly, the political will that exists reflects in a growing tide of public opinion and concern. Young people, in particular, consistently place environmental issues high on their list of concerns, and biodiversity issues, ranging from tropical forests to genetically altered soya, frequently head this list.

Organisations which have access to the public, and which can provide direct experience of biodiversity, have a crucial role to play in ensuring that the goal of the UK Action Plan is achieved.



RSPB

Some of our plants are missing

Although some of our wild flowers have disappeared or declined, we still have a rich heritage of wild species in Britain. However, most people do not realise that our own biodiversity is just as seriously threatened as that of more publicised regions of the world like the Amazon Basin.

WHAT IS BIODIVERSITY?

It is not the purpose of this booklet to explore the concept of biodiversity in detail nor, indeed, to discuss why it is vital we conserve it.

References to some key materials relating to this aspect are given at the back of this booklet.

The Council of Europe states that:

'The whole of life on Earth is part of an immense interdependent system. Biodiversity is the expression of that variety of life. It is present everywhere, covering all genes, animal and plant species, ecosystems and landscapes. It thus encompasses the full diversity of life – from genes to the biosphere...

... 'All of humanity depends on this community of life ... of which we are just one element.'

BIODIVERSITY – UK

Most people are familiar with major ecosystems that are obviously threatened, such as rainforests and arid lands. They are often less aware of biodiversity issues within the UK or even within their own area. Organisations in this country have a vital role to play in highlighting these issues and, of course, in relating them to

the wider, global problems of biodiversity loss. We need to recognise that, in one sense, global biodiversity is the product of thousands of distinct and local areas of biodiversity, all of them interconnected and all of them important. Turning people on to this biodiversity in their backyard is the challenge.



The three pillars of biodiversity

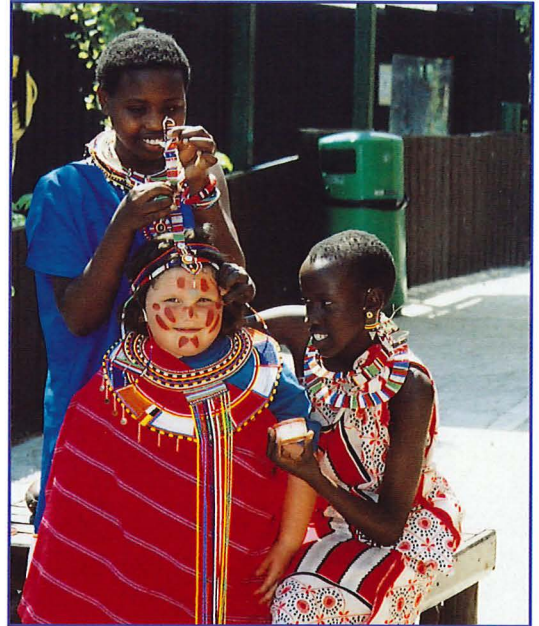
Biodiversity encompasses three key components:

- the variety of different species
- genetic variation within species (for example, the many types of dragonfly shown in the photograph)
- the diversity of the world's ecosystems and habitats, each of which supports its own distinctive communities of plants and animals – and human cultures and societies.

Biodiversity

WHAT'S IN A NAME?

Are the terms 'biodiversity' and 'biodiversity education' important in themselves? Our research suggests they are. In recent years, people – and young people in particular – have become, not only more aware of environmental issues, but also more critical of the way those issues are presented. They need information that is both understandable and accessible, without being patronising. Biodiversity, both as a word and as a concept, is central to the understanding of many of the environmental issues that people are now prepared to engage with.



Drusillas Park

Cultural exchange

To be most effective, educational programmes should be exciting, inspirational and memorable. Hands-on encounters with the living world, such as Drusillas Park's Maasai Tribe experience, are one way of obtaining the desired reaction.

IT'S ABOUT NATURE, ISN'T IT?

It could be argued that biodiversity education is nothing new. Teachers, countryside wardens, wildlife centre staff and many others have been creating opportunities for people to understand and experience a variety of animals and plants and their habitats for many years. The National Curriculum currently has a major section concerned with *Living things and their environment*, which explores the relationship between living organisms and their surroundings.

Biodiversity education may include these elements, but it is much more. It could be described as nature with a hard edge. It seeks to involve people in tough decisions that affect themselves and their communities as well as other living things. Indeed, it views them as inseparable. It embraces a spiritual, cultural and ethical view of the world as well as a scientific and economic one. Biodiversity education accepts that people may value and celebrate plants and animals for a variety of reasons and that none of these is necessarily more valid than another.

Biodiversity education also acknowledges that different views may sometimes be in conflict with one another. Education may not be able to resolve these differences directly. But it can help us understand the basis on which we form our values, and so lay the foundations on which we can work towards solutions.

Finally, biodiversity education recognises that most people do not destroy or damage ecosystems wantonly. They do it because of inequity, desperation, fear, ignorance and, sometimes, greed. Biodiversity education therefore recognises that people are both part of the problem and part of the solution.

David Elcome



Nature's medicine chest

Biodiversity offers a fund of natural cures for a variety of human conditions. The evening primrose has anti-coagulant properties useful in the treatment of thrombosis. We can't predict which organisms may be of future value, but people need to understand that any loss of biodiversity will limit our future options.

ENVIRONMENTAL EDUCATION IN DISGUISE?

Not really. Biodiversity education is certainly closely related to environmental education but it is more than simply a subset of it. It links ideas central to environmental education, such as environmental stewardship and local action, to the ability of ecosystems to support human and non-human life in a sustainable way. This implies a knowledge and understanding of the way that ecosystems work, and of our interaction

with them, that may go beyond many people's perceptions of environmental education.

'Use of the concept of biodiversity can provide an extra stimulus for taking a closer look at the consequences that all kinds of social activity have for the diversity of species. In short, biodiversity can give greater prominence to the social dimension of environmental education.'

Marcel Ham, 1997, National Reference Centre for Nature Management, Netherlands

'Much current education and training contributes to non-sustainable living, either by failing to address the objectives, or supporting "business as usual" values, concepts and structures. Education and training have a vital role to play in helping to ensure that individuals and the various sectors ... have the understanding and skills necessary to sustain biodiversity ... It is important that people understand those measures which support biodiversity at the local and national level, while being aware that in certain cases there may be some personal or local cost.'

Biodiversity challenge: an agenda for conservation in the UK

Biodiversity

THE AIMS OF BIODIVERSITY EDUCATION

Our research suggests that biodiversity education should enable people to:

- understand what biodiversity means
- understand that biodiversity is a dynamic concept; that species, habitats and ecosystems are part of a balanced system that changes naturally over time
- become more aware of biodiversity as part of their cultural and spiritual, as well as economic, heritage
- be more aware of, informed about, and understand the significance of biodiversity around them and to define their own level of interaction with it
- recognise the relationship between biodiversity and the maintenance and quality of life
- know what factors influence biodiversity and understand that human activity can both damage and enhance biodiversity
- be aware of the impact of their own and others' actions on biodiversity, including lifestyle and consumer choices
- improve their own skills in relation to biodiversity, including those skills that enhance understanding and promote appropriate action
- be aware of what actions they can take to preserve and enhance biodiversity, and act on that awareness.



National Trust Photographic Library/near Stackpole Centre, Dyfed

Live and learn

Appropriate education experiences like this beach exploration can help people get to grips with, and value, biodiversity. Through education we can also help people acquire the appropriate skills to enable them to translate commitment into everyday practical action in support of biodiversity.

An important aspect of biodiversity education is the recognition that our ideas and understanding of biodiversity itself also change over time. For example, it is generally recognised that there are links between biodiversity and sustainability, but the extent to which biodiversity is an *indicator* of sustainability is not fully understood.

Similarly, we have tended to equate more diverse ecosystems with increased stability. We now know this is not always so, as in the case of relatively simple, yet stable, ecosystems such as saltmarshes. As educators we therefore have to be open to new ideas and not promote dogmas merely because they fit our particular view of the world.

THE HALLMARKS OF GOOD PRACTICE

Biodiversity is a complex concept. It is therefore vital that those running or developing educational programmes understand the needs of their audience. So this booklet offers what our research indicates are the essential guidelines to good biodiversity education – the nine hallmarks of good practice.



Hot on the trail

The excitement of exploring a new environment can provide a memorable experience but needs to be handled carefully. This may involve extensions of hands-on activities such as 'landscape detectives' or 'mini-beast hunts' and could involve night-time walks or blindfold trails like the one shown here at Slimbridge.

These hallmarks of good practice are discussed in detail on the following pages. It is not suggested that all the hallmarks will be in place for every programme. They are presented as a series of markers against which providers can set targets and measure progress.

HAVE CLEAR OBJECTIVES:

if you don't know what you're trying to achieve, why are you doing it?

GET THE PROCESS RIGHT:

successful educational experiences do not (usually) happen by chance; they are a result of thorough research, targeting, planning, execution and evaluation.

OFFER EXPERIENCES THAT ARE RELEVANT TO YOUR AUDIENCE:

know your audience and start from where they are.

GET THE STYLE RIGHT:

develop activities that excite, that stimulate and are fun.

BUILD IN PROGRESSION:

have a clear idea of where you are taking your audience; ideally build in a progression which takes them from awareness, through understanding, to action.

PRACTISE WHAT YOU PREACH:

make sure that the way you run your operation is compatible with the messages you are trying to put across.

OFFER ACCESS:

offer a range of opportunities that will engage different audiences.

LOOK FOR SUPPORT:

don't think you have to do it alone; build local networks; share ideas.

EVALUATE OUTCOMES:

consider how you will measure the success of your programmes against your intended outcomes.

HAVING CLEAR OBJECTIVES

Educating for Life

There are two kinds of objectives. One set of objectives relates to the programme itself and the way that you intend it to run. These could be called *operational objectives*. For example, you may want your programme to reach a certain number of people or tap into a new sector of the community. You may want your audience to leave knowing certain things. You may simply want your programme to run smoothly and efficiently. All these are legitimate (and laudable!) operational objectives.

The second set of objectives relates to the sorts of changes you hope your programmes will effect among your audience. These might be described as *behavioural objectives*. For example, you might expect people to become more involved in local biodiversity issues or action. You would certainly be looking for attitudinal changes and expect

that people might translate and then apply the outcomes of their learning experiences to their domestic, recreational or working lives.

Measuring your objectives is often difficult.

Measuring behavioural or attitudinal change is particularly hard. But that is not a reason for not setting objectives in the first place. To repeat: if you don't know what you're trying to achieve, why do it at all?



Field Studies Council

Not all pigs are pink!

Getting close to animals like these Gloucester Old Spot pigs at Deen City Farm can help people re-establish the links between food and the land which are often bidden in urban lifestyles. It is also a chance to encounter the wide variety of what have now become 'rare breeds'.

Developing skills for life

Ensuring their educational programmes meet curriculum and syllabus needs is a key aim for many providers. However, for any activity or course, thorough planning is necessary to ensure it meets the needs of the audience, delivers the desired results and is monitored to ensure progression.



Deen City Farm

GETTING THE PROCESS RIGHT

It is essential to think through and then follow a definite process that demonstrates you are clear about what you want to achieve and how you are going to achieve it. The key points are:

- identify and then research your audience thoroughly. Identify its needs and be prepared to change your ideas in the light of your research
- target your programme(s) specifically and appropriately for your intended audience
- be very clear about the planning and implementation process (timescales, resources, responsibilities, etc). Ensure that others involved in the programme are also clear
- consider how and when you will evaluate the process to ensure that your programme is meeting its operational objectives and working effectively.



National Trust Photographic Library/Chris King

Getting involved

'Learning locations', like this one at the National Trust's guardianship scheme at Ravenscar, are a good starting point for encouraging interest in biodiversity. This can be broadened to awareness of wider issues and help people make the connection between local and national issues.



Drusillas Park

Getting in touch

Experiences designed with a specific audience in mind, like this sensory trail at Drusillas Park, also provide creative learning opportunities for the whole community.

None of this is easy; all of it is important. There are no quick fixes, and how you approach much of this will depend on your particular situation. The key point is to recognise the value of a clearly thought-out process in the planning and execution of successful programmes. And then to monitor it.

OFFERING RELEVANT EXPERIENCES

Having researched your audience, you need to ensure that the experiences you offer are relevant and appropriate.

THINK LOCAL

Providers may be part of national networks or may cater for needs within the more immediate area. Whatever the case, they need to explore opportunities to develop an awareness of local biodiversity. Such a focus emphasises the important influence of biodiversity on an area's culture, distinctiveness and identity and encourages local communities to take positive action to conserve 'their' biodiversity. Involvement with Local Biodiversity Action Plans may be one way of achieving this.

EMPOWER INDIVIDUALS

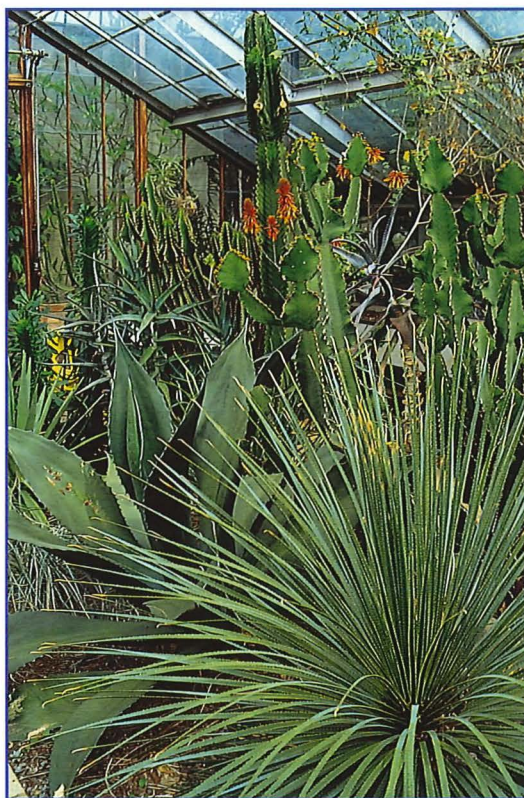
Some projects help to resolve conflicts between different interest groups by training and supporting local people and encouraging them to engage with local biodiversity and other issues. A number of national and local organisations now adopt this approach, developing the capacity of people to take more control of their surroundings.

Learning at the sharp end

A lot of youngsters respond positively to cacti in botanic gardens because they've seen them in Westerns. We may not all be Clint Eastwood fans, but sometimes you have to use what's available and know your audience.

GIVE CLEAR MESSAGES

Involving people at local level also means ensuring they are in tune with what the programme is trying to achieve. For example, maintaining heathland usually means the removal of encroaching trees and saplings in order to preserve the habitat. To many people, removing a tree is like pushing a friend off a cliff! So the underlying messages are – *Why are we doing it? How does it fit into the broader picture?* To take another example: many conservationists think of a sycamore tree as a weed, but try telling that to the local, young (and not-so-young) tree-climbing community, or the elderly resident who grew up with it.



David Elcome/Cambridge University Botanic Garden

IMPROVE LOCAL COMMUNICATION

This may involve encouraging visits to a particular centre open day, or local participation in a specially arranged and publicised local conservation project. Equally it could involve displays and exhibitions at local shows, in libraries, supermarkets and other public places. The main considerations are again: *Who is the audience? How are you going to engage them?*

DIY BIODIVERSITY

Individuals should be encouraged and challenged to take personal responsibility for biodiversity conservation in the home and in the workplace. Providers therefore need to demonstrate how people can relate the experiences that are offered to what they do in their own lives.



Dean Field Studies Centre / Oaken Hill, Forest of Dean

Building up by cutting down

These young people are learning that clearing this overgrown heathland will be of long-term benefit to the habitat and encourage rare wildlife such as nightjars.

It's everywhere!

Of course, biodiversity is not confined to the countryside. Urban sites can offer relevant experiences, all the more so because they provide an opportunity to challenge the view that the urban environment has little wildlife value.



London Wildlife Trust

Digging in

London Wildlife Trust is part of the national network of Wildlife Trusts. The Soanes Centre in Tower Hamlets Cemetery Park provides an opportunity for local people to experience their biodiversity and be part of caring for it.



London Wildlife Trust

GETTING THE STYLE RIGHT

Educating for Life

The research indicated a number of very practical and relatively simple (but not necessarily easy) measures that contribute towards successful and stimulating programmes.

THE 'WOW FACTOR'

Put simply, this is the kind of experience that makes kids of all ages go 'Wow!' (or 'wicked' or 'cool'). Basically, experiences need to be enjoyable, informative and, most of all, memorable. In short, there sometimes needs to be that certain magic touch; a bit of showmanship; even a touch of the bizarre. We like to be thrilled, excited, even disgusted. This doesn't mean every experience needs to be a circus. But 'good can be boring' is sometimes only too true.

Drusillas Park



A different point of view

Children surface at animal height in the meerkat enclosure at Drusillas Park in Sussex. Seeing things from an animal's perspective – here being on the lookout for approaching dangers – can help people engage more effectively with living things.



Bristol Zoo

Animal magnetism

Zoos, aquaria and wild bird collections are a very immediate way of engaging with other organisms. The educational message may be concerned with conservation values and the necessity for captive breeding programmes, but it's often the initial impact on the senses that inspires a positive response.

HANDS-ON EXPERIENCE

Hands-on activities combine the opportunity to observe plants and animals at close quarters with fulfilment of the very real need for physical contact with other living things. The connection between such contact and the empathy it generates is well documented. Equally importantly, it can help people overcome a number of common misconceptions and even phobias about animals and plants: for example, they can discover that snakes are not slimy, that stinging nettles taste great when cooked, and that all spiders do not come out of James Bond films with fangs bared.

On the other hand, it needs to be recognised that animals and plants are not playthings. Any hands-on experience should compromise neither their natural behaviour, well-being nor dignity. The messages must be consistent at all times.

MAKE IT FUN

Humour and enjoyment are powerful learning aids. For example, children in particular (but also some adults) enjoy dressing up as animals, and this can be an effective technique for learning about ways in which particular organisms have adapted to their environment. Such role play can lead to other learning opportunities such as music-making, food-web games, creative writing, puppeteering and mask-making.

Positive attitudes can also be fostered through a variety of social activities that can both entertain and reinforce learning. An early morning walk could be followed by outdoor breakfast cooked over an open fire. Batwatch barbecues and nightingale noshes can make a satisfying end to a hard day's conservation work.

The true picture?

These small rays appear to like being stroked and most people are amazed by the sandpaper-like texture of their skin. Such activities require careful control, and the well-being of the animal concerned must be paramount.



Weymouth Sea Life Park

KEEP IT SIMPLE

Although high-tech exhibits can be very effective, they are not always necessary or even appropriate. Museums and wildlife centres are often at the cutting edge of interpretation technology, and some of the interactive displays are really stunning. On the other hand, there is nothing quite as frustrating to the visitor as a touch-screen or computer marked 'out-of-order'.



David Elcome

Visual impact

Research suggests that, if display captions are more than about 20 words, they are unlikely to be read. This display panel at Durlston Country Park is a good example of the importance of visual impact. (Our caption is 35 words, by the way!)

BUILDING IN PROGRESSION

Educating for Life

CONCEPTUAL JOURNEY

Progression involves both the development of increasingly complex ideas and the conceptual journey from awareness and knowledge, through understanding to making an appropriate response (taking action). It involves taking your audience from one point to another and being clear on both the route and the final destination! For example, visual display boards (if they are well done) are often an excellent starting point since they need little previous background knowledge and are relatively self-contained. The same could be said of a TV camera trained on a nest site or badger sett and relaying pictures to a screen in a visitor centre. The question is then, 'Where to now?' It's often easier to excite someone's imagination and stimulate interest than to channel that interest in appropriate directions. This isn't to say that such introductory and relatively passive learning experiences are not worthwhile in themselves. But seeing them as doorways to more demanding involvement adds more value to the experience.

Boards aren't boring

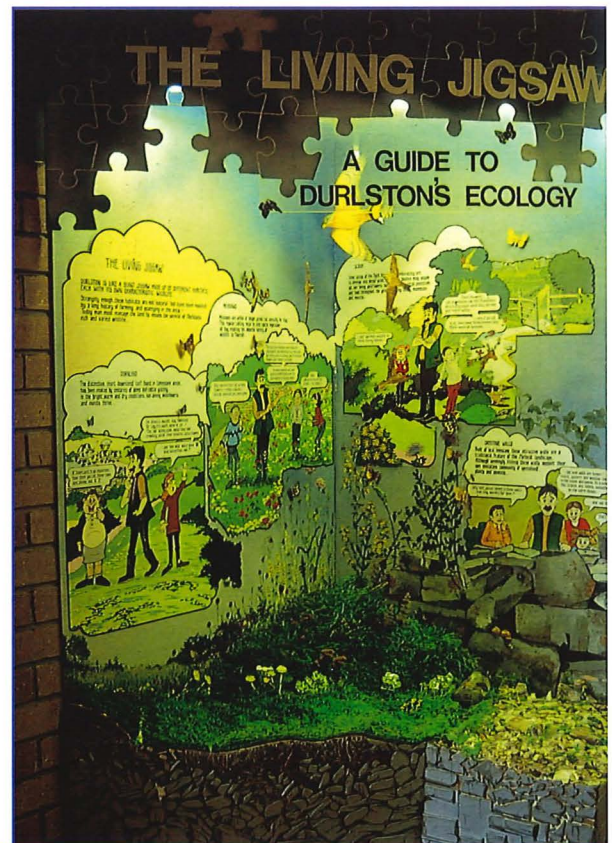
Nature trails and outdoor facilities often employ interpretative or display boards to depict aspects of biodiversity. These may range from simple labels to help identify interesting species to large-scale displays helping visitors interpret particular habitats they are viewing.



RSPB/Chris Comerall Carson Wood

Learning by doing

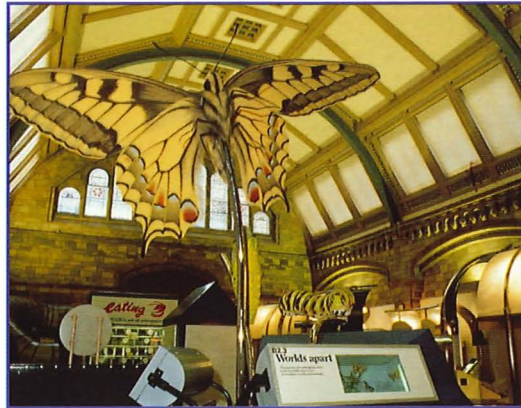
Many organisations rely on non-specialist staff or volunteers to carry out a wide range of biodiversity-related tasks, from coppicing to educating the general public. So there is a need for organisations to provide training in areas such as identification, classification, ecological concepts and communication, as well as more traditional conservation skills.



David Elcome

SKILL-BUILDING

Developing skills is an important part of progression. The skills in question are not so much the specialist ones required by professionals and others involved directly in the conservation and biodiversity fields (crucial though these are). What is meant here is the range of skills that equip people to become more competent to deal with biodiversity issues as they affect their own lives. This could involve what might be described as 'field craft' skills – basic conservation skills, observation, recording, essential taxonomy, interpretation, and skills related to health and safety out of doors. It could also involve developing the general skills that make people more effective in public meetings or on local action groups. These are the kinds of skills that organisations with an interest in biodiversity and education can help develop. Courses may be aimed at the general public or targeted at specific groups such as planners, elected representatives of councils, industry, or the agricultural community. It is out of a range of basic but fundamental biodiversity skills that tomorrow's experts and well-informed leaders will arise.



The Natural History Museum

Hands-on activities can play a positive role in interactive displays.

Electronic interactive displays, using touch-screens and computers, can be very inspiring, but so-called low-tech activities such as lift-up fact-flaps can be just as effective. Pictured here are the Creepy Crawlies exhibition at The Natural History Museum and Bristol Zoo's Zoolympics Trail.



Bristol Zoo

PRACTISING WHAT YOU PREACH

Check whether the means by which you will carry out the programme are appropriate and consistent with your aims. If you run a field centre, is the operation of the centre compatible with the nature and aims of the courses it runs? In fact, many conservation centres already lead by example; they have their own strategies for conservation management, and visitors can see sustainable principles applied to practical situations. The key question is: *'Are our actions and our messages consistent?'*

Firm foundations

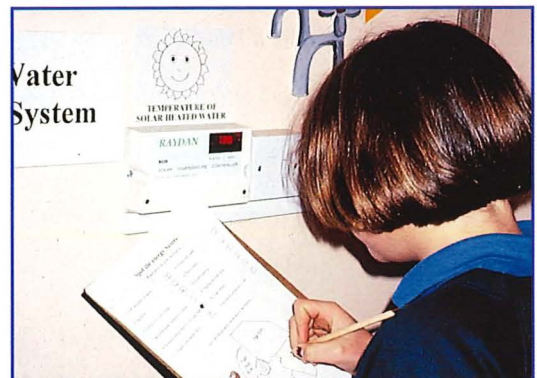
Bishops Wood Environmental Education Centre was designed along sustainable lines. Shown here are just a few of its award-winning features, including a turf roof, timber cladding from locally sourced forests preserved with water-based preservatives, and fencing made from oak grown on site.



Bishops Wood Environmental Education Centre

Practising what you preach

At the Bishops Wood Centre, investigating the sustainable principles of its design forms the basis of the educational experience. Here young people study photos as part of a 'Find the energy-saving devices' activity, and monitor the temperature of solar-heated water.



Bishops Wood Environmental Education Centre



Bishops Wood Environmental Education Centre

OFFERING ACCESS

Educating for Life

No learning opportunity, however broad, can cater for all possible interests; nor should it attempt to do so. However, it is important that providers are aware of the range of potential audiences they may have access to – and that they are clear about which they are trying to reach and how they will do this. A nature reserve, centre or other fixed site will, by its very character and location, tend to act as a filter, including some groups and excluding others.

The types of activities and experiences provided can also act as an unintentional barrier. We tend to respond to those audiences we know best and who we know will respond most readily to what we provide. We therefore need to think about how we can include groups or individuals who are traditionally marginalised by our normal activities, for whatever reason, be it cultural, social, economic or through disability.

Support for measures to protect biodiversity needs to come from the grass-roots as well as from politicians and other decision-makers. Changing lifestyles and making informed choices needs to be part of a popular response to the issues that face our global society. All this is a powerful argument for extending activities beyond the confines of centres and reserves into other institutions and the community in general. Many national and local conservation organisations now do this.



RSPB/Mike Pollard

Have wheels, will travel

Many nature reserves have information centres, trails and bides that are accessible for wheelchair users. In some locations, those with visual impairment can enjoy scented gardens or take advantage of 'tap rails' along trails. Inductive loops can be fitted in presentation rooms for the hard of hearing. But providers also need to be aware that some groups may be excluded in more subtle ways.



National Trust Photographic Library/Ian Shaw

The art of education

Face-painting, making animal and bird masks, sketching, painting and photography courses on landscape and wildlife subjects, country craft classes and demonstrations can all be effective ways of getting across biodiversity messages.

LOOKING FOR SUPPORT

Educating for Life

Biodiversity education is a relatively new concept (although many of the ideas underpinning it are not). So it is important that organisations do not try and go it alone. Networking, particularly at the local and regional level, is the name of the game. Working with other organisations helps spread good ideas and good practice. It also encourages co-operation and complementary programmes rather than direct competition. In this sense, it can also help build progression (Hallmark 5); one centre may offer a range of experiences that can then be built on by another.

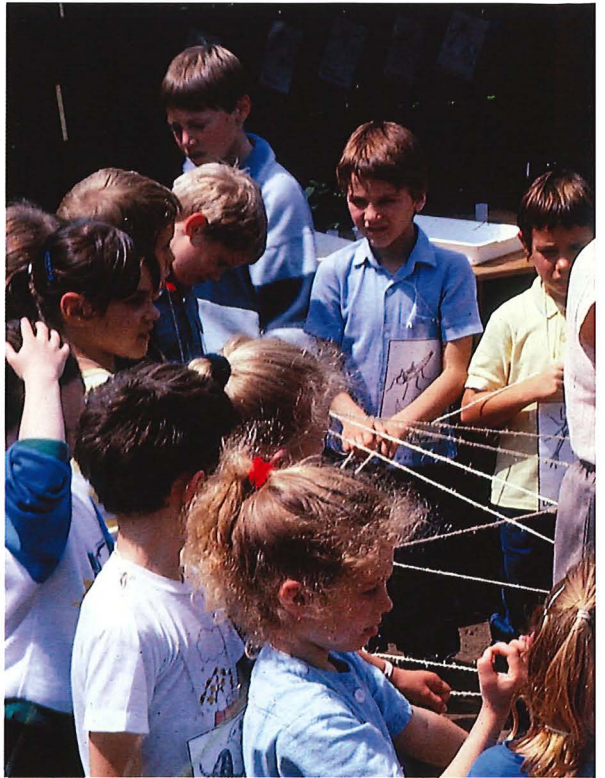
So if no local networks exist – set one up and be the first to join!

You are not alone

Partnership with other organisations enables providers to offer an enhanced experience. Hostels and centres located near reserves, parks and other key sites can offer information to visitors on local biodiversity, provide a stimulating location for residential activities and join with other organisations to offer a wide range of programmes and events.

Interdependence

Here children play the Webbing Game, demonstrating links in a food chain. Sites and centres also need networks in order to support each other.



WWT/Doug Hulver



Youth Hostels Association (England and Wales)/Wheddale Youth Hostel

EVALUATING OUTCOMES

Educating for Life

How are we going to judge the success of our programmes in terms of what people know, think and, more importantly, do? Often changes in attitudes occur over a gradual period.

Subsequent action is difficult to trace.

Experiences are often like seeds that take years to germinate and then grow. In fact, many prominent environmentalists point to specific and formative experiences, often related to field trips or visits, that helped shape their ideas and set them on their particular path.

SOME IDEAS FOR EVALUATION ARE:

- immediate follow-up questionnaires using tick boxes and opinion scales
- delayed follow-up questionnaires in which several days are allowed to elapse so that the immediate reaction to the event can subside (these are particularly applicable to school visits)
- use of anecdotal evidence and third-person intelligence (or 'eavesdropping' as it is technically known)

- visitors' comments, placed in a box near the exit. If the comment slip is well worded this can reveal very useful information. The slip could ask what action visitors are likely to take as a result of the experience (this could be broken down into 'at work', 'at home', 'leisure', etc). If visitors are prepared to leave contact numbers, they could be followed up at a later date

- increased visitor numbers and repeat visits

- focus groups and advisory panels. No organisation is complete nowadays without a focus group. If properly constituted, they can reveal much useful information, be barometers of opinion and detect trends.

In addition, there is an urgent need for longer-term tracking of the outcomes of biodiversity education experience in order to inform and improve future provision.

We know what we like

The involvement of young people is central to all decisions and activities at Drusillas Park. Members of the Junior Board of Directors (retirement age 13) make sure the activities aren't boring, offer suggestions and ideas, and trial new interpretation methods and activities. They also represent Drusillas at a wide range of youth events, both at home and abroad.



Drusillas Park

Hallmark 9

MAKING A DIFFERENCE

Educating for Life

People act in different ways in different situations. For example, a person may recycle everything in sight at home, but never consider doing the same elsewhere. Or they may belong to an environmental organisation but never link this to the type of food or other goods they buy. We believe that biodiversity education should address these different aspects of the individual by enabling them to engage with biodiversity issues in all aspects of their life. Here we have identified the active citizen, the discriminating consumer and the concerned individual.

THE ACTIVE CITIZEN

- aware of biodiversity issues and their significance
- skilled in a range of activities supporting biodiversity
- active as volunteer and employee in promoting biodiversity
- prepared to participate in public and political debate about biodiversity issues.

THE DISCRIMINATING CONSUMER

- reducing consumption of resources
- choosing products on the basis of their known or likely impact on ecosystems
- refusing products that are clearly based on unsustainable practice.

THE CONCERNED INDIVIDUAL

- understanding the relationship between social values and biodiversity issues
- attuned to the distinctiveness and cultural elements of local biodiversity
- prepared to take personal responsibility in support of biodiversity, while being aware of the rights and responsibilities of others.

Bringing the message home

At Bristol Zoo, handling these items confiscated by Customs is a direct way of raising awareness about the trade in endangered species and underlining the impact of personal actions. Armed with this knowledge, people can make informed decisions, for instance when buying holiday souvenirs or choosing family pets.



Bristol Zoo

A CALL TO ACTION

Educating for Life

It is easy for biodiversity education to be dismissed as just another topical spin on an old theme. Recently there has been a tendency to attack education about environmental issues on the grounds of sentimentality, inaccuracy or just bad educational practice. As practitioners we need to be prepared to address these criticisms and not simply reject them out of hand.

Issues involving biodiversity may be contentious, not always verifiable, and certainly emotive. But this is no reason for not engaging with them in an education context. Similar criticisms were levelled against informing and educating the public (and others) about the effects of CFCs on the ozone layer, and the impact of acid rain on forests and lakes. Today, no-one would seriously deny that these matters were, and still are, of critical concern, or that people can make rational and significant decisions in relation to them.

But we need to get the context and the approach right. We have to be critical of our own ideas and methods. We can't afford to think that, because we may feel we have something important to say, we can short-cut the education process. We shouldn't use furry animals as an excuse for woolly thinking.

We have, above all else, to be good educators. Unless our education programmes are soundly based, clearly articulated and free from partiality, they will not be taken seriously and will be rightly criticised – and, of course, they're unlikely to work.

The research on which this booklet is based has demonstrated both the importance of the task and the wealth of good practice that is already going on. We need to build on this good practice. This guidance document is intended to promote that process.

National Trust Photographic Library/Chris King



Biodiversity

THE KEY EVENTS

June 1992 – Rio Earth Summit; Convention on Biological Diversity signed by over 150 countries, including UK;

January 1994 – UK Government publishes *Biodiversity: the UK Action Plan*;

January 1994 – Biodiversity Challenge Group formed from six major environmental organisations – the importance of education is endorsed;

June 1994 – Convention on Biological Diversity ratified by UK;

June 1994 – UK Biodiversity Steering Group established; Public Awareness Sub-Group focuses on education and awareness; CEE forms Biodiversity Education Working Group to present views to the government groups;

December 1995 – *Biodiversity: the UK Steering Group Report* published: includes recommendations on education and public awareness based on CEE Working Group submission;

May 1996 – Government response to the UK Steering Group Report endorses education recommendations in its national strategy;

December 1996 – Government publishes *Taking environmental education into the 21st century*; a strategy document for environmental education;

September 1997 – Government announces Expert Panel on Education for Sustainable Development.

KEY PUBLICATIONS

Biodiversity: the UK Action Plan; 1994, HMSO, London.

Biodiversity: the UK Steering Group Report; 1995, HMSO, London.

Biodiversity: questions and answers; 1996, Council of Europe, Strasbourg.

Education and communication for biodiversity; key concepts, strategies and case studies; 1996, D Elcome (Ed), IUCN, Gland, Switzerland.

Education for sustainability; 1996, J Huckle and S Sterling (Eds), Earthscan, London.

A guide to the Convention on Biological Diversity; 1994, IUCN, Gland, Switzerland.

Taking environmental education into the 21st century; 1996, Department of the Environment, London.

CEE BIODIVERSITY EDUCATION WORKING GROUP

Action for Biology in Education

The National Trust

Botanic Gardens Conservation International

Natural History Museum

British Ecological Society

Northern Ireland Environment Link

British Trust for Conservation Volunteers

Plantlife

Council for British Archaeology

Royal Society for the Protection of Birds

Durrell Institute of Conservation & Ecology

Scottish Environmental Education Council

Earthwatch Europe

Scottish Wildlife & Countryside Link

Environmental Education Advisers' Association

The Wildlife Trusts

Farmers World Network

University & College Lecturers Union
(NATFHE)

Field Studies Council

Wales Wildlife & Countryside Link

Forestry Authority

Wildfowl & Wetlands Trust

International Centre for Conservation
Education

Wildlife & Countryside Link (England)

Mammal Society

WWF UK (World Wide Fund for Nature)

Marine Conservation Society

Young People's Trust for the Environment &
Nature Conservation

National Association of Field Studies Officers

Youth Hostels Association (England and Wales)

National Beekeeping Association

Biodiversity

DEPARTMENT OF THE ENVIRONMENT,
TRANSPORT AND THE REGIONS



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The Wildlife Trusts

Youth Hostels Association (England and Wales).

Educating for Life highlights the findings of research carried out by the CEE Biodiversity Education Working Group into biodiversity education at a range of sites throughout England.

It uses a range of case study examples to illustrate issues related to the provision of biodiversity education, identifies nine hallmarks of successful biodiversity education and makes recommendations for biodiversity education providers and policy-makers.

Whether through aquaria or museums, field centres or botanic gardens, commercial organisations or local groups, biodiversity messages are being conveyed to people every day. This booklet will assist educators in getting the biodiversity message across even more effectively and in helping people to understand the influence of their actions and choices.

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