

Plant Diversity Challenge

3 YEARS - 16 TARGETS - 1 CHALLENGE

Progress in the UK towards the
Global Strategy for Plant Conservation



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Plantlife International is the leading conservation organisation working to protect wild plants and their habitats. We act directly to identify and conserve sites of exceptional botanical importance, to rescue wild plants from the brink of extinction and to ensure that common plants don't become rare in the wild. We do this by facilitating conservation work across the globe, influencing policy and legislation and collaborating widely to promote wild plant conservation. Plantlife International is the lead organisation for Target 5 of the Global Strategy for Plant

Conservation. We also provide the secretariat for Planta Europa, the pan-European network of over 60 organisations working for plant conservation. HRH The Prince of Wales is our Patron.

The Joint Nature Conservation Committee (JNCC) is the statutory adviser to Government on UK and international nature conservation. Its work contributes to maintaining and enriching biological diversity, conserving geological features and sustaining natural systems. JNCC delivers the UK and international

responsibilities of the Council for Nature Conservation and the Countryside, the Countryside Council for Wales, Natural England and Scottish Natural Heritage.

The Royal Botanic Gardens, Kew is a scientific and educational organisation devoted to increasing knowledge and public understanding of plant diversity - how it came to be, what its current status is, how it can be conserved for future generations, and how it can be used in sustainable ways for human benefit. We are actively engaged in plant conservation both in the UK and overseas.

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Foreword

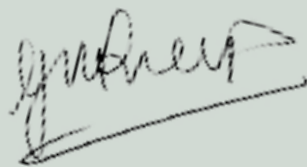
The global importance of maintaining plant diversity cannot be over-emphasised. Satisfying the human need for food, medicines, fresh air and water, shelter, a healthy environment and cultural and spiritual well-being is inextricably linked to the diversity of plants and fungi.

The Global Strategy for Plant Conservation, endorsed by the parties to the CBD in 2002, contains sixteen targets to be achieved by 2010. Around the world nations and networks have taken up the challenge to build stronger plant conservation programmes around the framework of the GSPC. In 2002, the Planta Europa network and the Council of Europe developed the European Plant Conservation Strategy containing a set of targets to be implemented at regional level.

The UK was one of the first countries to develop a national response to the GSPC (Plant Diversity Challenge, 2004). Three years after this initial response, the UK's plant conservation community, led by Plantlife International, the Joint Nature Conservation Committee and Royal Botanic Gardens Kew, has re-assessed the progress in implementing the sixteen targets in the UK. In Plant Diversity Challenge: 3 years-16 targets-1 challenge, the conservation successes are celebrated and the areas that need further work are addressed honestly. Significantly, the successes have been built on partnerships: between data gatherers, between conservationists and farmers, between societies and the public and between NGO and Government. The energy and enthusiasm of stakeholders and their willingness to engage are evident throughout the report.

Plant Diversity Challenge: 3 years - 16 targets - 1 challenge recommends that every effort is made to embed the GSPC targets into the policies and activities of non-conservation sectors in the UK, and that conservation activities address more closely the effects of climate change. Further recommendations underline the need to educate and inform young and old about plant conservation more effectively, to build human capacity for conservation and to examine the UK's ecological footprint on plant resources around the world, signalling that though much has been achieved for plant conservation in the UK, considerable challenges remain for the future.

All those involved in rising to this UK Challenge over the past four years, should be applauded for maintaining a strong focus in implementing the GSPC, for uniting under a common vision for plant conservation in the UK and for driving that vision forward beyond 2010. I urge others to follow this excellent example of co-operation.



Planta Europa Network Chairman
The Hague, The Netherlands
May 2007



Greater knapweed

Executive Summary

In 2002 the Convention on Biological Diversity responded to one of the greatest challenges for the world community, halting the loss of plant diversity, by endorsing the Global Strategy for Plant Conservation (GSPC). This Strategy recognised the vital importance of maintaining global plant diversity in providing essential resources for human well-being; food, shelter, medicines, fresh air and water and a healthy environment, as well as cultural and spiritual well-being.

Plant Diversity Challenge, developed by the UK plant conservation community in 2004, was the UK response to the Global Strategy for Plant Conservation and set out objectives and targets for UK plant conservation. In 2006 a UK conference reviewed the progress in implementing this response and this report is the outcome of the review. It highlights progress and successes to date and identifies the challenges that must be overcome in order for the UK to make a significant contribution to the GSPC – the international agreement to halt the loss of plant diversity.


Success in implementing Plant Diversity Challenge is evident where the plant conservation community and its networks have been leading actions. Highlights include: the good progress with production of UK checklists and Red Lists; the near completion of work to identify Important Plant Areas; the increase of UK Biodiversity Action Plan species that are now stable or increasing; the increase of threatened species that have sufficient genetic diversity in seed banks, and increasing numbers of volunteers involved in plant conservation.

Those targets that require action across environment and policy sectors have not been as successful, and ten key

recommendations are made encompassing the core challenges that remain. These focus on the need to: consider the international context of saving UK and global plant diversity; ensure the existing regulatory mechanisms for conservation are benefiting plants and fungi; and to commit appropriate levels of resources to address the conservation skills deficit in the UK. With the growing and urgent problem of biodiversity loss associated with climate change, it is recommended that further commitment be given to the development of landscape scale conservation initiatives that connect important habitats and allow migration of species. Creating interconnecting areas of semi-natural vegetation will assist with the maintenance of ecosystem services and the capacity of ecosystems to adapt to climate change.

The importance and value of the Global Strategy for Plant Conservation, as a tool for galvanising conservation efforts and driving the conservation agenda forward, must have a higher profile amongst politicians, policy makers and the general public. Embedding the GSPC objectives in strategic plans and decision making at national, regional and local level is the only way to implement effective plant conservation at a significant enough level to make a real difference.

The Global Strategy for Plant Conservation and the UK response, Plant Diversity Challenge, have undoubtedly empowered, inspired and focused those striving to conserve the wild flora of the UK. It is essential that this strategic approach to plant conservation is continued beyond 2010.



Our greatest successes reflect the power and drive of the plant conservation community.

RECOMMENDATION 1

Focus research on improving the understanding of the importance of UK plant and fungal species in a European context, specifically the development of European Red Lists and European and UK fungal checklists.

RECOMMENDATION 2

Increase support for the capture and handling of data at a local, regional and UK level, thereby improving the knowledge resource accessible through the National Biodiversity Network (NBN).

RECOMMENDATION 3

Undertake a review of the mechanisms available to conserve important plants and fungi (the protected area network, agri-environment and forestry schemes) and where necessary focus these schemes to ensure they are working to stop plant and fungal diversity loss and to increase ecological resilience in the wider landscape.

RECOMMENDATION 4

Support large, landscape-scale conservation initiatives that allow for the conservation of plants and fungi and their habitats in the face of climate change. Focus specifically on those that link up important places for plant and fungal diversity in the UK - thus optimising population size and extent of critical species, conserving genetic diversity, improving habitat condition and restoring resilient and functioning ecosystems.

RECOMMENDATION 5

Ensure consistent organic standards with respect to sustainable harvesting of wild plants and upgrade environmental standards in relation to the origin of plant products on the UK market.

Increase accessibility to existing certification schemes for producers and promote them to consumers.

RECOMMENDATION 6

Support more research into sustainable harvesting practices, including developing harvesting protocols, understanding the economic drivers and impacts beyond the UK, monitoring the impacts of current harvesting and developing alternative products for non-sustainable harvests.

RECOMMENDATION 7

Identify measures of success for the Global Strategy for Plant Conservation and use these for UK Government Public Sector Agreement Targets and Headline Indicators. Embed these within strategic national and local Government plans across all sectors to enable the UK to meet its international obligations to the 2010 target, the outcomes of the World Summit on Sustainable Development and the Millennium Development Goals.

RECOMMENDATION 8

Ensure young people experience plants and fungi in the field when they are learning about the natural world, alongside education in a classroom setting.

RECOMMENDATION 9

Develop and deliver an action plan to address the need for plant and fungal skills and expertise in the UK.

RECOMMENDATION 10

Ensure the resources available for plant conservation activities in the volunteer and charitable sector are sufficient to cover the expectation of work to be carried out by this sector.

Introduction

The Global Strategy for Plant Conservation was adopted by the Conference of the Parties to the Convention on Biological Diversity in 2002. The ultimate and long-term objective of the Strategy was to halt the current and continuing loss of plant diversity. It was intended to provide a framework for plant conservation and to act as a tool for enhancing the ecosystem approach to the conservation and sustainable use of biodiversity, recognising the vital role of plants in the structure and functioning of ecological systems, and in the goods and services these systems provide.

The framework of the Strategy consists of sixteen outcome-oriented targets under five objectives, to be achieved by 2010. Each target plays a part in halting the loss of plant diversity at a global, regional and national scale. The UK developed an initial response to the Strategy in order to determine how to implement it; this response, Plant Diversity Challenge, was agreed by Government Ministers in 2004.

In April 2006 partners from all over the UK came together to review progress at a one-day conference held at Royal Botanic Gardens, Kew. The objectives of the conference were to:

- Assess the progress with the implementation of Plant Diversity Challenge - the UK response to the Global Strategy for Plant Conservation (2004);
- Identify plant conservation successes carried out within the framework of Plant Diversity Challenge;
- Identify gaps in implementation and the major challenges that must be overcome to ensure implementation of the Global Strategy for Plant conservation in the UK by 2010 and
- Begin the development of a vision for plant conservation in the UK beyond 2010.

This report summarises the discussions and outcomes of the conference; by design it focuses on the future rather than the past. A number of plant conservation successes are recorded as examples of the large body of plant conservation work that has been undertaken in the UK since 2004, under the framework of Plant Diversity Challenge. Prior to the conference, detailed 'target papers' were written and circulated by a number of participants on the specific activities completed to date that have contributed to the implementation of Plant Diversity Challenge. These papers, can be found on the Plant Diversity Challenge website at <http://www.plantlife.org.uk/Plant-diversity-challenge/pdc-index.html>, alongside online tables of 'actions and progress' that monitor the implementation of the GSPC in the UK.

Conference participants identified the main challenges in implementing the Global Strategy for Plant Conservation in the UK through discussion of the target papers and conference presentations.

Since the initial UK response was developed, the need to address the effects of climate change has become more urgent, and, as would be expected, the report incorporates recommended actions that reflect this growing concern.

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Objective 1: Understanding and Documenting Plant Diversity

Knowledge of which species occur in the UK and their conservation status underpins all aspects of plant conservation. The identification of species, plant communities, habitats and ecosystems that are 'at risk', through the development of Red Lists and habitat assessments, enables conservation priorities to be set. A key component of this is the provision of accessible information and data. Research that furthers the knowledge of genetics, taxonomy and ecology, as well as the social sciences (economic and cultural aspects) that have an impact on biodiversity, supports the activities that fall under this objective.

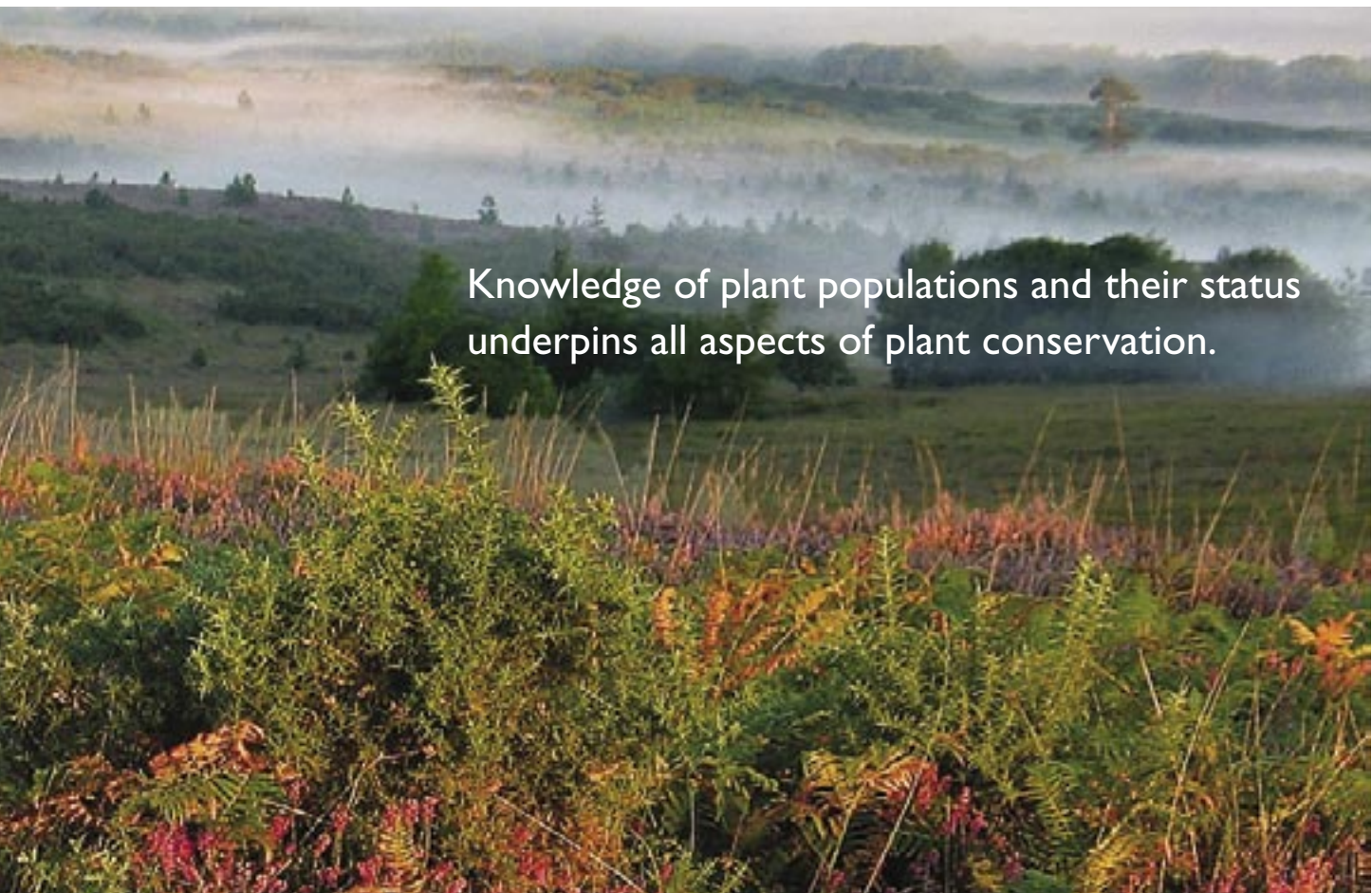
The Challenges

- Although excellent progress has been made in undertaking or updating assessments of species status in the UK, there remains a need for greater understanding of the UK flora in its European context. This will require working with partners in other European countries, particularly in the Atlantic biogeographic zone, but also elsewhere. For example, a category of 'international responsibility' has been assigned to species for which Britain appears to be particularly important in an international context in the updated British Lichen Red

List. The development and maintenance of European Red Lists is a major challenge in this respect, and although progress is being made, for example with updating the European Red List of bryophytes, the lack of a European Red List for vascular plants remains a significant gap in our knowledge. The production of European Red Lists for all taxonomic groups before 2010 is a significant challenge, although there are still some steps that can be taken to increase the understanding of the international context of our flora.

- The publication of the Checklist of the British and Irish Basidiomycota represents a major breakthrough in the understanding of the UK mycota. There is still a huge challenge in developing checklists of the other fungal groups, particularly the Ascomycota, which are well represented in the UK.

- The efficient capture and handling of data, in an accessible form, is fundamental to the understanding of plant and fungal diversity. Whilst good progress has been made with various aspects of this in the UK, for example through the development of Threatened Species Databases and the National Biodiversity Network (NBN), further effort is needed to ensure there are consistent data collection and collation and that up-to-date data are made available through the NBN at a variety of scales. This will require considerable support and resourcing.



Knowledge of plant populations and their status underpins all aspects of plant conservation.

SUCSESSES

Vascular Plant Red List

A completely revised Red List of vascular plants was published in 2005 by a partnership of NGOs and Government, botanists and conservationists. It is available online, and the assessments are incorporated into the NBN. An important feature was that the project assessed all British species, and published the assessments for all Least Concern species. Progress in publishing lists of species that are not threatened is vital to achieve the global target.

Checklist of the British and Irish Basidiomycota

Published in 2005, this checklist of Basidiomycota is based on original research in the national collections of fungi at the Royal Botanic Gardens, Kew and the Royal Botanic Garden Edinburgh. The checklist provides publication references and brief habitat, frequency and distribution details for all 3670 species recorded, together with over 10,000 synonyms. It represents a major achievement that will provide a sound foundation for the conservation of fungi in the future.

The Genetical Flora of the British Isles

(<http://rbg-web2.rbge.org.uk/geneticflora/>)

Hosted by the Royal Botanic Garden Edinburgh, this is a searchable database that collates publications that have used

genetics to study taxa within the British flora. The database currently holds over 1500 references from a range of plant taxa including vascular plants, bryophytes, lichens and algae and is a valuable public resource providing information on the genetic aspects of the British flora.



JNCC



Objective 2: Conserving Plant Diversity

Plant diversity can be conserved through a variety of approaches at different scales, from genes and populations of individual species, through sites to habitats and entire landscapes. There is a need to improve the long-term conservation of plant diversity *in situ* (plant communities, associated habitats and ecosystems), through appropriate management to safeguard and restore populations at sustainable levels, complemented where necessary with *ex situ* measures.

The conservation of plant diversity is fundamental to maintaining fully functioning ecosystems and the quality of ecosystem services such as clean water, climate regulation, natural flood defences, erosion control, animal habitats and tourism.

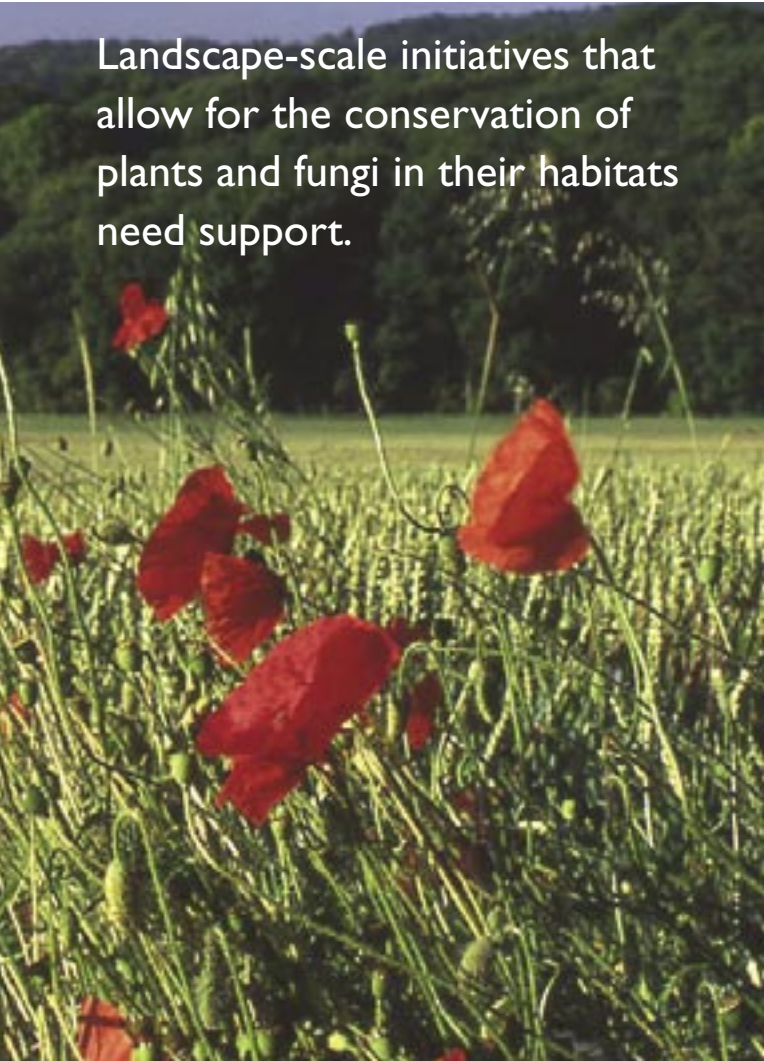
The Challenges

- Climate change poses a major challenge to conserving plant diversity and a large scale and long-term view is needed in order to plan for the future. This requires visionary, creative thinking to ensure significant results. Protected areas, agri-environment schemes, Biodiversity Action Plans and other plans and strategies can all contribute to the conservation

of plant and fungal diversity, but unless they are integrated with, and underpinned by, consideration of climate change, their future contribution will be limited. The development of ecological networks (through the wider landscape), and a commitment to landscape-scale planning is critical for plants and will enable the linking of core areas for biodiversity and facilitating species migration and dispersal. Isolation and fragmentation of semi-natural habitats across the UK continues to limit severely the ability of ecosystems to cope with increasing levels of environmental change.

- The protected area system (sites and landscapes) is designed to conserve the 'best' wildlife sites in the UK and thus should include important plants and fungi. An inventory of Important Plant Areas (IPAs: areas of international significance for plant diversity recognised at the national level) is currently being finalised for the UK. It is likely that many IPAs will overlap entirely or in part with existing protected areas, but others will fall outside. Options for their conservation may include the protected area system, but such protection is not always possible or practical. IPAs also can and should be managed by other measures to conserve the wider countryside, such as agri-environment schemes and policies that aim to reduce diffuse pollution or the impacts of invasive

Landscape-scale initiatives that allow for the conservation of plants and fungi in their habitats need support.



SUCCESSSES

Important Arable Plant Areas

As part of the ongoing programme to identify Important Plant Areas in the UK, the site selection criteria have been adapted to enable sites of county, national and European importance for arable plants to be identified. A preliminary assessment of these Important Arable Plant Areas, published in 2005, has identified over 100 sites of national and European importance, and work has been initiated with the owners and managers of some these sites to ensure that their plant diversity is conserved.

Ex situ conservation of bryophytes

Based at the Royal Botanic Gardens, Kew, this project has pioneered *ex situ* conservation techniques to complement *in situ* conservation measures, including plant tissue culture and cryopreservation methods. Novel techniques for initiation and growth in aseptic culture have been developed and 22 species, most of high conservation concern, are now stored in cryopreservation. Initial trials to wean cryopreserved material onto substrate for reintroduction to natural sites have taken place.

species. Results from the Common Standards Monitoring of A/SSSIs (Areas/Sites of Special Scientific Interest) indicate that only 52% of plant and fungal features within SSSIs are in 'favourable' condition, a measure of how effectively the protected area system is conserving plants. Given that these notified 'features' do not represent all the important botanical and/or mycological interest across the A/SSSI network, the challenge to provide effective *in situ* conservation is even greater.

- A full review of the targeting and funding of agri-environment schemes is required if we are to put in place the management requirements for key species by 2010. Agri-environment schemes recognise different habitats and encourage good environmental management at site, habitat or landscape level, however, important plants and fungi can have more specific management requirements that are currently not being met by schemes in England. Details for Scottish schemes are still in development. More effective targeting of land is needed in all schemes to include those places where key plant species occur or where a viable seed bank is likely to be present, in addition to the development of more sensitive land management prescriptions.

- Building biodiversity into Good Agricultural and Environmental Condition (GAEC) standards at levels to protect and enhance

biodiversity is still a challenge. Although cross-compliance through agri-environment schemes has provided a mechanism to recognise environmental condition alongside agricultural support, the GAEC must be set at a level high enough to produce biodiversity benefits.

- The Biodiversity Action Plan (BAP) has been instrumental in taking forward the conservation of threatened species and is currently subject to an extensive review. The existing BAP only covers a small proportion of threatened species, although the 2006-7 review recognises a wider range of species in need of conservation. The current review is identifying and developing mechanisms to deliver effective conservation for individual species and for groups of species similar in ecology or taxonomy, as well as habitats and landscapes. An urgent and significant challenge is to design habitat action plans that can deliver effective priority species conservation.

- Certain vegetation types have a critical role in providing ecosystem services. The maintenance of sand dunes and salt marshes as soft coastal engineering to mitigate the erosive impacts of anticipated sea-level rise, and the maintenance and management of catchment vegetation to regulate water-flow, are important activities in the UK.



LORNE GILLIS/NIH

Objective 3: Using Plant Diversity Sustainably

At a global scale this objective focuses on strengthening measures to control unsustainable utilisation of plants and fungi, to support livelihoods that rely on the sustainable use of plant resources, and to promote equitable sharing of benefits arising from the use of plants.

The Challenges

- As a major importer of plants and plant products (food, livestock feed, wood and wood products, medicinal plants etc.), a key challenge for the UK is to minimise its ecological footprint on both agricultural and ‘wild’ ecosystems elsewhere in the world. This requires a much higher standard of information for consumers than is currently available about the environmental costs of their purchases and further attention to corporate social responsibility on the part of industry in relation to the environment.
- Product certification schemes are a useful tool for promoting more responsible behaviour on the part of industry and consumers; they all refer to the standard of conditions at the sites of production. There are a limited number of certification schemes in the UK designed to ensure plant resources are

sustainably managed; the most well known are those for forestry and organic products. The challenges include: increasing the uptake of existing schemes by producers; ensuring all plant products have at least one appropriate certification scheme available that adequately covers ecological sustainability of plant resources; and increasing the information to consumers on the benefits of purchasing certified products. In particular, a consistent and inclusive approach to organic certification of wild-harvested plants is required, that ensures high standards of sustainability.

- A number of wild plants and fungi are harvested for commercial reasons, and hence support livelihoods in the UK. Currently, the research evidence base supporting advice on sustainability of harvesting practices is extremely limited. The UK needs to support more research in this area including developing harvesting protocols, understanding the economic drivers and impacts beyond the UK, monitoring the impacts of current harvesting and developing alternative products for non-sustainable harvests.



We need to strengthen measures to ensure that utilisation of plants and fungi worldwide is sustainable.

SUCSESSES Scottish Wild Mushroom Forum

In 2003, the Scottish Wild Mushroom Forum, a group of representatives from conservation organisations, landowners, mushroom buyers and pickers, created the Scottish Wild Mushroom code. This provides guidance to ensure that harvesting is sustainable. In 2006, a similar code was developed for harvesting mosses in Scotland.

FORESTRY COMMISSION



ROYAL BOTANIC GARDENS, KEW



FORESTRY COMMISSION

Objective 4: Promoting Education and Awareness about Plant Diversity

This objective focuses on mobilising the necessary popular and political support for plant conservation and sustainable use. It articulates and emphasises the importance of plant diversity, goods and services that plants provide. This objective is crucial for the achievement of all the targets in the strategy and should not be seen in isolation or marginalised to formal teaching and education of young people in classroom environments.

Plants and fungi are often considered the ‘poor relations’ in conservation terms and yet they are the very essence of life on earth. Raising awareness of the importance of these species, their sustainable use and their habitats, the issues impacting on their survival and the role that we all need to play is therefore fundamental to plant conservation, both amongst those who set and implement policies and the general public.

The Challenges

- Plants and fungi are the building blocks of functioning ecosystems and human well-being. Embedding plants and fungi alongside other environmental health indicators to be used in country and regional decision-making will be a major step forward to delivering our targets by 2010.
- Engaging, enthusing and changing hearts and minds will only be achieved through a well-managed awareness-raising programme aimed at the target groups: children and young people, the general public and policy makers. A checklist of outcomes should include:
 - Fostering understanding amongst politicians and policy makers of the Global Strategy for Plant Conservation and its objectives, and the requirements for embedding these objectives in national and regional strategies and plans in order to halt the loss of plant and fungal diversity.
 - Agreement of clear and consistent messages for the general public that government, institutions and those working in environmental charities can sign up to. The role and value of plants in ensuring the health of our ecosystems is a fundamental message. Provision of information to enable us all (as members of society) to make choices that help sustain plants and fungi will be a key to success.

Halting the loss of plant diversity will only be achieved by winning hearts and minds.



- Providing educators with the skills, tools and time in the National Curriculum to teach young people about the environment and plants and fungi in classroom settings and on wildlife sites.
- An integrated approach between formal and informal education so that children are able to access the 'real world' through open-air classroom visits. This will give opportunities for all to participate, develop new skills and benefit from experiencing plants and fungi in their natural environments.
- The country biodiversity strategies include objectives and indicators that address education and awareness needs. However, the lack of proper integration of GSPC into country biodiversity strategies has made achieving and monitoring GSPC targets more difficult. The GSPC would benefit from close integration into country biodiversity and sustainable development strategies, alongside public sector accountability associated with its delivery.

SUCCESSSES

Making it Count for People and Plants

The Making It Count for People and Plants programme, funded by the Heritage Lottery Fund (HLF), was set up in 2002 as a joint initiative between Plantlife International and the Botanical Society of the British Isles (BSBI). The project improved the co-ordination of existing specialist volunteer networks, encouraged new audiences to participate in botanical recording by recruiting young people, people with disabilities and members of ethnic communities as volunteers, increased public awareness of plant conservation and improved reporting on the state of the UK flora.

Over 5,500 people took part in the project (including 100 schools in Plantlife's Bluebells for Britain survey, over 540 people in the Common Plants Survey and over 750 botanists in the BSBI Local Change Survey). Hundreds of those who took part in the single-species surveys later completed the more involved Common Plants Survey. The BSBI Local Change Survey offered one-to-one training to help botanists develop skills. Both projects demonstrated that by tailoring the plant recording to different skill levels, people become enthused and, as they gain knowledge and experience, they are able to progress to levels of increasing complexity.



Objective 5: Building Capacity for Plant Conservation

The involvement of organisations and individuals from across the plant conservation community, including academia, museums, botanic gardens, non-governmental organisations, expert societies, and all levels of government has been important in achieving the successes described to date. This partnership is assisting significantly in implementing Plant Diversity Challenge and thus the GSPC in the UK. The direction provided by the Global Strategy and other international initiatives has enabled greater shared focus and momentum in the plant conservation community.

There is however, a large amount of work to be done to ensure that the targets outlined in Plant Diversity Challenge are met by 2010, and that plant conservation work can continue in the future. Ensuring that in the UK there are the human resources, the skills, knowledge and capacity to undertake this work and the physical and technological infrastructure and financial support for plant and fungal conservation is therefore essential and the basis of this objective. An additional element of this objective is linking all those whose activities affect plant diversity either positively or negatively and to maximise their support for plant conservation. Those objectives that require the building of partnerships and resourcing across plant, environment and

policy sectors have not been as successful. All sectors must better understand the needs of plants and plant conservation.

The Challenges

- If the UK is to rely on its volunteer and charitable sector, resources will have to be found to build this capacity and at the present time volunteers cannot continue to meet the increasing demands. Considerable capacity-building is still required in statutory organisations, amongst non-governmental organisations and the plant and fungal recording communities. Across the UK, a continuing loss of botanical and mycological expertise from government organisations has coincided with a significant increase in the requirements for reporting on Biodiversity Action Plans and Targets. With no funding available, and at short notice, charities and voluntary field practitioners have been asked to co-ordinate threatened species reviews and provide considerable time and expertise.
- The UK has a history of community volunteering with plants and fungi and a growing charitable sector championing the conservation of wild plants and habitats. There are few young enthusiasts, and hence there is a danger that skills and expertise will not be passed from generation to generation. This trend is compounded by the loss of specialists in institutions and statutory organisations available to train and transfer skills. The UK Government needs to provide leadership in this area through the implementation of an action plan following a needs assessment.



SUCCESSSES

British Lichen Society Apprenticeship Scheme

In Scotland in 2004 - 2006, the British Lichen Society (part funded by Scottish Natural Heritage) ran a lichen apprenticeship scheme to build a publicly accessible database of lichen data for Scottish sites. Seven apprentices undertook training opportunities over three years, working alongside lichen contractors, carrying out Site Condition Monitoring Surveys. There were also specific training events such as laboratory techniques at the Royal Botanic Garden Edinburgh, and a two-week field workshop aimed at improving skills in montane lichen habitats, which brought in international lichenologists. By the end of the apprenticeship, all seven lichenologists are now able to conduct lichen surveys and three of them delivered site condition monitoring reports for Dumfries and Galloway in 2005.

Apprentices set up the first Scottish Lichen Churchyard Group, which now runs regular events. They also run lichen days for children and adults. A successful lichen exhibition, designed and produced by a lichen apprentice, is currently on tour around Scotland, The Secret Life of Lichens. Launched at Chatelherault Country Park in July 2006, it was seen by 17,000 visitors.

The decline in plants and fungi expertise needs to be reversed.

SIMON WILLIAMS/PLANTLIFE



JNCC



The challenges identified here, should become the focus of efforts to implement the Global Strategy for Plant Conservation.

Key Recommendations and next steps

A number of challenges have been identified throughout this document, and these should become the focus of efforts to implement the Global Strategy for Plant Conservation in the three years from now until 2010. Actions should be directed at each of these to ensure that significant progress for plant conservation is made in the UK. The organisations and individuals who participated in this review and the associated conference will be focusing on overcoming these challenges, and searching for partners and support to do so.

The key recommendations below encompass the core of this review; it is imperative that over the next three years action must be directed towards these, to ensure a significant and worthwhile contribution is made to both plant conservation in the UK and to mitigating the UK footprint on plant resources overseas, whilst implementing the Global Strategy for Plant Conservation.

RECOMMENDATION 1

Focus research on improving the understanding of the importance of UK plant and fungal species in a European context, specifically the development of European Red Lists and European and UK fungal checklists.

RECOMMENDATION 2

Increase support for the capture and handling of data at a local, regional and UK level, thereby improving the knowledge resource accessible through the National Biodiversity Network (NBN).

RECOMMENDATION 3

Undertake a review of the mechanisms available to conserve important plants and fungi (the protected area network, agri-environment and forestry schemes) and where necessary focus these schemes to ensure they are working to stop plant and fungal diversity loss and to increase ecological resilience in the wider landscape.

RECOMMENDATION 4

Support large, landscape-scale conservation initiatives that allow for the conservation of plants and fungi and their habitats in the face of climate change. Focus specifically on those that link up important places for plant and fungal diversity in the UK - thus optimising population size and extent of critical species, conserving genetic diversity, improving habitat condition and restoring resilient and functioning ecosystems.

RECOMMENDATION 5

Ensure consistent organic standards with respect to sustainable harvesting of wild plants and upgrade environmental standards in relation to the origin of plant products on the UK market. Increase accessibility to existing certification schemes for producers and promote them to consumers.

RECOMMENDATION 6

Support more research into sustainable harvesting practices, including developing harvesting protocols, understanding the economic drivers and impacts beyond the UK, monitoring the impacts of current harvesting and developing alternative products for non-sustainable harvests.

RECOMMENDATION 7

Identify measures of success for the Global Strategy for Plant Conservation and use these for UK Government Public Sector Agreement Targets and Headline Indicators. Embed these within strategic national and local Government plans across all sectors to enable the UK to meet its international obligations to the 2010 target, the outcomes of the World Summit on Sustainable Development and the Millenium Development Goals.

RECOMMENDATION 8

Ensure young people experience plants and fungi in the field when they are learning about the natural world, alongside education in a classroom setting.

RECOMMENDATION 9

Develop and deliver an action plan to address the need for plant and fungal skills and expertise in the UK.

RECOMMENDATION 10

Ensure the resources available for plant conservation activities in the volunteer and charitable sector are sufficient to cover the expectation of work to be carried out by this sector.



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