

**BIODIVERSITY CONSERVATION IN THE BRECKS:**  
**An Assessment of Progress to Date, Lessons Learned and**  
**Priorities for the Future**

Report of a technical workshop organised by the Suffolk and Norfolk  
Biodiversity Partnerships on 17 July 2007, Thetford



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Cover Photo: The cover photo was provided by Bev Nichols. It shows an area of habitat re-creation to the left of the fence, and a long-established nature reserve to the right.

## **List of Acronyms and Abbreviations**

AMP	Asset Management Plans (Water industry environmental improvement programmes)
BAP	Biodiversity Action Plan
BCP	Brecks Countryside Project
BTO	British Trust for Ornithology
CAMS	Catchment Area Management Scheme
CAP	Common Agricultural Policy
CROW	Countryside and Rights of Way
EA	Environment Agency
ELS	Entry Level Scheme
EN	English Nature
ES	Environmental Stewardship
ESA	Environmentally Sensitive Area
EWGS	English Woodland Grant Scheme
FWAG	Farming and Wildlife Advisory Group
HAP	Habitat Action Plan
HLF	Heritage Lottery Fund
HLS	Higher Level Scheme
JCA	Joint Character Area
LEAF	Linking Environment and Farming
NCC	Norfolk County Council
NWT	Norfolk Wildlife Trust
RSPB	Royal Society for the Protection of Birds
RUBENS	Rural Benefits from Sustainability
SAC	Special Area of Conservation
SAP	Species Action Plan
SCC	Suffolk County Council
SPA	Special Protected Area
SSSI	Site of Special Scientific Interest
SWT	Suffolk Wildlife Trust
THH	Tomorrow's Heathland Heritage
WES	Wildlife Enhancement Scheme
WFD	Water Framework Directive

# **Biodiversity Conservation in the Brecks: An Assessment of Progress to Date, Lessons Learned and Priorities for the Future**

## **Executive Summary**

With its unique landscapes and rich assemblages of habitats and species, the Brecks has long been recognised as one of the most important biodiversity regions in East Anglia. This has led to the designation of numerous Sites of Special Scientific Interest (SSSIs), as well as several Natura 2000 sites.

An enormous amount of conservation work has been undertaken in the Brecks over the last several decades, involving a multitude of organisations. Despite these many different initiatives, however, conservation in the Brecks continues to face a wide array of challenges. These include increasing development pressures, invasive alien species, the growing competition for water, and the impacts of climate change. At the same time, many new opportunities and drivers have emerged with important implications for conservation in the region.

Against this background, the Norfolk and Suffolk Biodiversity Partnerships organised a technical workshop in Thetford on 17 July 2007, entitled “Biodiversity Conservation in the Brecks: An Assessment of Progress to Date, Lessons Learned and Priorities for the Future”. The workshop brought together nearly 40 participants from a wide range of organisations, and sought to:

- Review what has been achieved for biodiversity in the Brecks so far and the lessons learned to date. What has worked well? What hasn't worked well (and why)?
- Identify the new drivers affecting the future of the Brecks and the ways in which these could be used to help deliver biodiversity.
- Develop recommendations about biodiversity that could be taken forward within the proposed Brecks management plan.

Although the workshop provided only a partial review of the status of biodiversity action in the Brecks, it was clear that a very substantial amount of progress has been made. Particularly noteworthy achievements have included the establishment of the Breckland ESA, the creation of several hundred hectares of heaths/ grass heaths, the designation of Natura 2000 sites, and the increase in the numbers of several high priority species such as the stone curlew – to name but a few accomplishments. However, it is also clear that progress has been uneven, with some less charismatic species and less well-known habitats receiving insufficient attention. There is also a desire among many stakeholders for greater sharing of information, and a more coordinated and prioritised approach to conservation action in the Brecks. Despite all that has been accomplished, there remains a sense that conservation effort in the Brecks is somehow “less than the sum of its parts”.

To help address these concerns, it is proposed that consideration be given to the following “high level” recommendations:

1. Establish a Brecks Forum as a mechanism for sharing information and promoting co-ordination; this could perhaps be convened by the Brecks Partnership. Consideration could be given to creating two bodies: a smaller, technical group involving site managers working with the statutory agencies and conservation groups, which could perhaps meet twice a year; and a larger forum involving landowners, businesses and community groups which could meet once a year at a “Brecks conference”.
2. Take forward the recommendations of the Brecks Recognition Study, by maintaining the Task and Finish Group that was established in 2007 to prepare a Brecks management plan. Develop a Brecks BAP as an integral component of the proposed management plan.
3. Seek funding to initiate Brecks-wide surveys of the extent and status of a number of priority BAP habitats, including wet woodland, wood-pasture and naturally-fluctuating aquifer fed waterbodies. Carry out a survey of non-SSSI fens on the Suffolk side of the Brecks (possibly using the same methodology that has recently been used in Norfolk); combine this information with the results of the Norfolk survey to develop a Brecks-wide list of restoration priorities. Encourage both the Norfolk and Suffolk Biodiversity Partnerships to develop HAPs for aquifer-fed naturally fluctuating waterbodies.
4. Develop a better understanding of the implementation status of plant and invertebrate SAPs in the Brecks, including progress to date, shortfalls and priorities for the future.
5. Carry out an initial assessment of the presence or absence in the Brecks of the new priority species and habitats included on the revised national BAP list and identify future steps required.
6. Carry out a detailed planning and feasibility study on the creation of an ecological network in the Brecks. This would build on the regional heathland opportunity project of 2004 as well as the ecological networks studies that have already been undertaken in Norfolk and Suffolk; however, the assessment would be Brecks-specific and more detailed.

# **Biodiversity Conservation in the Brecks: An Assessment of Progress to Date, Lessons Learned and Priorities for the Future**

## **1. Setting the Context**

### **1.1 Introduction**

This report presents a summary of a technical workshop held on 17 July 2007, entitled “Biodiversity Conservation in the Brecks: An Assessment of Progress to Date, Lessons Learned and Priorities for the Future”. The workshop was organised by the Suffolk and Norfolk Biodiversity Partnerships, and held at the offices of the British Trust for Ornithology (BTO) in Thetford.

The report includes a brief summary of the background and objectives of the workshop, an overview of the presentations<sup>1</sup>, and a summary of the key points to emerge from the small group discussions. In the concluding section, a set of recommendations for the future is presented.

The workshop agenda, the results of the small group discussions, and the list of participants are attached as annexes.

### **1.2 Background**

With its unique landscapes and rich assemblages of habitats and species, the Brecks has long been recognised as one of the most important biodiversity regions in East Anglia. This has led to the designation of numerous conservation areas, including many Sites of Special Scientific Interest (SSSIs) and several Natura 2000 sites (please see Maps 1-4). An enormous amount of conservation work has been undertaken in the Brecks over the last several decades, involving a multitude of organisations, including: English Nature (now Natural England); the Royal Society for the Protection of Birds (RSPB); the Norfolk Wildlife Trust (NWT); the Suffolk Wildlife Trust (SWT); the Forestry Commission (FC); the Farming and Wildlife Advisory Group (FWAG); and local groups such as the Little Ouse Headwaters Project.

Despite these many different initiatives, however, conservation in the Brecks continues to face a wide array of challenges. These include increasing development pressures, invasive alien species, the growing competition for water, and the impacts of climate change. At the same time, many new opportunities and drivers have emerged with important implications for conservation in the region. These include:

- The publication of the Brecks Regional Recognition study in 2006. This highlighted the need to take a joined-up approach to biodiversity in the Brecks and to develop more efficient delivery mechanisms. Amongst other measures, it recommended the development of a Brecks Management Plan;

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<sup>1</sup> Copies of the PowerPoint slides presented by the workshop’s speakers are available upon request.

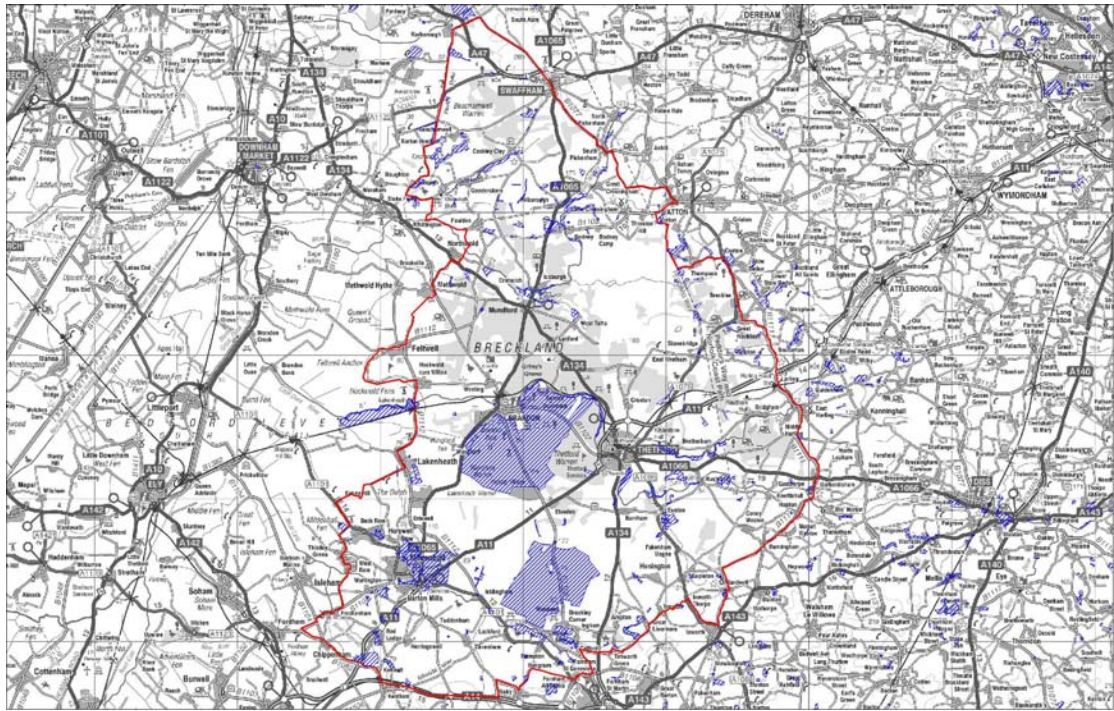


- The development of ecological network (biodiversity opportunity) maps by both the Norfolk and Suffolk Biodiversity Partnerships. These should assist practitioners to identify new sites for habitat restoration and creation, and should also aid planners involved in the LDF process;
- The possibility of a new European-funded project – Rural Benefits from Sustainability (RUBENS) – which would carry out climate change modelling and assess the impacts of different scenarios on the Brecks;
- The designation of the Thetford Growth Point, which presents an inherent set of challenges and opportunities. Members of both Biodiversity Partnerships are engaged with the associated Green Infrastructure Strategy;
- The launch of the new UK list of priority species, which includes many Brecks specialities;
- The creation of Natural England, the launch of the new Environmental Stewardship schemes and the establishment of the Brecks Land Management Team; this should encourage closer collaboration between the two counties and a more integrated approach.

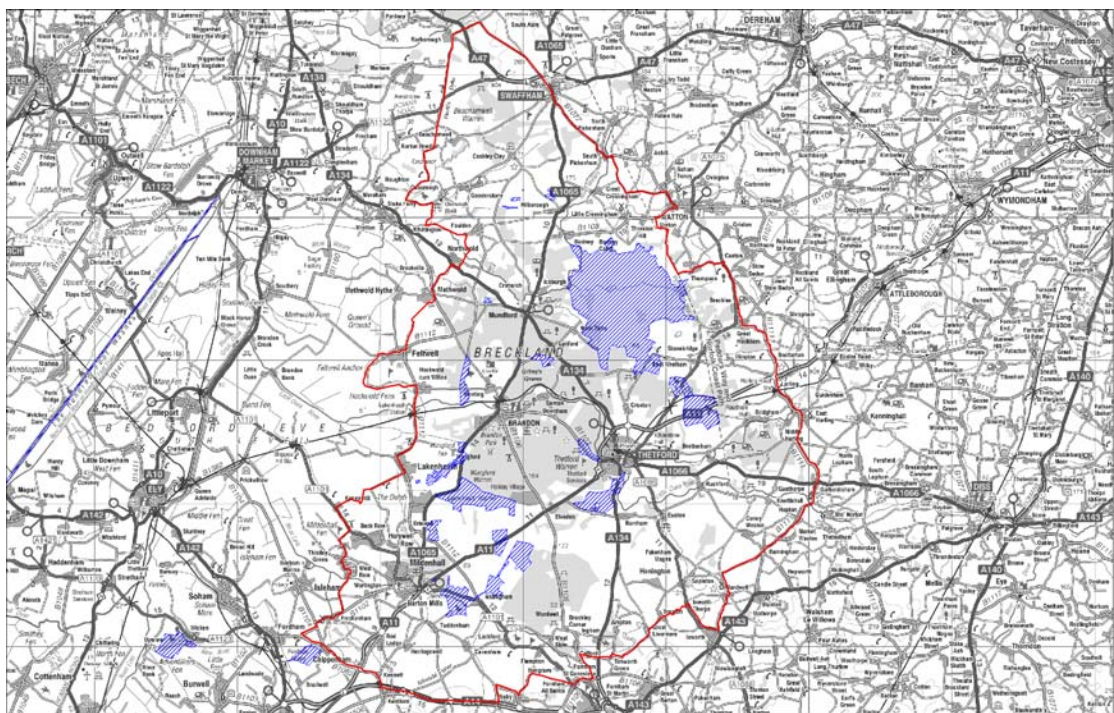
### **1.3 Workshop Objectives**

Against the background described above, the Norfolk and Suffolk Biodiversity Partnerships felt that a review of conservation activities in the Brecks would be timely. Specifically, the workshop sought to:

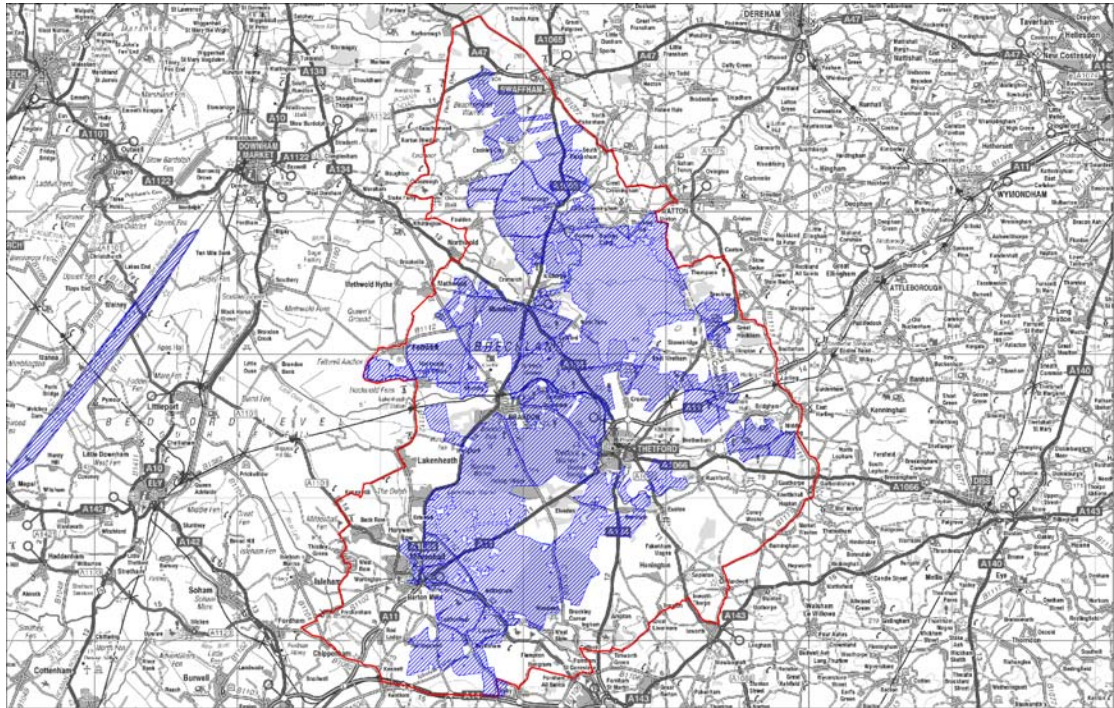
- Review what has been achieved for biodiversity in the Brecks so far and the lessons learned to date. What has worked well? What hasn't worked well (and why)?
- Identify the new drivers affecting the future of the Brecks and the ways in which these could be used to help deliver biodiversity.
- Develop recommendations about biodiversity that could be taken forward within the proposed Brecks management plan.



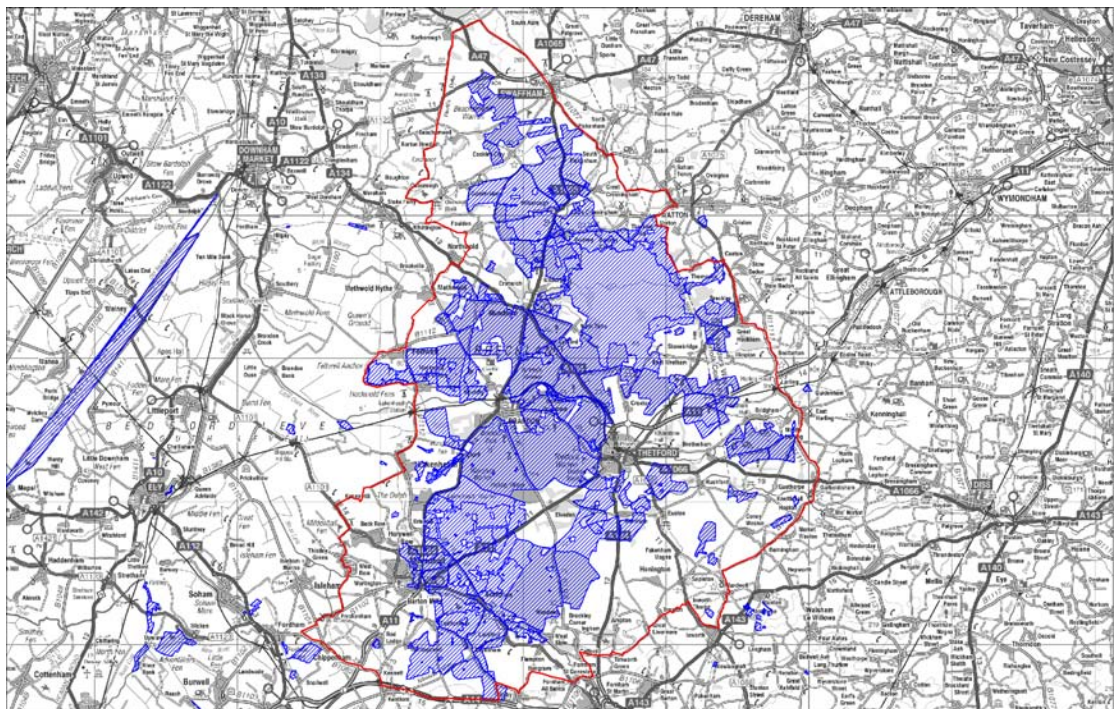
**Map 1: Brecks County Wildlife Sites**



**Map 2: Brecks Special Areas of Conservation**



**Map 3: Brecks Special Protected Areas**



**Map 4: Brecks Sites of Special Scientific Interest**

## 2. Summary of Presentations

### 2.1 The EN Natural Area Profile and the Brecks Vision: An Overview of Progress, Opportunities and Challenges (Stephen Rothera, Natural England)

Stephen Rothera noted that it is now almost exactly ten years since the publication of English Nature's Natural Area Profile for the Brecks. The profile had contained a "vision" for conservation in the area, against which progress can now be assessed.

Heathlands: The Brecks vision challengingly called for an area of heathland and grassland equivalent to the area that had been present in 1945 (approximately 14,000 ha). Only half of this total (approximately 7,000) has been achieved. However, under the Breckland ESA, all the major heathland areas have been fenced, grazed and managed. More than 80 per cent of Breckland SSSIs are now classified as being in "favourable" or "unfavourable recovering" condition (although Stephen Rothera cautioned that these figures may present an overly-optimistic picture). Some 400 ha of acid grassland has been created from arable, along with some 300 ha of heather and grass heath on former forestry plantation land. The SPA/SAC designations have been important, and have added an extra layer of protection. There is also much greater public awareness of the values and special qualities of the Brecks. People have now begun to refer to "the Brecks" in the same way that they refer to the "the Broads"; better access to the area has helped to foster this growing appreciation.

Key challenges and opportunities for the future include the need to:

- Continue to build on the agri-environment schemes, and in particular, seek continued gains through the Higher Level Scheme (HLS);
- Use the ecological networks approach to target more heath creation;
- Derive lessons from ESA and Tomorrow's Heathland Heritage (THH), and apply these to habitat management;
- Develop a better understanding of effective approaches to chalk grassland re-creation;
- Promote economically sustainable stock grazing;
- Reduce atmospheric nitrogen deposition;
- Extend public outreach activities;
- Explore ways of enhancing public access without increasing pressures on biodiversity.

Wetlands: The Brecks vision called for the restoration of natural water regimes to all wetlands of wildlife value, and for the recovery of degraded groundwater systems. A considerable amount of progress has been achieved in this area. For example, there is now a much better understanding of SSSI hydrology. The Review of Consents process being undertaken by the Environment Agency (EA) has also proven to be an important mechanism for driving sustainable use of water for biodiversity. There has been increasing use of winter reservoirs instead of groundwater abstract. A substantial amount of fen management work (eg, scrub clearance) has also been undertaken, and pingo restoration has taken place at a number of sites (eg, Thompson Common).

Key challenges and opportunities for the future include the need to:

- Complete the Review of Consents process;
- Implement the Cam and Ely/Ouse Catchment Area Management Schemes (CAMS);
- Ensure that the water requirements of the Thetford Growth Point are sustainable;
- Implement the Water Framework Directive and produce River Basin Management Plans seeking “good ecological status”;
- Ensure the Catchment Sensitive Farming initiative delivers environmental benefits by reducing nutrient, pesticide and sediment run-off.

Thetford Forest: The Brecks vision envisaged that 20 per cent of Thetford Forest would support characteristic Breckland habitats of significant wildlife value. As with the other habitats, substantial progress has been made in this area. Multi-use has become the embedded philosophy of the Forestry Commission. Forest Design Plans deliver a more constant rate of clear-fell in order to benefit SAP bird species. Three hundred hectares of heather and grass heaths have been re-created on forestry land. There has also been a large increase in research into the forest’s biodiversity.

Important challenges and opportunities for the future include the need to:

- Ensure that the new tourism and recreation strategy delivers biodiversity;
- Determine the capacity of the forest to absorb increased levels of tourism without affecting biodiversity;
- Capitalise on opportunities that may emerge from the increased use of Scot’s pine.

Farmland: The Brecks vision called for the development of sustainable farming systems that contribute to wildlife conservation by reducing the reliance on inputs such as fertilisers and pesticides. Important achievements

have included the designation of the Breckland Farmland SSSI/SPA for stone curlews, and the creation of the stone curlew Wildlife Enhancement Scheme. The BAP targets for stone curlew numbers have been delivered ahead of schedule. The arable options in the Breckland ESA were designed to benefit characteristic flora and invertebrates.

Key challenges and opportunities for the future include the need to:

- Ensure that the new Environmental Stewardship (ES) schemes continue to deliver biodiversity;
- Recognise that the biodiversity of the Brecks is often dependent on hot, dry, disturbed and nutrient-poor conditions;
- Address the possible impacts that reduction in set-aside may have on birds such as woodlark and stone curlew;
- Maximise the environmental gains from cross-compliance and Single Farm Payments.

Information Sharing: The Brecks vision called for the sharing of information and expertise, in order to foster a more integrated approach to land management. Stephen Rothera noted that there has been some progress in this area, but not as much as he would have liked. A tremendous amount of work has been carried out over the last ten years; however, the lessons have not always been captured and made available to a wider audience.

Species Re-introductions: The Brecks vision called for a selected programme of re-introductions, based on a sound knowledge of species' needs. Stephen Rothera noted that a number of attempts have been made (eg, red squirrel, pool frog); however, there is as yet no coherent, prioritised plan for re-introductions in place.

In closing, Stephen Rothera drew attention to a number of new issues and priorities that had not been identified by the Brecks vision. These include the need to: develop a prioritised list of biodiversity actions for the Brecks; adopt an ecosystem approach; accord higher priority to sustainable use of the environment (including carbon reduction); predict and mitigate the effects of climate change (eg, by creating ecological networks so that biodiversity can move through the landscape); enhance the linkages among research, policy development and management practices; and strengthen public engagement.

## Discussion

In the discussion that followed, there was a query about the tree species used by the Forestry Commission. Stephen Rothera explained that Corsican pine has recently become affected by red-band needle blight, and that this may lead to a return to the use of Scots pine. This switch could have a number of implications. For example, Scots pine is slower to form a closed canopy. This is suitable for ground nesting birds, but leads to a longer rotational cycle.

Mike Taylor explained that red-band needle blight is a significant problem in East Anglia and that FC has imposed a moratorium on the planting of Corsican pine, Scots pine will be used on calcareous soils, whilst larch will be used in other areas. It had originally been thought that Corsican pine would be the species of choice for adapting to climate change, but red-band needle blight has raised new questions.

There is also a question about the extent of networking in the Brecks. Scott Perkin mentioned the "Heaths Practitioners' Forum", which has been established under the umbrella of the Norfolk Biodiversity Partnership in order to promote information exchange among heathland managers; the Forum had recently held a very successful day in the Brecks. Several participants mentioned the Breckland Committee that had existed in the past; it was felt that this had been a good mechanism for bringing people together and ensuring that organisations did not work in isolation.

## **2.2 Forestry Management and Biodiversity Conservation: Progress, Current Challenges and New Drivers (Mike Taylor, Forestry Commission)**

Mike Taylor began his presentation by noting that Thetford Forest covers a total of 18,500 ha (out of 25,000 ha of Forestry Commission land in East Anglia). It was established between 1920 and 1937, and is 87 per cent conifers. Some 13,000 ha are in cyclic clearfell – a figure which must be maintained as a requirement of SPA designation. The forest also includes over 1,000 ha of open space. It is estimated that the forest receives over 1.5 million visits from the public every year (with over 300,000 people visiting High Lodge).

The forest contains a wide range of habitats, including broadleaved woodland, pingos and meres. There is also a great diversity of species, including tree pipit, great crested newt and emerald damselfly to name but a few. Some 80 per cent of Forestry Commission land in East Anglia has SSSI designation.

Pre-1998, FC had no specialist ecological staff. In 1998, the first part-time Ecologist (Nick Gibbons) was appointed. Currently, there is one full-time Ecologist (Neal Armour-Chelu) and a Conservation Forester (Rachel Riley), both of whom sit within the planning team. At the national level, there is also a Principal Ecologist (Jonathan Spencer).

Looking at FC's experience with heath re-creation to date, one of the key lessons to emerge is the value of taking a partnership approach. Mike Taylor also noted that heath re-creation can be expensive (the projects in Thetford Forest have cost approximately £3,000 per hectare) and technically challenging, especially on calcareous sites. Heathland re-creation sites also require continuous investment, thus increasing FC's financial exposure.

In addition to THH, Mike Taylor felt that the East of England Heathland Opportunity Mapping Project had been a particularly important partnership

initiative, involving RSPB, English Nature, the East of England Development Agency, Government Office, the Suffolk Biological Record Centre and FC. The project developed a GIS-based analytical tool to assess potential heathland sites across the region, using a range of environmental and social criteria. The best regional site was identified to be the Suffolk coast. A major heathland/woodland project is now underway in Dunwich, for which FC has recently secured £180,000.

Looking ahead, Mike Taylor felt that the future is likely to be characterised by “evolution, not revolution”. England Wood, Trees and Forest has recently been released, the Regional Woodland Strategy will be refreshed in 2008/9, and a national policy on open habitats is being developed. In terms of habitat re-creation, he felt that one of the key issues to be addressed is that of quality versus quantity: do we want more open space, or should we concentrate on improving what we already have? He noted that FC has relatively few staff and that this imposes limitations on the amount of habitat management that can be sustained.

Mike Taylor noted that there are no current plans for large amounts of heath expansion in the Brecks. However, FC is looking at the possibility of expanding the forest rides. Heathland work is also being carried out at three localised areas at Croxton, Mildenhall and Swaffham.

### Discussion

A query was raised about the implications of the new Habitat Regulations and in particular, the way in which these might apply to bats in trees. Neal Armour-Chelu replied by saying that implementation of the new regulations will begin in several weeks; however, it is still not clear what the implications will be. NE and FC are producing guidance notes for landowners.

## **2.3 Arable Management and Agri-environment Schemes: Progress, Current Challenges and New Drivers (Bill Nickson, Natural England)**

### Context

Bill Nickson began his presentation by setting the Brecks within the context of a number of longer-term trends and issues. He noted that, starting from the mid-1980s, there has been a shift in emphasis from food production to environmental management. The Breckland ESA was established in 1988, and there has been a growing recognition among farmers of environmental issues.

The ESA has been effective at reversing under-grazing of heathland and grassland sites and in promoting some arable management options. However, it has been less successful at promoting arable reversion to heath. As an overall trend, there are increasing difficulties for livestock enterprises. The population of farmers is also ageing, and there are fewer (but larger) farms.



More recent developments have included the closure of ESA and Countryside Stewardship to new applicants in 2004, and the introduction of Environmental Stewardship in 2005. Livestock keepers have continued to face many economic challenges. For example, as part of CAP reform and the introduction of the Single Payment Scheme, headage payments for sheep and cattle were stopped; this change came into effect immediately and caught many farmers by surprise. Coupled with these trends, there has also been a recent and significant rise in cereal prices. The future of set-aside is also uncertain; although not originally set up with environmental benefits in mind, it has clearly proven to be of considerable environmental value.

### Opportunities

Against this context, Bill Nickson then went on to describe some of the agri-environment opportunities that are available to the Brecks. He emphasised that ELS is available to all, and noted that there has been greater than 50% uptake in the region. ELS contains a good range of arable options (eg, pollen and nectar mixes, skylark plots, field corner management), and the agreements are “farmer-owned”.

HLS seeks to deliver multiple objectives and is much more complex. There are more than 100 management options from which to choose. Agreements are negotiated with NE advisor input, and are tailored to suit individual farms. There is an emphasis on achieving SSSI condition, but other opportunities are also available.

Some of the HLS options for arable that are suitable to the Brecks include:

- Wild bird seed mix: Good for tree sparrows;
- Pollen and nectar mix: Good for invertebrates;
- Fallow plots for ground nesting birds: Good for stone curlew and lapwing;
- Cultivated plots or margins: Good for arable flora (although it can be difficult to predict what flora will develop on a particular site);
- Low input spring cereals;
- Floristically enhanced grass margins;
- Unharvested, fertiliser-free conservation headlands.

Bill Nickson highlighted the importance of building on the underlying soil in the Brecks, and emphasised that arable reversion will take time. He cautioned that the transition from ESA to ES is not automatic, and noted that some former ESA sites are unlikely to make HLS (at a national level, the rate of transfer has been relatively low). However, most Breckland ESA agreements still have many years to run. In addition, the transfer from ESA to ES can be a major opportunity to add value and enhance environmental benefit.

In conclusion, Bill Nickson noted that farmers have faced several years of major changes, and predicted that more changes are likely in the future (eg, in relation to set-aside and the sugar beet regime). In those parts of the Brecks where water is available, there is likely to be increased competition with irrigated cropping, as this is economically attractive. There is also likely to be

increased competition for water resources between agriculture and domestic needs. The land is also suitable for other uses, such as outdoor pigs and poultry.

HLS funding has been substantially increased, and the Brecks is likely to benefit significantly from the new scheme, as the area “ticks so many boxes”. However, it is also important not to overlook the contributions of cross-compliance and ELS. There may also be important changes to the definition of the Nitrate Vulnerable Zone; consultation on this is expected soon. Finally, carbon efficiency is likely to become a more important consideration in the management of the Brecks.

To conclude his presentation, Bill Nickson highlighted a short case study on the ground beetle *Ophonus laticollis*, which he felt illustrated many of the issues and opportunities for biodiversity in the Brecks (see text box overleaf).

### Discussion

In the discussion that followed, a participant queried where there are regulations governing the origin of seed mixes and expressed concern about the potential for introducing invasive species. Bill Nickson replied that there are no guidelines for bird mixes, but noted that there are strong recommendations for floristic mixes.

In response to another query, Bill Nickson confirmed that the next HLS target review will consider the new list of national BAP priority species and habitats.

Another participant wondered how we can make sure that applications deliver the biodiversity we want. Bill Nickson noted that many seedbanks have been exhausted from repeated cultivation – a situation which has been exacerbated by nutrient load.

#### **Case Study: *Ophonus laticollis* (a ground beetle)**

- A Breckland field margin site is the UK stronghold for this species.
- The farmer managing the site was unaware of the beetle’s existence.
- Its presence was discovered by chance.
- ESA field margin management has provided the right conditions – largely by chance!
- HLS management can continue appropriate management, subject to agreement.
- There is a pressing need for further information of this type.
- There is a real need for effective information exchange in the Brecks.

## **2.4 Heathland Conservation and Management in Breckland (Bev Nichols, Natural England)**

Bev Nichols began his presentation by emphasising that soil has a critically important influence on habitat restoration and re-creation efforts. He drew attention to the soil “striping” that is particularly characteristic of the Brecks; this pattern results from sandy soils sited between chalk. He also noted that there are many different kinds of heath in the Brecks.

The 1900s was a century of heathland decline, brought about by afforestation, the expansion of intensive agriculture, urban development, the decline of sheep and rabbit grazing, and a reduction of the physical disturbance on which much Brecks biodiversity depends. By the 1980s, most heaths were in poor condition and neglect was a leading cause of local species extinctions.

There have been significant improvements since that time. All the major heaths have now been brought under grazing and heaths restoration has progressed rapidly. There have also been a number of species success stories, including the stone curlew, the lunar yellow underwing moth, and the perennial knawel. However, local extinctions continue to occur; it is difficult to manage relatively small sites to meet the many different kinds of habitat requirements that are required by different species.

Bev Nichols highlighted the important role of rabbits in Breckland ecology. He noted that rabbits have been in the area for some 900 years. The sward structure created by rabbits is more varied than that created by sheep. Rabbits help to create germination sites for a number of rare plant species and also create nesting habitats for stone curlews. Despite their many advantages, however, rabbits do pose a number of difficulties and challenges when designing heathland grazing regimes. In the first instance, populations can fluctuate dramatically, making it difficult to plan or maintain particular grazing intensities. Rabbits can also damage some rare plant populations. They compete with sheep for grazing, and for this reason, are not well tolerated outside nature reserves.

Bev Nichols noted that climate change could have a variety of impacts on the biodiversity of the Brecks. If it becomes drier, it may be easier to conserve certain Brecks “specialities”. On the other hand, if it becomes wetter, this could make conservation more difficult.

In concluding his presentation, Bev Nichols noted that the Brecks vision calls for the creation of an additional 7,000 ha of heathland. He wondered where this will be sited, and how it will be funded. Options such as turf stripping, for example, are expensive (£7,000/ha).

Bev Nichols also noted that we tend to think of heaths, arable and woodland as three separate and different habitats; in fact, they are all inter-connected, and wildlife will move among them. The location of arable field margins to help foster this inter-connectedness is likely to be a key consideration. Other

factors to consider include the need to encourage increased levels of soil disturbance, and to address the atmospheric deposition of nitrogen.

Discussion: In the discussion that followed, the importance of human activities and disturbance in maintaining the biodiversity of the Brecks was once again emphasised. The possibility of using deep ploughing as a management technique was raised.

The extinction of lichens in the Brecks was attributed to the nitrogen load and inappropriate grazing. It was noted that it is difficult to manage large areas of habitat and address the particular needs of individual species at the same time; many Brecks specialities have very particular niches and requirements.

## **2.5 Wetland and Water Conservation and Management: Progress, Current Challenges and New Drivers (Roger Handford, Environment Agency)**

Roger Handford began his presentation by identifying some of the major developments that have occurred in the river management field since World War II. He noted that the provision of water and sewerage facilities had previously been the responsibility of local authorities. This changed in 1974, with the creation of the Regional Water Authorities. In 1989, the National Rivers Authority was established; this marked the beginning of formal consents procedures as well as the start of biodiversity monitoring. In 1996, the Environment Agency was created.

EA's operations are structured around eight regions and 24 areas in England and Wales. The Anglian region contains three areas (northern, central and eastern). The region has approximately 1,200 staff and a budget of £150 million.

EA has a duty to promote conservation, and in this regard, the Agency:

- Takes account of conservation in policy and operational decisions;
- Accords priority to the protection of statutory sites;
- Helps to implement the UK BAP by taking a lead for key, water-related species and habitats;
- Applies conservation criteria when authorising activities.

There is a wide range of legislation and drivers affecting water resources and EA's activities. Under the terms of the Water Framework Directive, EA is currently characterising the region's rivers and assessing whether or not they should be defined as "heavily modified". This will have important implications for the scale of investment required to comply with WFD.

Key activities undertaken by the Environment Agency include: the issuing of permits (the Review of Consents is coming to a close); contributions to planning consultations; flood risk management (historically achieved through land drainage and river "improvements"); and the protection and enhancement of fish habitats, for example, through river narrowing and the re-

instatement of habitat features such as riffles. A total of approximately £500,000 has been spent on habitat improvements for fish over the last ten years; although significant, this represents only a very small portion of EA's total budget.

In terms of contributing to BAP targets, activities have included support for the removal of signal crayfish from the River Lark, mink control, and the protection of white-clawed crayfish on the Wissey.

Roger Handford then went on to describe the Great Ouse Wetland Vision. He explained that the Great Ouse has been regulated and channelised for many centuries, in order to provide water to mills and to meet the needs of navigation, drainage and flood control. Since the 1970s, there has been a continuous dredging programme in place. Although water quality has improved in recent decades, the physical quality of the river and its habitats has declined significantly and this has had an impact on many species. The gudgeon, dace and pike populations, for example, have all declined by some 80 per cent. Restoration activities have tended to be piecemeal and highly localised.

In an effort to redress this situation, the Great Ouse Wetland Vision seeks to take a much broader, more integrated and strategic approach (Annex 4). In particular, it seeks to:

- Identify the threats;
- Prioritise opportunities for restoration;
- Encourage partnership working to deliver habitat protection and restoration at a catchment scale, at protected sites and within the wider countryside. (Key protected sites included in the vision are Cavenham and Icklingham Heaths in the Brecks and Wicken Fen.)

Looking toward the future, EA is increasingly seeking to take a more strategic approach to its work. There is a growing emphasis on working at a catchment scale, restoring river and floodplain links, and promoting multi-functionality. Current initiatives include a feasibility assessment of backwater rehabilitation and connection of gravel pits to the Great Ouse and support for landscape scale wetland restoration as part of the Great Fen Project. An important feature of the latter is the use of "eco-hydrology" to help plan appropriate restoration measures and to target land purchase.

### Discussion

In the discussion which followed, a query was raised about the way in which EA's catchment approach might be linked to the idea of ecological networks that is being developed by the Norfolk and Suffolk Biodiversity Partnerships. In response, Roger Handford supported the notion of joining up initiatives with common goals and noted that EA's approach to flood risk is changing. There is now a much greater focus on urban areas, and this may free up funding for habitat restoration. He also noted that there is a regional habitat restoration project.

Mary Norden from the Suffolk Biodiversity Partnership asked about EA's work on naturally-fluctuating, aquifer-fed waterbodies (an important BAP habitat found in the Brecks). Roger Handford explained that the lead on this habitat is being taken by Pat Sones at EA. He also noted that the requirements of these waterbodies are taken into consideration during the Review of Consents and other procedures. However, EA is not currently engaged in any particular survey or management activities dealing with this habitat in the Brecks.

### 3. Summary of Small Working Group Discussions

Following the series of overview presentations summarised above, participants were divided into four small working groups, dealing with: woodlands; farmland habitats; heathland and grass heaths; and wetlands and rivers. Each working group was requested to refer to the relevant sections of the EN Natural Area Profile and the Breckland Biodiversity Action Plans document, and to answer the following questions:

- How much progress has been made in achieving the management, research and monitoring priorities identified in the Natural Area Profile?
- How much progress has been made in achieving the actions identified in the Breckland Biodiversity Action Plans?
- What are the gaps in achieving the two bullet points above, and what are the priorities for moving forward?

Among the key points to emerge from these discussions were the following:

#### 3.1 Woodlands

##### Lessons

- Partnership working has been very valuable. The success of the HLF project was dependent on contributions and input from many different organisations: interpretation from BCP; grazing and advice from NWT; forest management from FC; finance and advice from HLF, English Nature and Defra; and technical data from English Nature.
- There have also been many useful lessons about the practicalities of heathland re-creation, for example, the differences between re-creation on chalk versus acid soils, and also, the ease of re-creation relative to forest crop age.
- The historic landscape survey of the Nar has been valuable, and has helped to inform choices for re-creation. However, there are still tensions between the wet woodland and fen Habitat Action Plans; according to the records available to the Forestry Commission, there has been a net decrease in wet woodland of 120 ha across the region since the year 2000.

##### Priorities

- **Wet Woodland:** There is a need to carry out a survey of what we have and also to develop an understanding of the importance of wet woodland versus fen habitats.

- **Parkland/Lowland Wood Pasture:** There is a need to survey this habitat, as our current knowledge is poor (partly due to lack of access in some key areas).
- **Forest/Heathland:** There is a need to understand and control the impact of public recreation on wildlife. This will require both research and management.

### 3.2 Farmland Habitats

#### Lessons

- Agri-environment schemes and European designations have worked well. The whole farm approach and the use of conservation headlands have been valuable (although there has been little uptake of arable reversion). Despite these achievements, the needs of a number of less charismatic species do not appear to have been met.
- Re-introductions have not been carried out in a coherent or prioritised fashion.

#### Priorities

- Ensure HLS funding is made available for the wider countryside and not just SSSIs.
- There is great potential to deliver biodiversity targets at STANTA; future programmes should accord higher priority to this area. Attention should also be given to developing a more flexible approach to rabbit management within the training area.
- Ensure that the biodiversity benefits of set-aside are maintained if this option is withdrawn, eg through HLS. Areas of particularly high value should be identified and steps taken to ensure that they are transferred to agri-environment schemes.

### 3.3 Heathland and Grass Heaths

#### Lessons

- We have been good at restoring heaths, removing trees and introducing grazing. Heath creation in the forest represents the largest habitat creation programme in the East of England.
- There has been a substantial amount of “learning through doing”.
- Partnership working (eg, heathland creation in Thetford Forest) has been very successful.



- We have not been able to arrest the decline of broken turf grasslands.
- There has been insufficient micro-scale habitat management.
- Heaths are much “grassier” than they used to be.
- There has been insufficient research and monitoring.

### **Priorities**

- Increase the amount of soil disturbance.
- Do more work on species.
- Do more work on heath restoration and creation.
- Strengthen monitoring in order to enhance the effectiveness of habitat and species management.
- Increase research on the ecological impacts of air pollution and nutrient exports.
- Initiate landscape-scale programmes and ecological networks; there is a need to change talk into action.

### **3.4 Wetlands and Rivers:**

#### **Lessons**

- CWS designation has not provided effective protection for local sites. However, statutory designation has protected sites of national/European importance relatively well;
- River habitats have not been well protected.
- Information about aquifer-fed naturally fluctuating water bodies is either missing or has not been well disseminated.
- Wetland creation sites at Lakenheath and in the Little Ouse headwaters area have been very successful.

#### **Priorities**

- There is a need for more effective sharing and dissemination of information. In addition to workshops/conferences, consideration should be given to the development of a web-based information point.
- There is a need for stronger networks, eg, through the Norfolk and Suffolk Biodiversity Partnerships.

- It is critically important that the new Environmental Stewardship schemes target Breckland habitats and species.
- The ecological network approach should be used to support conservation initiatives in the Brecks.
- More effective protection of non-statutory designated sites must be achieved in the new Local Development Frameworks.

Detailed notes from the small working group discussions can be found in Annex 2.

#### 4. Conclusions and Next Steps

Although the workshop provided only a partial review of the status of biodiversity action in the Brecks, it is clear that a very substantial amount of progress has been made over a relatively short period of time. Particularly noteworthy achievements have included the establishment of the Breckland ESA, the creation of several hundred hectares of heaths/ grass heaths, the designation of the SAC and SPA, and the increase in the numbers of several high priority species such as the stone curlew – to name but a few accomplishments. However, it is also clear that progress has been uneven, with some less charismatic species and less well-known habitats receiving insufficient attention. There is also a desire among many stakeholders for greater sharing of information, and a more coordinated and prioritised approach to conservation action in the Brecks. Despite all that has been accomplished, there remains a sense that conservation effort in the Brecks is somehow “less than the sum of its parts”.

To help address these concerns, it is proposed that consideration be given to the following “high level” recommendations, in addition to the specific priorities and actions identified by the small working groups:

1. Establish a Brecks Forum as a mechanism for sharing information and promoting co-ordination; this could perhaps be convened by the Brecks Partnership. Consideration could be given to creating two bodies: a smaller, technical group involving site managers working with the statutory agencies and conservation groups, which could perhaps meet twice a year; and a larger forum involving landowners, businesses and community groups which could meet once a year at a “Breck conference”.
2. Take forward the recommendations of the Brecks Recognition Study, by maintaining the Task and Finish Group that was established in 2007 to prepare a Brecks management plan. Develop a Brecks BAP as an integral component of the proposed management plan.
3. Initiate Brecks-wide surveys of the extent and status of a number of BAP habitats, including wet woodland, wood-pasture and naturally-fluctuating aquifer fed waterbodies. Carry out a survey of non-SSSI fens on the Suffolk side of the Brecks (possibly using the same methodology that has recently been used in Norfolk); combine this information with the results of the Norfolk survey to develop a Brecks-wide list of restoration priorities. Encourage both the Norfolk and Suffolk Biodiversity Partnerships to develop HAPs for aquifer-fed naturally fluctuating waterbodies.
4. Develop a better understanding of the implementation status of plant and invertebrate SAPs in the Brecks, including progress to date, shortfalls and priorities for the future.
5. Carry out an initial assessment of the presence or absence in the Brecks of the new priority species and habitats included on the revised national BAP list and identify future steps required.

6. Carry out a detailed planning and feasibility study on the creation of an ecological network in the Brecks. This would build on the regional heathland opportunity project of 2004 as well as the ecological networks studies that have already been undertaken in Norfolk and Suffolk; however, the assessment would be Brecks-specific and more detailed.

## **ANNEX 1: WORKSHOP AGENDA**

### **Morning Session**

**(Facilitator: Gerry Barnes, Chairman, Norfolk Biodiversity Partnership)**

- 09:30          Arrival and registration. (Tea and coffee on arrival).
- 10:00          Welcome and introduction to the day (Gerry Barnes, Chairman, Norfolk Biodiversity Partnership)
- 10:15          The EN Natural Area Profile and the Brecks Vision: An overview of progress, opportunities and challenges (Stephen Rothera, Natural England)
- 10:45          Presentation on forestry management and biodiversity conservation – progress, current challenges and new drivers (Mike Taylor, Forestry Commission)
- 11:15          Discussion
- 11:30          Tea and coffee
- 11:50          Presentation on arable management issues and agri-environment schemes – progress, current challenges and new drivers (Bill Nickson, Natural England)
- 12:20          Presentation on heath conservation and management issues – progress, current challenges and new drivers (Bev Nichols, Natural England)
- 12:50          Discussion
- 13:00          Lunch

### **Afternoon Session**

**(Facilitator: Peter Holborn, Chairman, Suffolk Biodiversity Partnership)**

- 13:45          Presentation on wetland and water conservation and management issues – progress, current challenges and new drivers (Roger Handford, Environment Agency)
- 14:15          Discussion
- 14:30          Introduction to the small group discussions

14:45

Small Group Discussion

Group 1: Woodlands

Group 2: Farmland Habitats

Group 3: Heathland and Grass Heaths

Group 4: Wetlands and Rivers

Each working group will be requested to refer to the relevant sections of the EN Natural Area Profile and the Breckland Biodiversity Action Plans, and to answer the following questions:

- How much progress has been made in achieving the management, research and monitoring priorities identified in the Natural Area Profile?
- How much progress has been made in achieving the actions identified in the Breckland Biodiversity Action Plans?
- What are the gaps in achieving the two bullet points above, and what are the priorities for moving forward?

15:45

Tea and coffee

16:00

Feedback from the small working groups (Maximum 5 minutes each)

16:30

How far have we come in achieving the Brecks Vision?  
Concluding discussion and identification of lessons learned, priorities and next steps

17:00

Close

## ANNEX 2: NOTES FROM THE SMALL WORKING GROUPS

### Group 1: Woodlands

**Task 1 – Review progress against the actions in the Breckland Profile document.**

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
1	Develop policies to divert new woodland away from Breckland natural area.	<ul style="list-style-type: none"> <li>• EIA regulations threshold for designated areas;</li> <li>• Discretionary scoring information;</li> <li>• Black Ditches planting reversed.</li> </ul>	Substantial
2	Secure the resources to achieve reversion of substantial areas of appropriate wooded land to heath.	<ul style="list-style-type: none"> <li>• Securing the Future/HLF;</li> <li>• Forest 300+ha reversion.</li> </ul>	Some
3	Achieve public understanding and support for heathland recreation from plantation woodland.	<ul style="list-style-type: none"> <li>• HLF project;</li> <li>• Brandon heathland area.</li> </ul>	Some
4	Review national and local policies to ensure practical recreation of heathland from woodland.	<ul style="list-style-type: none"> <li>• 1989/90 England Forest Strategy – unconditional licenses/EIA. Applies to all habitats;</li> <li>• FC Open Habitats Policy in production – no date available yet;</li> <li>• Local distinctiveness and Local Development Framework;</li> <li>• Mineral plans – reversion to priority HAPs favoured.</li> </ul>	Some  Some  Some  Some
5	Develop knowledge to ensure practical recreation of heathland from woodland.	<ul style="list-style-type: none"> <li>• HLF project. Acid very successful; alkaline very expensive.</li> </ul>	Substantial
6	Develop plans to remove planted trees from wetlands of nature conservation importance.	<ul style="list-style-type: none"> <li>• Hills and Holes – Hockham, Brick Kiln Covert and Thompson Common;</li> <li>• Frosts Common to be done.</li> </ul>	Substantial

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
7	Review periodically all Forest plans and procedures to ensure that they achieve benefits for Breckland wildlife within the Forest.	<ul style="list-style-type: none"> <li>• Forest Design Plans all in place and reviewed by Natural England and statutory bodies plus local consultation.</li> </ul>	Substantial
8	Ensure recreational developments in Thetford Forest are implemented in an environmentally sensitive way.	<ul style="list-style-type: none"> <li>• All recreational developments in Thetford Forest will be subject to an Appropriate Assessment in light of the SPA designation;</li> <li>• The potential development associated with Thetford Growth Point Development is currently undergoing an Appropriate Assessment (Breckland Forest and Farmland SPA);</li> <li>• All recreation permissions are assessed for their conservation/wildlife impact.</li> </ul>	Some
9	Develop research and monitoring in the Forest to maintain and expand the wildlife resource.	<ul style="list-style-type: none"> <li>• Work of UEA (P. Dolman) on vegetation, woodlarks, nightjars, invertebrates, deer, etc.</li> </ul>	Substantial
10	Implement local and national BAPs relevant to afforested land.	<ul style="list-style-type: none"> <li>• Woodlark, nightjar, red squirrel (although proved a failure in practical terms of maintaining population in Thetford), tower mustard, etc.</li> </ul>	Substantial
11	Secure the resources to achieve sustainable management of ancient woodland sites.	<ul style="list-style-type: none"> <li>• Targeted under EWGS but little present in Brecks.</li> </ul>	Substantial
12	Encourage the management of deer to protect coppicing in ancient woodland.	<ul style="list-style-type: none"> <li>• Deer initiative;</li> <li>• Deer groups.</li> </ul>	Substantial



**Task 2 - Review the status of BAP implementation in the Brecks:  
Lowland wood-pasture and parkland**

	<b>Action Needed</b>	<b>Comments</b>	<b>Progress</b>
1	Obtain the results of the national survey.	<ul style="list-style-type: none"> <li>The national survey has not been obtained but significant progress has been made at local level.</li> </ul>	Some
2	Review the national survey and existing data in order to set targets for this habitat specifically for the Breckland Natural Area.	<ul style="list-style-type: none"> <li>The national survey has not been obtained but significant progress has been made at local level.</li> </ul>	Some
3	Expand three sites by 2005 – to reverse fragmentation and reduce the generation gap between veteran trees.	<ul style="list-style-type: none"> <li>Little of this habitat is left; site connectivity not practicable in most cases;</li> <li>Reversing of generation gap achieved on two sites: Culford Park and Aspal Park.</li> </ul>	Some
4	Restore three sites by 2010 – with the aim of achieving favourable condition.	<ul style="list-style-type: none"> <li>Reversing of generation gap achieved on two sites: Culford Park and Aspal Park.</li> </ul>	Some
5	Ensure the Norfolk Steering Group includes this habitat in their review process.	<ul style="list-style-type: none"> <li>Done; the Norfolk BAP now contains an action plan for this habitat.</li> </ul>	Completed

**Task 3 - Review the status of BAP implementation in the Brecks: Wet woodlands**

	<b>Action</b>	<b>Comments</b>	<b>Progress</b>
1	A survey to determine the total area of this habitat in Breckland Natural Area.	<ul style="list-style-type: none"> <li>• Not done. It is estimated that there has been a net decrease of 120 ha in the area of wet woodland in the eastern region since 2000.</li> </ul>	None
2	Implement relevant priority species plans through the integration of management requirements and advice.	<ul style="list-style-type: none"> <li>• Ouse Waveney Headwaters Scheme – ongoing e.g. bat habitat creation;</li> <li>• Nar valley survey/plans.</li> </ul>	Some
3	Implement appropriate surveillance and monitoring programmes to assess progress towards action plan targets.	<ul style="list-style-type: none"> <li>• Ouse Waveney Headwaters Scheme – ongoing e.g. bat habitat creation;</li> <li>• Nar valley survey/plans</li> </ul>	Some
4	Ensure that the Norfolk Steering Group includes this habitat in their review process.	<ul style="list-style-type: none"> <li>• Done. The Norfolk BAP now contains an action plan for this habitat.</li> </ul>	Completed

## **Task 4 - Review lessons from the above and identify priorities**

### **Lessons**

**Heathland:** Partnership working has been valuable. The HLF project involved: interpretation from BCP; grazing and advice from NWT; forest management from FC; finance and advice from HLF, Natural England and Defra; technical data from Natural England. There have also been many lessons in relation to the practicalities of heathland re-creation, for example, the differences between re-creation on chalk versus acid soils, and also, the ease of re-creation depending on forest crop age.

**Wet Woodland:** The historic landscape survey of the Nar has been valuable, and has helped to inform choices for re-creation. However, there are still tensions between the wet woodland and fen Habitat Action Plans; it is estimated that there has been a net loss of 120 ha of wet woodland in the region since 2000 (much of which has been driven by fen restoration).

### **Priorities**

**Wet Woodland:** There is a need to carry out a survey of what we have and also to develop an understanding of the importance of wet woodland versus fen habitats.

**Parkland/Lowland Wood Pasture:** There is a need to survey this habitat, as our current knowledge is poor (partly due to lack of access in some key areas).

**Forest/Heathland:** There is a need to understand and control the impact of public recreation on wildlife. This will require both research and management.

## **Group 2: Farmland**

### **Task 1 – Review progress against the actions in the Breckland Profile document.**

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
1	Develop with the farming community practical farming systems which increase the wildlife value of arable through reduced pesticide and fertiliser use and more beneficial cropping patterns.	<ul style="list-style-type: none"> <li>• Some progress, eg ESA agreements. HLS agreements should lead to substantial progress (eg, Elveden is an HLS candidate).</li> <li>• There has been no reduction in the frequency of chemical inputs but there has been a large reduction in the quantities used.</li> </ul>	Some
2	Develop systems of farming which maintain disturbed, ruderal, headland and wayside habitats in Breckland.	<ul style="list-style-type: none"> <li>• Some progress, eg, set-aside, ELS/HLS disturbed fallow options, and stone curlew plots.</li> </ul>	Some
3	Develop the ESA and other schemes to achieve the re-creation and restoration of wildlife habitat from arable.	<ul style="list-style-type: none"> <li>• Completed. ESA scheme developed but not huge uptake.</li> </ul>	Completed
4	Develop agri-environment measures which increase the diversity of farmland habitats.	<ul style="list-style-type: none"> <li>• Completed, eg Countryside Stewardship Scheme.</li> </ul>	Completed
5	Achieve the re-habilitation and re-creation of ponds, pine lines and other features of wildlife value in the farmed landscape.	<ul style="list-style-type: none"> <li>• Some progress, eg Local Authority grants for pine lines.</li> </ul>	Some

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
6	Implement local and national Biodiversity Action Plans relevant to Breckland farmland, including monitoring.	<ul style="list-style-type: none"> <li>Some to substantial progress, depending on the species in question. Some monitoring has taken place as part of ESA. Birds have tended to receive more attention than other species.</li> </ul>	Some/substantial
7	Develop mechanisms to protect populations of nationally important plants and animals on farmland.	<ul style="list-style-type: none"> <li>Some progress, depending on species. Important sites for birds have received SSSI and SPA designation. However, fairly poor progress has been made on flora.</li> </ul>	Some
8	Identify and implement a programme of species introductions and re-introductions.	<ul style="list-style-type: none"> <li>Some progress, eg, pool frog, the red squirrel re-introduction attempt, and fen orchid.</li> </ul>	Some
9	Increase understanding of the needs of species of ruderal and arable farmland.	<ul style="list-style-type: none"> <li>Limited progress has been made. County-level action plans have been developed for some arable plant species. At a national level, Plantlife has identified Important Arable Plant Areas. Much more needs to be done not only for plants but also invertebrates, etc.</li> </ul>	Very little
10	Expand the delivery of conservation advice to achieve integrated, whole farm gains for wildlife.	<ul style="list-style-type: none"> <li>Some progress, eg, advice is available from RSPB, FWAG and RDS (now Natural England). Whole farm plans are being encouraged.</li> <li>The number of conservation advisors has expanded.</li> <li>There is a greater emphasis on auditing (eg, LEAF audits).</li> </ul>	Some

**Task 2 - Review the status of BAP implementation in the Brecks: Cereal field margins**

	<b>Action</b>	<b>Comments</b>	<b>Progress</b>
1	Ensure that the Breckland ESA target of 400 ha is achieved.	<ul style="list-style-type: none"> <li>Substantial progress has been achieved but the group did not have access to figures.</li> </ul>	Substantial

**Task 3 - Review the status of BAP implementation in the Brecks: Stone curlew**

	<b>Targets</b>	<b>Comments</b>	<b>Progress</b>
1	Contribute 125 breeding pairs by 2000 and 180 by 2010 (Natural Area target).	<ul style="list-style-type: none"> <li>Completed. Target surpassed.</li> </ul>	Completed
2	Encourage the re-colonisation of the past breeding range in Norfolk and Suffolk (Suffolk BAP).	<ul style="list-style-type: none"> <li>Little progress. Although the population has increased, it remains heavily concentrated in a few selected areas.</li> <li>Stone curlew has been included in some JCA targeting statements for HLS but not in all JCAs where the species used to exist.</li> <li>CROW and open access have been allowed on sites that did not have stone curlew and this has served to “fossilise” the distribution of the species.</li> </ul>	Very little
3	Encourage stone curlew to return to semi-natural grassland and grass heath (Suffolk BAP).	<ul style="list-style-type: none"> <li>The majority of the stone curlew population continues to use arable.</li> <li>Most heaths where stone curlews exist are already at capacity; if we want to encourage a shift in distribution, there will be a need more heathland re-creation.</li> </ul>	Some

## **Task 4 - Review lessons from the above and identify priorities**

### **Lessons**

- Agri-environment schemes & European designations have worked well. The whole farm approach and the use of conservation headlands have been valuable, although there has been little uptake of arable reversion.
- The needs of a significant number of individual species do not appear to have been met.
- Re-introductions have not been carried out in a coherent or prioritised fashion.

### **Priorities**

- Ensure HLS funding is made available for the wider countryside and not just SSSIs.
- There is great potential to deliver biodiversity targets at STANTA; future programmes should accord higher priority to this area. Attention should also be given to developing a more flexible approach to rabbit management within the training area (at present, rabbits are heavily culled because they are seen to compete with sheep raising).
- Ensure that the biodiversity benefits of set-aside are maintained if this option is withdrawn, eg through HLS. Areas of particularly high value should be identified and steps taken to ensure that they are transferred to agri-environment schemes.

### Group 3: Heathland and Grass Heaths

#### Task 1 – Review progress against the actions in the Breckland Profile document.

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
1	Develop the ESA and other schemes to further benefit priority wildlife features on heaths.	<ul style="list-style-type: none"> <li>All the heathlands were involved. The ESA was a voluntary scheme so landowners could apply to enter if they wished to.</li> </ul>	Some/ substantial
2	Identify livestock systems which produce better, sustainable grazing regimes.	<ul style="list-style-type: none"> <li>Example: NWT's Flying Flock. Better recognition of the different types of heathland and grassland and definition of grazing regimes.</li> </ul>	Some
3	Resist development proposals that result in loss or damage to heathland.	<ul style="list-style-type: none"> <li>Example: International sites are now commanding respect, eg, in relation to Thetford's growth point status.</li> </ul>	Substantial
4	Research the effects of atmospheric pollution on Breckland heaths.	<ul style="list-style-type: none"> <li>Example: Can now look up different nutrient levels. Some changes in the Brecks due to the microclimate in the development of the forest. Still not enough research or information specific to the Brecks – see the Centre for Ecology and Hydrology website (<a href="http://www.ceh.ac.uk">www.ceh.ac.uk</a>).</li> </ul>	Little/some
5	Integrate the needs of geological, archaeological and biological interests in management.	<ul style="list-style-type: none"> <li>Example: New HLS provides substantial scope for progress.</li> </ul>	Some
6	Develop the ESA and other schemes to achieve reversion of arable and woodland to heath.	<ul style="list-style-type: none"> <li>Example: HLF restoration of heathland project.</li> </ul>	Substantial



	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
6	Develop partnerships to promote targeted heathland re-creation.	<ul style="list-style-type: none"> <li>• Example: The development of successful partnerships to promote targeted heathland re-creation. Without these partnerships, the project would not have happened, eg Thetford Forest re-creation/THH.</li> </ul>	Substantial
8	Develop a programme of sites/species suitable for approved re-introductions.	<ul style="list-style-type: none"> <li>• Example: Rare plants have been re-introduced to the Brecks. Re-introductions have not been in BAP. More effort should be made to develop a programme of evidence sharing.</li> </ul>	Some
9	Implement local and national Biodiversity Action Plans relevant to Breckland heathland, including monitoring.	<ul style="list-style-type: none"> <li>• Example: BAP has been implemented. Monitoring is an area where there has been some progress but could be more.</li> </ul>	Some
10	Act to prevent rabbit viral haemorrhagic disease becoming established.	<ul style="list-style-type: none"> <li>• Disease has spread.</li> </ul>	None
11	Achieve public understanding of the value and needs of heathland.	<ul style="list-style-type: none"> <li>• Example: Brecks Countryside Project and public understanding and awareness.</li> </ul>	Some/ substantial
12	Monitor and manage public access pressures on heathland to avoid harmful disturbance.	<ul style="list-style-type: none"> <li>• Example: Brecks Countryside Project and public understanding and awareness.</li> </ul>	Some/ substantial

**Task 2 - Review the status of BAP implementation in the Brecks:  
Lowland Heath**

	<b>Targets</b>	<b>Comments</b>	<b>Progress</b>
1	Encourage the re-establishment of lowland heath by 2005 – specific target of 700ha by 2005. Maintain and improve by management all existing areas – specific target of 582 ha by 2005 (Natural Area targets).	<ul style="list-style-type: none"> <li>• Much achieved but need more focus on calcareous areas.</li> </ul>	Substantial
2	Secure all existing areas of heath (Suffolk BAP).	<ul style="list-style-type: none"> <li>• Some minor losses have occurred but major areas have been safeguarded.</li> </ul>	Largely achieved
3	Restore areas of heath that are being degraded by encroaching trees and scrub (Suffolk BAP).	<ul style="list-style-type: none"> <li>• Still some work required, eg Lakenheath Warren.</li> </ul>	Substantial
4	Maintain and improve existing heath by sustainable heath by sustainable grazing (Suffolk BAP).	<ul style="list-style-type: none"> <li>• Still room for improvement.</li> </ul>	Substantial
5	Re-establish 1,500ha of heath in Breckland (Norfolk and Suffolk) from arable and forestry, targeting links between heaths (Suffolk BAP).	<ul style="list-style-type: none"> <li>• Some progress.</li> </ul>	Some/ substantial
6	Maintain and strengthen populations of key BAP species (Suffolk BAP).	<ul style="list-style-type: none"> <li>• Some progress - woodlark and stone curlew.</li> </ul>	Some

**Task 3 - Review the status of BAP implementation in the Brecks: Dry Acid Grassland**

	<b>National Targets</b>	<b>Comments</b>	<b>Progress</b>
1	Arrest the depletion of unimproved lowland acid grassland throughout the UK.	<ul style="list-style-type: none"> <li>Achieved in the Brecks.</li> </ul>	Achieved
2	Within the SSSIs, initiate rehabilitation management for all significant stands of unimproved lowland acid grassland in unfavourable by 2005, with the aim of achieving favourable status wherever feasible by 2010.	<ul style="list-style-type: none"> <li>Not complete – more to do at STANTA.</li> </ul>	Substantial
3	At other sites, secure favourable condition over 30% of the resource by 2005, and as near to 100% as is practicable by 2015.	<ul style="list-style-type: none"> <li>Monitoring at Elveden sites; looking to stewardship to improve situation.</li> </ul>	Very little
4	Attempt to re-establish 500 ha to wildlife value at targeted sites by 2010.	<ul style="list-style-type: none"> <li>“Wildlife value” is not a meaningful term and should not have been in the national lowland dry acid grassland HAP!</li> </ul>	

## **Task 4 - Review lessons from the above and identify priorities**

### **Lessons**

#### **What has worked well?**

- We have been good at restoring heaths, removing trees and introducing grazing. Heath creation in the forest represents the largest habitat creation programme in the East of England.
- There has been a substantial amount of “learning through doing”.
- Partnership working (eg, heathland creation in Thetford Forest) has been very successful.

#### **What hasn't worked and why?**

- We have not been able to arrest the decline of broken turf grasslands.
- There has been insufficient micro-scale habitat management.
- Heaths are much “grassier” than they used to be.
- There has been insufficient research and monitoring.

### **Priorities**

- Increase the amount of soil disturbance.
- Do more work on species.
- Do more work on heath restoration and creation.
- Strengthen monitoring in order to enhance the effectiveness of habitat and species management.
- Increase research on the ecological impacts of air pollution and nutrient exports.
- Initiate landscape-scale programmes and ecological networks; there is a need to change talk into action.

## **Group 4: Wetlands and Rivers**

### **Task 1 – Review progress against the actions in the Breckland Profile document.**

<b>Groundwater-Fed Wetlands</b>			
	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
1	Develop a strategy to ensure water-use provides for the needs of all ecologically significant wetlands based on consultation, research, monitoring and licence review.	<ul style="list-style-type: none"> <li>Substantial progress has been made. The Review of Consents by EA does identify issues affecting European designated sites. However, non-designated sites are not protected through this process.</li> </ul>	Substantial
2	Develop further an understanding of the hydrology and ecology of wetland sites to judge needs and impacts	<ul style="list-style-type: none"> <li>Some progress. We have improved our understanding of the hydrology and ecology of wetland habitats. However, there may be a need for additional surveys, particularly of County Wildlife Sites; further investigation is needed.</li> </ul>	Some
3	Develop farming systems in Breckland which require less water.	<ul style="list-style-type: none"> <li>Progress unknown.</li> </ul>	Unknown
4	Encourage winter storage, as an alternative to groundwater, where this causes no adverse impact on wildlife sites or river flow regimes.	<ul style="list-style-type: none"> <li>Some progress. New reservoirs have been established at various sites in the Brecks; however, this has to be seen in the context of losing arable habitats to create them.</li> </ul>	Some
5	Monitor groundwater quality, especially in the catchment of important wetlands.	<ul style="list-style-type: none"> <li>Some progress has been made on groundwater quality; however, further investigation is needed.</li> </ul>	Some

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
6	Implement the land management needs of wetlands to protect and enhance their biological, geological and archaeological interests.	<ul style="list-style-type: none"> <li>Substantial progress. The wetlands that exist in the Brecks are generally well-managed. However, there may be some sites that need further input. Investigation is required.</li> </ul>	Substantial
7	Develop the ESA and other schemes to further benefit priority wildlife features on wetlands.	<ul style="list-style-type: none"> <li>ESA has delivered significant benefits in the Brecks; however, the group lacked detailed information about progress in relation to wetlands. It is critical that Environmental Stewardship recognise the priority wetland features.</li> </ul>	Unknown
8	Restore the hydrology of wetlands affected by past drainage e.g. through Water Level Management Plans.	<ul style="list-style-type: none"> <li>Some progress on the restoration of hydrological features has been made at Lakenheath Fen and sites managed by the Little Ouse Headwaters Project.</li> </ul>	Some
9	Develop the ESA and other schemes to incorporate wetland re-creation incentives	<ul style="list-style-type: none"> <li>Same as 7.</li> </ul>	Some
10	Achieve the restoration of open pingo systems on afforested land	<ul style="list-style-type: none"> <li>Some pingos have been restored on afforested land, but the group was uncertain as to the exact number; further investigation is needed with the Forestry Commission.</li> </ul>	Some

	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
11	Implement local and national Biodiversity Action Plans relevant to Breckland wetlands, including monitoring.	<ul style="list-style-type: none"> <li>Some progress on implementing action and monitoring for key charismatic species such as water vole, otter and crayfish. However, there are a number of groundwater fed wetland BAP species (plants, invertebrates and amphibians) which have received relatively little attention; some of these are covered by local Species Action Plans whilst others are not. This needs reviewing in light of the new UK BAP list. In particular, there is a need for an audit of what is being delivered for the less charismatic species.</li> </ul>	Some
12	Develop a programme of key species monitoring to identify populations for enhancement work.	<ul style="list-style-type: none"> <li>As above.</li> </ul>	Some
13	Investigate legislative constraints hindering better protection of Breckland's wetlands.	<ul style="list-style-type: none"> <li>Some progress. County Wildlife Sites are not strongly protected by existing planning policy; Local Development Frameworks need to make this more robust.</li> </ul>	Some
14	Develop a programme of sites/species suitable for approved re-introductions.	<ul style="list-style-type: none"> <li>No progress as far as the group was aware.</li> </ul>	Unknown

<b>Rivers and their Valley Habitats</b>			
	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
<b>1</b>	Develop farming systems that significantly reduce diffuse pollution of the water environment.	<ul style="list-style-type: none"> <li>Catchment Sensitive Farming has made some progress on reducing diffuse pollution.</li> </ul>	Some
<b>2</b>	Continue the programme of improvements to sewage treatment discharges.	<ul style="list-style-type: none"> <li>Significant progress on sewage treatment discharges has been achieved through AMP 3 and 4; this will continue to bring improvements.</li> </ul>	Substantial
<b>3</b>	Define minimum flow regimes for all Breckland chalk rivers.	<ul style="list-style-type: none"> <li>Some progress has been made but the group was not sure of the details. Further investigation is needed.</li> </ul>	Some
<b>4</b>	Develop a programme of river and floodplain habitat restoration and improvement work.	<ul style="list-style-type: none"> <li>Some progress has been made on river restoration, eg, the Little Ouse headwaters. Again, more investigation is needed. In-river features have been installed on a few sites.</li> </ul>	Some
<b>5</b>	Improve understanding of groundwater aquifer function to judge environmentally sustainable aquifer exploitation and transfer programmes	<ul style="list-style-type: none"> <li>Some progress. Aquifers are better understood but more progress is needed.</li> </ul>	Some
<b>6</b>	Develop the ESA and other schemes to further benefit valley wildlife	<ul style="list-style-type: none"> <li>Substantial progress. ESA has benefited river valley biodiversity; however, there are now concerns about the sustainability of the scheme.</li> </ul>	Substantial



	<b>Management, Research and Monitoring</b>	<b>Comments/Examples</b>	<b>Progress</b>
<b>7</b>	Develop present monitoring of surface and groundwater quality for the presence of excess nutrients and pesticides.	<ul style="list-style-type: none"> <li>Some progress has been made in terms of monitoring sensitive sites for excessive nutrients and pesticides in groundwater.</li> </ul>	Some
<b>8</b>	Seek means to reduce the detrimental effects of drainage in river valleys.	<ul style="list-style-type: none"> <li>More investigation needed.</li> </ul>	Unknown
<b>9</b>	Develop further understanding of the hydrology of valley wetlands to define needs and assess impacts.	<ul style="list-style-type: none"> <li>More investigation needed.</li> </ul>	Unknown
<b>10</b>	Implement local and national Biodiversity Action Plans, including monitoring.	<ul style="list-style-type: none"> <li>Some progress on implementing action and monitoring for key charismatic species such as water vole, otter, crayfish— however there are a number of river valley BAP wetland species plants, invertebrates and amphibians some of which have LBAPs. This needs reviewing in light of the new UK BAP list which include rivers and their habitats and an audit of what is being delivered for other groups such as bats.</li> </ul>	Some
<b>11</b>	Improve understanding of Breckland's river valley wildlife and habitats.	<ul style="list-style-type: none"> <li>As above.</li> </ul>	Some

## Task 2 - Review the status of BAP implementation in the Brecks: Fens

	Local Targets	Comments	Progress
1	Ensure by 2010 the management of all fens which are currently in favourable condition or under restoration (Suffolk LBAP).	<ul style="list-style-type: none"> <li>Substantial progress has been made at Lopham and Redgrave Fen; the group was not aware of the status of other sites.</li> </ul>	Some
2	Promote the rehabilitation of degraded fens with reference to target communities or species. Target all 1 <sup>st</sup> priority sites by 2010 and some 2 <sup>nd</sup> priority sites. Include 3 <sup>rd</sup> priority sites if there is a shortfall in 1 and 2. Targets will be refined after the national audit of UK fens (Suffolk LBAP).	<ul style="list-style-type: none"> <li>The group was unclear about the extent of progress with prioritisation and uncertain about the status the national audit on UK fens. This requires further investigation.</li> </ul>	Unknown
3	Encourage the re-creation of 100ha of fen, preferably next to a priority 1 site (Suffolk LBAP).	<ul style="list-style-type: none"> <li>Substantial progress, eg, Lakenheath Fen and the Little Ouse fen projects.</li> </ul>	Substantial
4	Maintain and strengthen populations of associated BAP species (Suffolk LBAP).	<ul style="list-style-type: none"> <li>Substantial progress on some flagship species; less progress on others.</li> </ul>	Some
5	Identify sites in need and initiate restoration by 2005 (Norfolk LBAP).	<ul style="list-style-type: none"> <li>A survey of non-SSSI fens has been carried out in Norfolk and priorities for restoration identified. Non-SSSI fens in Suffolk have not yet been surveyed.</li> </ul>	Some

7	Ensure appropriate water quality and quantity for the continuation of all SSSI fens by 2005 (Norfolk LBAP).	<ul style="list-style-type: none"> <li>This is ongoing through the Review of Consents.</li> </ul>	Some
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**Task 3 - Review the status of BAP implementation in the Brecks:  
Aquifer-fed naturally fluctuating water bodies**

	<b>Action Needed</b>	<b>Comments</b>	<b>Progress</b>
1	Identify, survey and prepare management plans for each water body.	<ul style="list-style-type: none"> <li>Some progress is believed to have been made, but further investigation is required.</li> </ul>	Some (?)
2	Achieve Natural Area targets for this habitat.	<ul style="list-style-type: none"> <li>The group did not have access to information about the achievement of targets. Further investigation is required.</li> </ul>	Unknown
3	Ensure that both the Norfolk and Suffolk Steering Groups include this habitat in their review process.	<ul style="list-style-type: none"> <li>Little progress has been made. Neither Suffolk nor Norfolk currently has an action plan for this habitat. Norfolk expects to have a plan in place by mid-2008.</li> </ul>	Very little
4	EA to establish local teams to drive implementation at local level.	<ul style="list-style-type: none"> <li>Further investigation required, but it is believed that little progress has been achieved.</li> </ul>	Unknown

## **Task 4 - Review lessons from the above and identify priorities**

### **Lessons**

- CWS designation has not provided effective protection for local sites.
- River habitats have not been well protected.
- Information about aquifer-fed naturally fluctuating water bodies is either missing or has not been well disseminated.
- Statutory designation has protected national and European sites relatively well.
- Wetland creation sites at Lakenheath and in the Little Ouse headwaters area have been very successful.

### **Priorities**

- There is a need for more effective sharing and dissemination of information, possibly through events like this. Consideration should also be given to the development of a web-based information point.
- There is a need for stronger networks, eg, through the Biodiversity Partnerships.
- It is critically important that the new Environmental Stewardship schemes target Breckland habitats and species.
- The ecological network approach should be used to support conservation initiatives in the Brecks.
- More effective protection of non-statutory designated sites must be achieved in the new Local Development Frameworks.

### ANNEX 3: LIST OF PARTICIPANTS

	<b>Name</b>	<b>Organisation</b>	<b>Working Group</b>
1	Addison, Gilbert	Breckland District Council	Woodlands
2	Ahern, Kate	Land Use Consultants	Farmland
3	Armour-Chelu, Neal	Forestry Commission	Woodlands ( <b>Facilitator</b> )
4	Barnes, Gerry	Chairman of Norfolk Biodiversity Partnership (Norfolk County Council)	Woodlands
5	Casey, Dorothy	Suffolk Wildlife Trust	Wetlands ( <b>Notes</b> )
6	Cooper, Sid	Forestry Commission	Heathlands
7	Cousins, Gemma	Borough Council of King's Lynn and West Norfolk	Wetlands
8	Cowan, Tim	RSPB	Farmland
9	Finnigan, Lynne	Brecks Countryside Project	Heathlands ( <b>Notes</b> )
10	Gibbons, Nick		Woodlands ( <b>Notes</b> )
11	Gillings, Melanie	Norfolk County Council	N/A
12	Handford, Roger	Environment Agency Central Area	Wetlands
13	Hearle, Sharon	Butterfly Conservation	Heathlands
14	Henderson, Ian	British Trust for Ornithology	Woodlands
15	Holborn, Peter	Chairman of Suffolk Biodiversity Partnership (Suffolk County Council)	Woodlands
16	Hooton, Sue	Suffolk County Council	Farmland ( <b>Notes</b> )
17	Horlock, Martin	Suffolk Biological Record Centre	Heathlands

18	Jones, John	Norfolk County Council	Heathlands
19	Jones, Steve	RSPB	Farmland
20	Kelly, Kate	RSPB	Woodlands
21	Lambley, Peter		Heathlands
22	Land, Reg	Norfolk Wildlife Trust	Heathlands
23	Long, Andrea	Breckland District Council	Farmland
24	Nichols, Bev	Natural England	Heathlands
25	Nickson, Bill	Natural England	Morning session only
26	Norden, Mary	Suffolk Biodiversity Partnership Coordinator	Wetlands ( <b>Facilitator</b> )
27	Pankhurst, Tim	Plantlife	Heathlands
28	Perkin, Scott	Norfolk Biodiversity Partnership	Farmland ( <b>Facilitator</b> )
29	Rothera, Stephen	Natural England	Morning session only
30	Sanford, Martin	Suffolk Biological Records Centre	Heathlands ( <b>Facilitator</b> )
31	Sibbett, Nick	Natural England Breckland Land Management Team	Heathlands
32	Simpson, Nigel	Natural England	Farmland
33	Stancliffe-Vaughan, Abigail	Brecks Countryside Project	Contributed to all groups
34	Taylor, Mike	Forestry Commission	Woodlands
35	Thompson, Heidi	Norfolk County Council	Heathlands
36	Tilley, Peter	Suffolk County Council	Woodlands
37	Walker, Henry	Norfolk FWAG	Farmland
38	Watson, Phil	Suffolk County Council	Wetlands

## **ANNEX 4: THE GREAT OUSE WETLAND VISION**

The Great Ouse Wetland Vision is a Natural England and Environment Agency led initiative to deliver an enhanced environment for fish and other wildlife in the Great Ouse catchment. Its key objectives are:

- To protect and restore habitats locally and at a wider catchment scale
- To provide green space for both people and wildlife
- To provide a flexible framework for key stakeholders to deliver their aspirations for fish and other biodiversity in the catchment

The Vision is needed to help address the historic pressures and impacts on biodiversity in the 8600 km<sup>2</sup> Great Ouse catchment. These include development, historical land drainage and flood defence and navigation improvements. Together these factors have resulted in declines in populations of fish and other wildlife on both protected sites and in the wider countryside.

Conservation and rehabilitation is therefore vital to enable the sustainable use of wetlands to enhance biodiversity in the catchment.

To have a Vision we need to know what habitats and species have been lost. Leading scientists consider that the relatively untouched Biebrza catchment in Poland provides an indication of the river and wetland habitats that the Great Ouse catchment has lost and an inspiration for the future vision.

The Vision however is not about looking back, but providing a vision for the future, a sustainable landscape for the twenty-first century.

### **The Environment Agency and Natural England approach to delivering the Vision**

There are two strands to achieving our Vision for redressing habitat losses and population declines in fish and other wildlife:

#### **On Protected Sites**

There is a range of drivers to assist in delivering favourable condition on designated sites (e.g. Sites of Special Scientific Interest). These include:

- Public Service Agreements for SSSIs
- The Water Level Management Plan Programme for priority sites
- The Habitats Directive
- The Restoring Sustainable Abstraction Programme
- The Water Framework Directive
- The water industry's Asset Management Programme for environmental improvements

## **In the Wider Catchment and Countryside**

Protected sites are only part of the picture. We need to think of the wider catchment and countryside if we wish to deliver our vision of enhanced environments at a range of scales. As well as work on protected sites in the Great Ouse catchment it is important to restore the hydrological connections between rivers and floodplains at a range of scales. This wider catchment work can range from the removal or modification of weirs and sluices, which act as barriers to fish movement and migration, to delivering landscape-scale restoration projects.

The objective of the Vision is to deliver on-the-ground projects to enhance fish and other biodiversity interest in the catchment and to provide green infrastructure for the health and enjoyment of people.

The vision for the wider countryside will be delivered in several ways:

- Floodplain and backwater rehabilitation at a range of scales
- Landscape-scale wetland creation or restoration
- Ensuring flood risk management projects include biodiversity benefits
- Environmental Stewardship schemes
- Influencing the planning of green infrastructure projects
- Biodiversity Action Plans for key habitats and species

**The Great Ouse Wetland Vision provides stakeholders with an aspirational framework to help deliver appropriate projects in the right locations in a timely and cost effective manner.**

### Contact:

Environment Agency  
The Fisheries, Recreation &  
Biodiversity Team  
Brampton, Cambs.

Tel: 08708 506506

Natural England  
The Four Counties Team  
East of England Region

Tel: 01733 405850