

CHAPTER 12

Biodiversity through Sustainable Development

- 12.1 The CBD emphasises that the objectives of biodiversity conservation should be fully integrated into and delivered through other areas of policy. The UK BAP identified the policy areas which have been particularly influential in shaping UK biodiversity at the end of the 20th century. Agricultural intensification, pollution, water management and quality, development, forestry and fisheries have time and again been identified as influences affecting the extent, quality and diversity of ecosystems. In this chapter we consider these and other issues against the background of the Government's sustainable development policies.
- 12.2 In May 1999 the UK Government published '*A Better Quality of Life – a strategy for sustainable development in the United Kingdom*'³¹ following a period of consultation ('Opportunities for Change' Feb 1998). The strategy established the main elements of sustainable development: social progress, protection of the environment, prudent use of natural resources and high and stable economic growth and employment.

10 Guiding principles for sustainable development

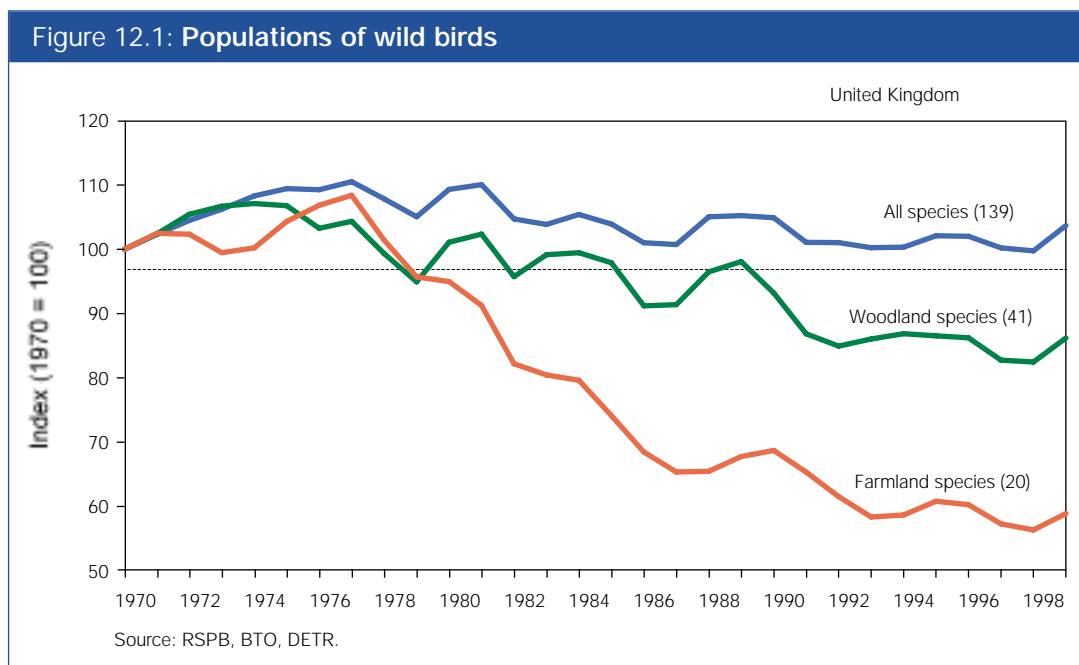
- Putting people at the centre.
- Taking a long-term perspective.
- Taking account of costs and benefits.
- Creating an open and supportive economic system.
- Combating poverty and social exclusion.
- Respecting environmental limits.
- The precautionary principle.
- Using scientific knowledge.
- Transparency, information, participation and access to justice.
- Making the polluter pay.

In its chapter on Wildlife and Landscape the strategy said: 'We must reverse the decline in wildlife and habitats – our biodiversity.' 'Making Biodiversity *happen*', the supplementary consultation paper issued alongside 'Opportunities for change' elaborated the role of biodiversity within sustainable development:

'Biodiversity is a quality of life issue. It is an integral part of our surroundings, giving us pleasure, interest, knowledge and understanding. It is an aspect of the overall aim of sustainable development to ensure a decent quality of life for all, now and for generations to come, and will be one key test of the success of this aim.'

³¹ A Better Quality of Life – a strategy for sustainable development in the United Kingdom (DETR, 1999)

- 12.3 In December 1999, the UK Government published '*Quality of life counts: Indicators for a strategy for sustainable development for the UK: a baseline assessment*'. The populations of wild birds was one of the 15 headline indicators. In the Government's annual report 2000, 'Achieving a better quality of life'³² the populations of wild birds shows a slight upturn.



- 12.4 A range of other Quality of Life Counts indicators are associated with biodiversity, as outlined in chapter 4 of this report.
- 12.5 Following devolution, the administrations in Scotland, Wales and Northern Ireland have identified their own, individual approaches to sustainable development. For England, the committee of Green Ministers is central to the pursuance of sustainable development policy. The Green Ministers' second annual report published in November 2000³³ shows how progress has been made across Government in both policy making and operations, having paid particular attention to biodiversity in 2000. The publication of the biodiversity checklist for Government Departments to consider how to integrate biodiversity into the management of their estates and into their policies and programmes is particularly significant. **However, as the report of the House of Commons Select Committee states, greater efforts must be made by Government Departments and all public bodies to mainstream biodiversity considerations into all areas of public policy and programmes as part of sustainable development.**
- 12.6 In Northern Ireland, one of the recommendations for a Biodiversity Strategy is that all new or revised policies and programmes are assessed for their impact on biodiversity and that the precautionary principle is applied.

³² Achieving a Better Quality of Life (DETR, 2000)

³³ Greening Government: Second Annual Report of the Green Ministers Committee. (DETR, 2000)

12.7 In Wales the National Assembly approved its Sustainable Development Scheme, 'Learning to Live Differently' – on 16 November 2000³⁴. The scheme has become the Assembly's overarching framework, and legally commits it to integrating sustainable development into everything it does and to influence others to do the same. This will mean, amongst other things, ensuring that:

- Decisions take account of effects of proposals in the round and not just in the field in question;
- Policies, programmes and grant schemes etc are designed in an integrated way so they are mutually reinforcing.

The Assembly is developing appraisal tools, including biodiversity, with the help of key sectors, to ensure integration takes place. Proposals to develop a Spatial Framework for Wales also has significant potential benefits for biodiversity.

Sustainable roadside corridors in Scotland

Building on the Scottish Trunk Roads Biodiversity Action Plan, the **Dumfries and Galloway Roadside Biodiversity Action Plan** aims to maximise the biodiversity of the roadside verge without compromising road safety. Pilot projects for good-practice management of the region's roadsides are now being set up.

There are approximately 4000km of roadside verge in Dumfries and Galloway, along urban and rural routes. This offers huge potential for the maintenance and enhancement of biodiversity, providing corridors through a variety of habitats and a refuge for wildlife. The Plan:

- Identifies the wildlife value of verges for key species and sites of known importance.
- Highlights factors affecting the habitat or species and lists opportunities for action.
- Assesses specific impacts e.g pollution and maintenance operations and lists potential actions.
- Develops case studies to identify and balance biodiversity and safety issues in particular locations.
- Develops good management guidelines.

'Conservation Verges' are being marked with a brand new sign, incorporating the biodiversity logo. This was launched with TV and press coverage in September 2000. Each verge has a management plan and is logged in the road's gazetteer so that any works take account of its conservation needs.

'Take a Drive on the Wildside' has been placed in all local libraries and planning offices to inform people of the initiative and encourage them to nominate Conservation Verges.

One of the Conservation Verges is the only known inland site for the narrow Five-spot burnet moth in Scotland. Management includes scrub clearance and cutting to maintain and enhance the moth's food plants – Meadow vetchling, Red clover.

12.8 In Scotland the Ministerial Group on Sustainable Scotland agreed that improving biodiversity should form an important part of Scotland's approach to sustainable development. The Group therefore endorsed the Scotland Biodiversity Group's Ten Point Action Plan to promote biodiversity in Scotland.

³⁴ A Sustainable Wales – Learning to Live Differently. (NAW, 2000)

Agriculture

BIODIVERSITY ISSUES

- 12.9 **Biodiversity: the UK Action Plan** identified agriculture as a key determinant of biodiversity, recognising that almost 77% of the UK land surface was farmed. It acknowledged that today's countryside had been shaped and maintained largely by farming and that most semi-natural areas were managed with agriculture as a prime motive. But it stated that changes in agricultural practices had reduced the value to wildlife of many farming areas despite many farmers and landowners being very conscientious about conservation.
- 12.10 The main concerns for biodiversity associated with agriculture at that time were identified as:
- Deterioration of many semi-natural habitats as traditional forms of management were abandoned or replaced with more intensive systems;
 - Loss and fragmentation of semi-natural habitats through intensification or development;
 - Loss of important farmland features such as hedges, ponds, ancient trees and copses;
 - Deterioration in the biodiversity value of agriculturally productive land as production methods change;
 - Damage to soil, water and other ecosystems by atmospheric pollution, pesticides and fertilisers.
- 12.11 The results of Countryside Survey 2000 support some of these concerns, showing continuing trends since 1990 towards loss of plant diversity in less improved grasslands, general increases in nutrient levels and decline in ecological quality of some of the extensive upland semi-natural habitats. On the other hand, some arable field boundaries in particular have increased in plant diversity and the large-scale net loss of hedgerows seems to have been halted (and possibly reversed in England and Wales). The findings on hedgerows show that management, including restoration, is crucial to prevent continuing decline of ancient hedgerows.
- 12.12 174 of the 391 published SAPs (44%) made one or more references to agriculture as a threat and an additional 89 (23%) identified it as an area where action should be taken to address concerns. This total of 263 plans (67%) is greater than for any other economic sector. The equivalent total for HAPs is 29 out of 45 (64%). This compares with only 7 HAPs and 62 SAPs that are exclusively associated with agricultural land, and indicates that the influence of agriculture goes far beyond farmed land itself. The effects of agriculture are an important factor in over 50% of the Species Action Plans in all the main taxonomic groups, especially the ants, bees and wasps (92%), birds (88%), and butterflies and moths (87%).
- 12.13 The most frequent agriculture-related problems mentioned in the Action Plans are associated with inputs of fertilisers, herbicides and pesticides or resultant eutrophication (for 95 plans), and over-, under- or inappropriate grazing (for 36 plans).

POLICY AND PROGRAMME DEVELOPMENTS

- 12.14 In the 5 years since the UK BAP was published, significant changes to agricultural policy have taken place. The broad UK consensus in favour of reform of the Common Agricultural Policy away from production support has influenced a substantial shift in Europe. Following adoption of the EU Rural Development Regulation (1257/1999), separate Rural Development Plans for England, Scotland, Wales and Northern Ireland have been accepted by the European Commission. In England an additional £1 billion over seven years is planned to expand the agri-environment and organic farming schemes. A new Hill Farm Allowance Scheme to replace the Hill Livestock Compensation Allowance will shift payments from a headage to an area basis in the uplands. The comparable scheme in Wales is Tir Mynydd. In Wales £450m will be available to support Tir Mynydd, Tir Gofal and the Organic Farming Scheme. Agri-environment schemes in Scotland will receive an extra £88m in funding through the Scotland Rural Development Plan.
- 12.15 **These changes are welcome but will take time to produce biodiversity improvements and will still cover a relatively small proportion of farmland. More fundamental reform of the CAP should remain a central objective.** The results of the 1999 breeding bird survey published in November 2000 indicated that the six red-listed species which are continuing to decline are all affected by agricultural practices (Grey Partridge, Bullfinch, Corn Bunting, Turtle Dove, Skylark and Linnet). On the other hand, average populations of wild birds in the UK and populations of farmland and woodland birds in particular increased in 1999, the first annual increase on the Government's headline indicator since 1995. Despite the fact that the upturn is thought to be mostly due to the mild weather in the 1998/9 winter, this is welcome news. **We welcome the fact that MAFF has adopted the need to reverse the downward trend in farmland birds as a Public Service Agreement target.**

PROGRESS WITH HAPS AND SAPS

- 12.16 There has been significant action taken under the relevant plans and some encouraging success stories. In total, the plans contain over 550 actions directly relating to agriculture. Lead Partners reported on 466 of these, and 58% were showing progress. Particularly good progress had been made in implementing the agriculture-related actions of the HAPs: 46 of 48 actions from 16 HAPs were progressing. There had also been good progress in establishing best farming practice (such as adjusting the timing of farming activities to reduce their impact) and generally integrating conservation-friendly approaches into farming. From the evidence available it may be concluded that the species which are widely distributed through the landscape (and hence affected more indirectly by agricultural practices) will be likely to recover more as a result of broader shifts in policy, rather than specific conservation action in a restricted area.



Progress has been made against all the actions in the Cereal Field Margins and Field Cricket action plans.



- 12.17 Within the agriculture sector the largest number of BAP actions relate to the design and implementation of agri-environment schemes. While Lead Partners highlighted the important benefits that have resulted from recent developments in these schemes, they were most commonly cited as an area where further action was needed. The voluntary nature of agri-environment schemes was particularly mentioned, e.g.:

'As the schemes are voluntary, the level of uptake to address the issues associated with chalk rivers cannot be guaranteed. Consequently there is a need to identify additional mechanisms to ensure the adoption of best practice by farmers is more attractive'.

Chalk Rivers report

Targeting farmland biodiversity

English Nature has forged a closer relationship with the Farming and Wildlife Advisory Group (FWAG) to engage farmers more directly in biodiversity action.

EN has made a secondment to FWAG's Director England post and increased funding for the development of Farm Biodiversity Action Plans.

Developing Farm BAPs is supported by producer groups as well as funding from Sainsbury's for advice to their suppliers.

Farm BAPs are tailored to individual farms, taking account of their position in the local landscape and targeted to selected priority species and habitats which are characteristic of the local biodiversity.

A simple monitoring scheme is being developed as part of the project.

- 12.18 Tir Gofal is the all-Wales Agri-Environment scheme delivered on behalf of the National Assembly for Wales by CCW in partnership with the Farming and Rural Conservation Agency and the Snowdonia National Park Authority. Tir Gofal is the first country-wide agri-environment scheme to have the delivery of BAP targets as an integral objective and it incorporates management prescriptions covering all 24 land-based priority habitat types occurring within Wales. CCW is now concluding agreements on the first tranche of Tir Gofal applications and expects over 500 to be completed shortly. Analysis of these shows that the scheme is making a significant contribution towards meeting UKBAP targets, with 33,000 ha of land brought into conservation management (including approximately 6,200 ha of upland heathland, 2,100 ha of broadleaved woodland, 130 ha of saltmarsh and 350 ha of coastal and floodplain grazing marsh).
- 12.19 The Rural Stewardship Scheme (RSS) in Scotland allocates support according to BAP species and habitat priorities. And the fundamental relationship between LBAP priorities and delivery of agri-environment schemes in Scotland has led to the development of a system of ranking applications to the RSS. The system is based on individual LBAP lists of 30 habitats and species and rewards those farmers whose land management benefits national and local priorities.
- 12.20 Whilst the increased funding for agri-environment schemes will mean that more can be done, the contribution they make to BAP targets needs to be more fully understood. One of the biggest problems in assessing the extent to which contributions to targets have been achieved lies in correlating the area of BAP habitat with the areas covered by the schemes in England. This can be done for some habitats where inventories have been made (e.g. coastal grazing marsh) but it should become more comprehensive as the agri-environment schemes are re-designed over the coming months and reviewed in 2003. It is also essential that the delivery agencies give good advice to farmers and land managers about the biodiversity benefits of scheme options so that the available opportunities are maximised. **In these ways it should be possible to develop a closer correlation between BAP objectives and delivery of agri-environment payments.**
- 12.21 Grazing intensity was identified as a highly significant issue by Lead Partners although they reported success in addressing the grazing issue in some plans. Getting the grazing levels right for all the associated habitats and species can be complex. **The change to area-based payments under the HFA scheme is a move in the right direction. But framing the scheme to ensure that there are biodiversity benefits will be important.**
- 12.22 The majority of livestock subsidies continue to be paid on a headage basis and therefore offer no incentive for reductions in stocking densities. A switch to area payments for these subsidies looks unlikely in the short term. **Agri-environment schemes will remain important to securing appropriate grazing levels in many parts of the uplands.**

Corncrake targets exceeded

The Corncrake is Scotland's only globally threatened bird, which underwent a serious decline in the UK during the 20th century. Numbers reached their low point in 1993 when there were only 479 calling males left in Britain, over 90% of which remained in the core areas of the Hebrides and Orkney.

In the 1980s research by RSPB, supported by NCC, focused on ways of addressing the serious decline in Corncrakes. Five key habitat factors of vegetation cover and grassland management were identified which would help the Corncrake to recover in the UK. The UK BAP for Corncrake identified these key actions.

A partnership between RSPB, SNH and the Scottish Crofters Union began the Corncrake Initiative in 1992 to help crofters and farmers undertake grassland management for Corncrakes.

Government-sponsored schemes have also been initiated in ESAs, the CPS and since 1999, the Corncrake SPA management scheme.

Over 10% of the Corncrake population is held on RSPB reserves and RSPB has also been managing them for Corncrake and through management agreements with crofters.

The Corncrake is now making a slow but steady recovery after nearly a century of decline. By 2000, the BAP target number of 600 calling males in the UK had been exceeded and reached 622.

The continuing recovery of the Corncrake in Britain is still fragile, as is the crofting and beef economy of the Highlands and Islands to which it is strongly linked.

Continuing support for schemes within the core areas and outside still needs to be secured and vigilance maintained to ensure that this conservation success story continues in the long term.

- 12.23 The effects of agricultural inputs on biodiversity remain a significant issue and a recurring theme from Lead Partners. But there is a lack of substantiated information about the effects of pesticides on biodiversity (except in the case of the Grey Partridge). MAFF have recently commissioned further research into the role of the indirect effects of pesticides in the declines of farmland birds, and an assessment of whether the current regulatory procedure is adequate to protect against these effects.
- 12.24 Meanwhile, following the Chancellor of the Exchequer's proposition that a pesticides tax could in conjunction with other measures be a useful tool in addressing the environmental impacts of pesticide use, the Government has held a consultation on the Crop Protection Association's proposals for achieving this aim on a voluntary basis. Further discussions between the Government and the agrochemicals industry have led to the submission of



The skylark is one of six species affected by agricultural practices which are still declining.

revised proposals. We believe the aim should be to develop an agreed understanding of the implications for biodiversity of the use of pesticides and to develop an approach, supported by the agro-chemicals industry, which combines appropriate regulatory controls with voluntary self-regulation and application of best practice.



Continued training and certification of all pesticide users and advisers and the widespread adoption of farm pesticide management plans is essential.

Water and wetland management

BIODIVERSITY ISSUES

- 12.25 The UK BAP identified the use of fresh water for domestic, agricultural and industrial practices as a major factor that can affect biodiversity. At that time, in 1994, and again when the Steering Group Report was published a year later, a significant concern was the drying out of headwater streams and some wetlands in summer and autumn, owing to prolonged periods of low rainfall, compounded by abstraction of water from rivers and groundwaters. Now, after the wettest autumn in 230 years and the most widespread and serious floods in some parts of the country since 1947, the problems of drought seem like a distant memory. These extreme climatic fluctuations, and society's interaction with the consequences, serve to demonstrate the political and social imperative of managing water sustainably. It must be sustainable not only in terms of continuity of supply and attenuation of flooding for public safety but also for maintenance of the species and habitats which depend on it.
- 12.26 The Ramsar principle of 'wise use' aims to address these problems and help to tackle the other freshwater-related issues identified by the UK BAP, such as point and diffuse source pollution and over-engineered water courses. The UK has been a strong supporter of the Ramsar Convention and is firmly committed to the wise use principle. The UK targets articulated for the Ramsar Strategic Plan³⁵ set out clearly the UK's contribution towards achieving wise use, raising awareness of wetland values and functions and for the conservation of Ramsar sites.

³⁵ UK Targets for the Ramsar Strategic Plan 1997-2002 (DETR 1996)

INFORMATION FROM HAPS AND SAPS

- 12.27 Some 102 of the 391 SAPs are directly associated with freshwater wetland habitats. Furthermore, a total of 139 SAPs (35%) make one or more references to water-related issues as a threat, or an area where action should be taken to address concerns. For habitats, 9 HAPs are concerned with the conservation of freshwater and wetlands and a further 19 are marine or coastal or brackish (many of which were not published until October 1999). The taxonomic groups most affected by freshwater issues are the freshwater fish, amphibians, molluscs and crustaceans (which together are represented by 24 plans), although members of all higher groups are affected, including 53% of the beetles.
- 12.28 Across all plans, the most frequently mentioned threats to freshwater and wetland habitats and species are pollution and eutrophication (83 plans), drainage, (43 plans) and water abstraction (41 plans). These are also the areas of the greatest action. Although at this early stage of the UK BAP, few of the relevant actions have been completed, the Lead Partners reported progress towards some 57% of 66 actions aiming to improve water quality and 56% of 75 actions aiming to reduce drainage or reduce abstraction levels. In their comments Lead Partners emphasise the importance of Water Level Management Plans, and the need for an inclusive water-catchment approach for the successful conservation of freshwater species and habitats. They also particularly highlight the importance of developing and implementing Local Environment Agency Plans.



The otter has recovered from its all-time low population levels in the 1970s. Improved water quality and conservation action means in some areas otters may be reaching their breeding capacity.

- 12.29 There was insufficient information for Lead Partners to be able to report the biological status of any of the wetland or freshwater HAPs, with the exception of reedbeds (which are showing signs of recovery). However, Countryside Survey 2000 reveals some improvements in the broad habitats of rivers and streams, and standing waters. For standing waters, there was a small but significant (6%) net increase in the number of lowland ponds between 1990 and 1998 in England, Wales and Scotland, reversing the net losses observed in 1980s. This result does not however mean that there have been no losses of existing ponds of high conservation value (e.g. those supporting the Great Crested Newt, *Triturus cristatus*) or that the new ponds created are necessarily compensating for losses in biodiversity terms.

RELATED FINDINGS FROM CS2000

- 12.30 CS2000 found significant improvements in the biological quality of rivers and streams. This has coincided with reduced inputs of pollutants resulting from tighter regulation and improved enforcement. Other studies by the Environment Agency and the Scottish Environment Protection Agency³⁶ support these findings and therefore there is some evidence to suggest that both the area and quality of wetland habitats are improving.

Eutrophication in Northern Ireland

In Northern Ireland, despite recent progress in reducing point sources of phosphorus from industry and from sewerage systems, eutrophication is still increasing and affects priority habitats like Eutrophic standing waters. To address this problem a number of initiatives have been undertaken. These have included the development of the cross-border Erne Catchment Nutrient Management Scheme, ESA Schemes and the publication of Environment and Heritage Service's "Eutrophication in Northern Ireland's Waters: Proposals for a Strategy to Control Nutrient Enrichment" (September 1999).

- 12.31 Significant changes in the ecological composition of streamside vegetation have also been detected through CS2000. As with the rest of the landscape, there has been an increase in tall-growing common grasses and herbs and an increase in woody species; shorter herbs have been shaded out as a result. These changes are thought to result from low intervention management on stream sides and adjacent lands, which may be beneficial for birds and small mammals and the biological condition of the water courses. On the other hand there have been declines in plants typical of infertile grasslands, which may be a consequence of increases in nutrients and the growth of taller vegetation. These contradictory trends from CS2000 suggest that the management strategies for streamside landscapes may need to be further developed so as to optimise benefits for a range of species and habitats.

POLICY AND PROGRAMME DEVELOPMENTS

- 12.32 The three statutory Environment Agencies responsible for England and Wales, Scotland and Northern Ireland are, together with the statutory nature conservation agencies, the water companies and the relevant agriculture departments, the most significant players for protecting and enhancing biodiversity in water and wetland habitats.
- 12.33 Flood and coastal defence operating authorities are responsible for preparing Water Level Management Plans (WLMPs) for over 500 wetland SSSIs. Plans have been completed for more than half of these sites to date. WLMPs provide a means by which the water level requirements for a range of activities, including agriculture, flood defence and conservation, can be balanced and integrated. Guidance on how to take biodiversity into account when preparing or revising WLMPs was issued in 1999³⁷ and additional resources have been provided. Some WLMPs have now been modified to benefit biodiversity. We look forward to further revisions at least to achieve MAFF's high-level target for sites of European importance and SSSIs. And at a larger scale, the development of the concept of Catchment Flood Management Plans in England and Wales to help deliver sustainable flood defence and improve biodiversity at the ecosystem level is welcome.

³⁶ River Habitat Quality – the physical character of rivers and streams in the UK and the Isle of Man (1998)

³⁷ Guidance on preparing or revising WLMPs (MAFF, 1999)

- 12.34 In July 2000 the Environment Agency published a report³⁸ giving an account of the steps taken in integrating biodiversity into their policy and regulatory functions and as Lead Partner or Contact Point for a total of 44 individual Action Plans. The report stressed the importance of policy developments in influencing biodiversity conservation. Principal among these has been the 5 yearly Periodic Review of Water Company Prices (Asset Management Plan round 3 – AMP3), which now means that, by 2005 water companies in England and Wales must have carried out remedial work at important wetland sites, such as SSSIs, SPAs, SACs and Ramsar sites, to ensure they are protected against the damaging effects of abstraction and pollution from sewage treatment works.

Freshwater pearl mussel *Margaritifera margaritifera*

There is now relatively good information on the status of the Freshwater pearl mussel in UK Rivers.

The survey information has demonstrated that the species has declined substantially from its historical distribution with water quality and destructive pearl fishing identified as a primary cause of the decline. Consequently it was given full legal protection in 1998.

The decline in salmon stocks is also believed to have had a significant impact on this species as salmonids are hosts to its parasitic larval stage. This association is under investigation by the University of Aberdeen as part of an EU LIFE-funded research project. Captive breeding techniques, for use in possible re-introductions, are also being developed in Scotland and elsewhere.

At this stage of the UK BAP, the status of Freshwater pearl mussel remains poor (although there are a few relatively good quality localised populations) and the low salmonid populations means that the ability of the overall population to recover is still uncertain.

- 12.35 Through the £7.5bn AMP3 environmental improvement programme, and partly as a result of the requirements of the European Urban Waste Water Treatment Directive, there will be strict standards for the treatment of sewage – such as the requirement for phosphate stripping – which will significantly reduce eutrophication, modernise combined stormwater and sewage outfalls and rectify low-flow problems in rivers. A major programme to review those Environment Agency authorisations (for discharges, air emissions and water abstractions) which are likely to have a significant effect on Natura 2000 and Ramsar sites has also been started. This will ensure that as far as possible the risks of damage as a result of statutory consents is removed for the most sensitive wildlife sites. In Scotland the water authorities are investing £18bn over the next 2 years to meet the EU Urban Waste Water Treatment Directive. The Scottish Environment Protection Agency (SEPA) is also playing an important part in this process by advising on Natura 2000 issues affecting discharge consents. Wide-ranging consideration is also being given to the Scottish Water Authorities' overall investment needs to 2006.

³⁸ 'Focus on biodiversity: The Environment Agency's contribution to wildlife conservation' Environment Agency, July 2000

Wessex Water Biodiversity Action Plan

Now in its third year, the **Wessex Water Biodiversity Action Plan** was the first business sector initiative of its kind in the UK. It aims for tangible biodiversity improvements. There are three major components:

- **Improvements to land management on the company's own land**

An ecological database for Wessex Water sites giving rise to an alert list of the most sensitive areas for site management. The database provides input for site maintenance contracts and information for operational and engineering teams. Wessex Water has also developed a standard conservation lease to encourage wildlife organisations to take up tenancies and to improve access to management grants.

- **Mitigation of new infrastructure development**

Building wildlife into the timing and design of new development. Recently there have been modifications to the redevelopment of a service reservoir to leave a copse in situ, accommodate a badger sett and translocate and reinstate a hedgerow. And a new sewage treatment works has involved the creation of wetland habitat and waterside planting.

- **Partners Programme**

Wessex Water has funded wildlife organisations' projects to promote 12 BAP priority species and 6 priority habitats, such as:

- **Habitat management:** Somerset Wildlife Trust has monitored the progress of wildflowers growing in arable margins at Fivehead, while the RSPB has been extending the reedbed at Ham Wall.
- **Landowner liaison:** Through Wiltshire Wildlife Trust and other partners the Wessex chalk rivers project officer is working with riparian landowners to carry out small scale river restoration measures.
- **Community involvement:** Dorset Wildlife Trust has been involving local people in a range of projects.
- **Survey work:** Cambridge University has conducted a study of an important population of the Depressed river mussel in Somerset. Avon Wildlife Trust has done similar work for water voles in Avonmouth.
- **Scientific study:** Plantlife have co-ordinated a leading edge study of the genetics of the Early gentian, the species in the UK BAP that Wessex Water has championed.

12.36 In their reports Lead Partners stress the importance of Local Environment Agency Plans (LEAPs) in England and Wales. Most of the Environment Agencies' programmes are delivered locally and the LEAP is often an essential tool to combine a range of different programmes in a coherent way for a particular part of the country. **The opportunities for inter-action between LEAPs and Local Biodiversity Action Plans should be seized. LEAPs require adequate resources and can be a model for the ecosystem approach that will be required for the implementation of the European Water Framework Directive, adopted in December 2000.**

12.37 The Water Framework Directive represents a significant opportunity for helping to meet BAP targets for the water environment in the future. It aims to integrate environmental protection measures relating to rivers, lakes, estuaries and coastal waters (up to one nautical mile from land). Management Plans will be drawn up for River Basin Districts and associated coastal zones and will set out what is needed to achieve good ecological and chemical status for surface and ground waters. Work underway to gain a better understanding of the status of BAP priority habitats such as chalk rivers, mesotrophic lakes and eutrophic standing waters will be able to contribute to this process.

CONTINUING PROBLEMS FOR FRESHWATER BIODIVERSITY

- 12.38 Despite these general improvements through new policies, regulation, management, and direct conservation action, there are still risks to some BAP species with populations under severe pressure. For example the problem of invasive, alien species, such as the Mink as a threat to the water vole and the Signal crayfish as a threat to the native crayfish, can be particularly significant in the freshwater environment and require specific solutions. The greatest risks to the native White-clawed crayfish, *Austropotamobius pallipes* are competition from the introduced Signal crayfish and the associated crayfish plague, which can be spread by angling equipment. The partners in the action plan are tackling these problems directly, but have reported acute setbacks which are particularly serious in view of the vulnerability of the populations:

'Pollution incidents, particularly from sheep dip chemicals, have wiped out several populations.'

White-clawed crayfish report.



The Water Vole continues to be threatened by alien mink species.

CONCLUSIONS AND RECOMMENDATIONS

- 12.39 We are pleased that there have already been significant improvements in water quality and management through policy adjustments, investment programmes and European Directives. These trends are broadly demonstrated by the results of CS 2000 and we would expect them to continue.
- 12.40 The statutory environment agencies are to be congratulated on their work in mainstreaming biodiversity into their policies and programmes. This should be continued with greater emphasis on a catchment or ecosystem approach (e.g. through LEAPs, implementation of the EU Water Framework Directive, Water Level Management Plans and Catchment Flood Management Plans).
- 12.41 Water companies and authorities have been amongst the most prominent business partners in the UK BAP and their contribution is highly valued.

Forestry

BIODIVERSITY ISSUES

- 12.42 The UK Biodiversity Action Plan and the Steering Group Report identified four main issues for biodiversity in relation to woodlands and forests.
- Reduction in the area of ancient and semi-natural woodland, which amounts to only 1.4% of land area and is greatly fragmented.
 - Loss of biodiversity through the replacement of habitats of high wildlife value by plantations with less value.
 - Loss of biodiversity through inappropriate or insufficient woodland management.
 - Failure of woodland regeneration and impacts on woodland flora as a result of over-grazing by domestic stock and wild deer.
- 12.43 The Biodiversity Action Plan and its sister document *Sustainable Forestry: the UK Programme* set out important actions for biodiversity in forestry, including:
- Conservation restoration and appropriate management of ancient and semi-natural woodland;
 - Sensitive management of other woodlands;
 - Creating new woodlands especially in areas of low wildlife value;
 - Encouraging the use of native species of local provenance and where possible establishment through natural regeneration;
 - Promoting careful selection of seed sources to help ensure that local genotypes are conserved and that planted trees are well suited to the local environment.

POLICY AND PROGRAMME DEVELOPMENTS

- 12.44 The forestry sector has been developing nature conservation policies since the mid-1980s, before the inception of the UK BAP. In 1985 a Broadleaved Policy was introduced in order to prevent further planting of conifers to replace broadleaved woodland, to extend the area of broadleaved woodland and improve its management. A similar policy was introduced for native pinewoods in 1988. A series of environmental guidelines were developed between 1988 and 1995, including nature conservation and the management of semi-natural woodlands. In 1989 the Woodland Grant Scheme was introduced to provide incentives for private owners to carry out management in accordance with these guidelines. New targeted grants are now available for specific biodiversity benefits, such as creating new native woods and the removal of exotic species from native woodlands.
- 12.45 Following the statement of principles at the Earth Summit for the management, conservation and sustainable development of forests, and the resolutions on sustainable European forestry management and biodiversity adopted at the 1993 Helsinki Ministerial Conference, biodiversity conservation has now become one of the central aims of forestry

management in the UK. This is articulated in the Forestry Commission's UK Forestry Standard published in 1998³⁹, summarising all current guidelines and mechanisms available to deliver sustainable forestry as well as indicators to measure success. The Forestry Commission is developing a more comprehensive set of indicators of sustainable forestry and intends over the next 2 years to revise current conservation guidelines to fully incorporate UK BAP priorities.

- 12.46 The Government's QOLC indicators of sustainable development include a number which are intended to monitor progress with three main objectives: the continuing expansion of UK woodland area, the protection and expansion of ancient and semi-natural woodlands and the better management of existing woodlands. 'Quality of life Counts' records that woodland cover in the UK in the 20th Century increased from 5% to more than 10% of land cover. Indeed more recent figures from the National Inventory of Woodland and Trees show a UK total woodland cover of 11.6%. Before the 1990s, this expansion was mainly of new commercial conifer plantations. Since 1990 most of the new woodland which has been created (up to 20,000 hectares each year) has been broadleaved woodland or native pinewood.
- 12.47 The area of ancient semi-natural woodland in Britain was estimated at 316,000 hectares from inventories carried out in the 1980s. Efforts are now being made to establish up-to-date inventories and improve monitoring procedures.
- 12.48 **Over 50% of UK woodlands are probably still not managed formally in any way and increasing the area under sustainable management remains a challenge for the future.**
- 12.49 Through the 1990s many planted conifer forests have been diversified through a process of restructuring to increase the variety of tree size present and increase the areas of open ground and native broadleaved species. State forests managed by Forest Enterprise and privately owned woodland have contributed to the environmental improvement of conifer forest which should greatly increase their biodiversity value over the decades to come.

RELATED CS2000 FINDINGS

- 12.50 Countryside Survey 2000 broadly reflects the policy changes of the 1990s. The stock of the broadleaved, mixed and yew woodland broad habitat has increased by about 5% to around 1.5m hectares in 1998 and the expansion of coniferous woodland, often at the expense of other important biodiversity habitats such as heath and bog, has slowed and in places been reversed. Results of CS 2000 indicate that during the 1990s twice as much coniferous woodland was converted to broadleaved woodland as was converted in the other direction. More broadleaved woodland was also gained from previously developed land than was lost to development. However, there is evidence of widespread nutrient enrichment (probably due to external factors), which is reducing the abundance of specialist woodland plants in the longer established broadleaved woodlands.

INFORMATION FROM HAPS AND SAPS

- 12.51 The importance of woodland to biodiversity in the UK is illustrated by the fact that 118 (30%) of the published SAPs represent species which depend on our native woods for all or part of their life cycle (Source : Making the Links). These SAPs include the grouped plan for 14 tooth fungi, bringing the total number of associated species to 131. 123 SAPs

³⁹ Forestry Commission 1998 UK Forestry Standard (Forestry Commission)

(31%) make one or more references to forestry issues as a threat or an area where action should be taken either to conserve woodland species or to safeguard species potentially threatened by poor forest practice or by inappropriate forestry expansion. The equivalent figure for HAPs is 20 out of 45 (or 44%) even though only 6 HAPs are directly concerned with woodland habitats. The taxonomic groups most affected or most closely associated with native woods are the butterflies and moths (70% of species) and fungi (60%). Between 40% and 50% of birds, lower plants, mammals and other insects with SAPs also have some form of association.

Juniper: Voluntary activity is spearheading action on Juniper in Scotland. After the success of the programme of fencing and reintroduction of plants to moribund Juniper stands in south-east Scotland by Borders Forest Trust, SNH and FC are starting a sample survey of the condition of Juniper populations across the rest of Scotland and FC will be obtaining samples of seed from across the UK for a longer term analysis of genetic variation.

- 12.52 The Forestry Commission has taken the lead in co-ordinating implementation of 5 of the 6 woodland HAPs. Significant progress has been made through the joint native woodland steering groups organised at UK and country levels. These groups are models of good practice for co-ordinating relevant action for different habitat plans. Country native woodland groups oversee the implementation of native woodland targets developed by the country Biodiversity Groups and subsequently adopted in each country's Forestry Strategy. These groups are liaising with Lead Partners for other Action Plans to agree how to resolve potential conflicts between BAP priorities. **Under the forestry strategies for each country, consideration should be given to the role of forestry in taking forward wider biodiversity objectives, including the local balance between woodland expansion and restoration of open semi-natural habitats.**
- 12.53 The importance of the Woodland Grant Scheme arises time and again in the Lead Partner reports. It is perceived as the most important single mechanism for implementation of the objectives in the Action Plans, although management of the state forests by Forest Enterprise is also important.

The Woodland Grant Scheme

The WGS has established over 1000ha of new native woodland in National Parks in England alone since 1997.

A new Challenge Fund (JIGSAW) has just been introduced to encourage expansion and linkage of ancient woodland fragments in a target area in each English region.

In Scotland the new native pinewoods WGS has funded over 25,000ha of new woodland in the Highlands since 1989.

- 12.54 Most of the emphasis of implementation has been on the habitat plans. The habitat steering groups are aiming to incorporate species needs as far as possible into general HAP measures. But important measures needed for key woodland species are also being identified both in terms of management actions and research. The Forestry Commission has worked with English Nature and SAP Lead Partners in England to agree pro-active programmes for fifteen 'forestry target species'. Basic silvicultural guidance has been developed for all these to help land managers.



Native Pinewoods are showing signs of recovery.

- 12.55 Some of the species associated with woodland are also already showing signs of recovery, such as the Greater and Lesser Horseshoe bats:

‘Counts of adults or babies at all maternity roosts in England and Wales have shown increases in the last few years; no maternity sites have been lost’ (Greater Horseshoe Bat)’

- 12.56 On the other hand there remain serious reasons for concern at the continuing decline of certain BAP species in woodland habitats – for example the Red squirrel, the Pearl-bordered fritillary and the Capercaillie.

Action for the Red squirrel

The range of the Red squirrel is still contracting, mainly because of indirect competition with the greys, which are still expanding.

The Red squirrels thrive in conifer-dominated woods with little or no oak, beech or chestnut.

Red squirrels need core woodland areas of 1000s of hectares and targeted Grey squirrel control. So expansion of broadleaved woodland is incompatible with Red squirrel conservation in regions where there are Grey squirrels.

Zonation of conservation effort is necessary. The SAP Steering Group is identifying priority areas where funding of Red squirrel conservation and Grey squirrel control is needed.

Development

BIODIVERSITY ISSUES

- 12.57 The Town and Country Planning systems are crucial to biodiversity conservation, and increasingly to its enhancement. In past decades, the expansion of the built environment into areas of high value for biodiversity was seen as one of the greatest threats to wildlife. In the final years of the 20th century however, the planning system has largely succeeded in arresting development damage and encroachment of the designated nature conservation sites.

- 12.58 Countryside Survey 2000 estimates that developed land increased by about 2% (57,000 ha) in Great Britain between 1990 and 1998, largely at the expense of improved farmland and broadleaved woodland. Over the same period, significant amounts of previously developed land were restored to other habitats. For example, more broadleaved woodland was created from previously developed land than was lost to new development.
- 12.59 But development remains an important concern. As well as direct impact, significant indirect effects can arise as a result of development outside important sites (sometimes some distance away), habitat fragmentation and degradation and disturbance to sensitive species.

INFORMATION FROM HAPS AND SAPS

- 12.60 Development is identified as a threat or an area where action is required by 42 HAPs and 166 SAPs. Specific, widespread threats are mineral extraction (identified in 26 plans), coastal defence works (22 plans) road construction (15 plans) and house building (13 plans), while others include development on the coast, such as for ports, hydro-electric developments and infrastructure works.

POLICY AND PROGRAMME DEVELOPMENTS

- 12.61 The timing of the UK Biodiversity Action Plan and the coming into force of the EU Habitats Directive in 1994 have had a significant, positive impact on planning for nature conservation in the UK. The planning guidance and policy advice on nature conservation that has been produced since that time, (including PPG9 *Nature Conservation*⁴⁰ in England, NPPG 14 *Natural Heritage*⁴¹ and PAN 60 *Planning for Natural Heritage*⁴² in Scotland, Planning Guidance (Wales): *Planning Policy*⁴³ and TAN5 *Nature Conservation and Planning in Wales*⁴⁴, and PPS2 *Planning and Nature Conservation* in Northern Ireland⁴⁵ set the framework.
- 12.62 Integration of biodiversity considerations into development planning goes beyond the protection of designated sites. Arguably, for the developed nations, the challenge of sustainable development arises most pointedly with respect to urbanisation. It requires a response that is more subtle and imaginative than the simple avoidance of damage to the most important wildlife sites. The aim of the UK BAP is to conserve and enhance biodiversity wherever it occurs, and the planning system in the UK needs to be capable of taking account of biodiversity both in individual planning decisions and at a more strategic level.

40 Planning Policy Guidance Note 9 (PPG9): Nature Conservation. (HMSO, 1994)

41 Scottish Executive Development Department (1999) National Planning Policy Guideline (NPPG 14) Natural Heritage

42 Scottish Executive Development Department (2000) Planning Advice Note (PAN 60) Planning for Natural Heritage

43 Welsh Office (1996) Planning Guidance (Wales): Planning Policy

44 Welsh Office (1996) Technical Advice Note (Wales) (TAN5): Nature Conservation and Planning

45 Planning Service, Northern Ireland (1997) Planning Policy Statement (PPS2) Planning and Nature Conservation



Recent developments in Belfast Lough show how biodiversity can be integrated with industry.

Biodiversity Conservation and Housing at Jervis Lum

Jervis Lum is a typical Sheffield ancient woodland – an isolated fragment tightly defined by the green deserts of close mown grass and housing. A living text book of island biodiversity, its woodland fauna and flora is much depleted. So in the grand vision of Sheffield's local biodiversity action plan, the long-term goal is to connect Sheffield's woodland fragments back together, through street trees, via wooded back-gardens and wooded parks: the city itself as woodland.

Adjacent to the Lum is a housing estate of tower blocks, now being demolished and replaced with low rise mixed housing with gardens. The Sheffield Wildlife Trust worked with Sheffield planners and housing developers to develop a master plan that included broad sweeps of wooded green – the city forest of the future and a more pleasant place to live.

Building on the Trees of Time and Place theme, the Trust has also undertaken to deliver local provenance native trees for the housing programme, in part nurtured by local people, by employing trainees from the estate to develop a commercial tree nursery. An abandoned set of allotments is being transformed into community gardens and an attractive tree nursery. This is a gateway for community involvement in the housing regeneration programme, a training centre, an educational resource, a visitor attraction and the engine room to deliver Sheffield's woodland BAP.

Funding for the project has come from the Single Regeneration Budget, matched it is hoped by Objective 1 funding, contract income from the developers, the New Deal to help pay for the trainees and Sheffield City Council – from the Heritage Lottery Fund.

- 12.63 Revisions of planning advice to improve integration of wider biodiversity issues is currently underway (eg DETR is currently in the process of revising PPG9 for England and the Scottish Executive Development Department is considering producing further specific advice on biodiversity as part of its series of Planning Advice on Biodiversity and the Natural Heritage.)

- 12.64 In Wales, a draft planning document, 'Planning Policy Wales', was issued for consultation in February 2001. This draft contains detailed guidance on biodiversity. It stresses the important role of the planning system in promoting alternative approaches to development which can avoid or mitigate damage, create new opportunities for biodiversity or compensate for losses. It relates to the duties under the Countryside and Rights of Way Act 2000 to the purpose of conserving biodiversity. It also promotes habitat and species Action Plans and LBAPs in Wales. Following publication of the final version of 'Planning Policy Wales', Technical Advice Note 5 (TAN 5) 'Nature Conservation Planning' will be revised. A TAN on biodiversity is under consideration.
- 12.65 **We look forward to the issue of further planning guidance to improve the integration of biodiversity into the planning process and to encourage the adoption of alternative approaches to developments which can mitigate biodiversity damage, and create new biodiversity opportunities and enhancement.**
- 12.66 The enhanced profile and increased importance of nature conservation in planning has already resulted in a substantial volume of good practice guidance for planners and developers. These have been issued by a wide range of organisations, institutions and agencies, and they include *Planning for Biodiversity a Good Practice Guide*⁴⁶ by the Royal Town Planning Institute (RTPI), *Wildlife on Site – a guide for developers and planners*⁴⁷ by Babbie consultants, English Nature's *Guidelines for developers* series⁴⁸ and *Developing Naturally*⁴⁹ from the Association of Local Government Ecologists (ALGE). Good practice advice is also being produced regionally, for example, *A Biodiversity Guide for the Planning and Development Sectors in the South West* (of England)⁵⁰.

Biodiversity Awards: Quality in Planning

The West Lothian Biodiversity Action Plan was the first LBAP to be published in Scotland in 1998 and was submitted for the national Quality in Planning Award, run by the RTPI. This was the first time that a LBAP was judged in the context of a planning award. The judges recognised that LBAPs represent an innovative contribution to local planning and, thanks to their recommendation, biodiversity is now a theme in the annual RTPI awards. The Dumfries and Galloway LBAP has enjoyed a number of RTPI awards since its launch.

Needingworth Quarry is a partnership scheme with RSPB, Cambridgeshire CC and Hanson Aggregates. Winner of RTPI's Planning for Biodiversity award in 2000. It will create 40% of HAP target for reedbed and help secure habitat for bittern.

- 12.67 Connections between the BAP and planning have been made at national and regional policy levels. A further opportunity lies in securing effective links between Local Biodiversity Action Plans (LBAPs) and development plans. Examples where this has already taken place include the Northumberland Biodiversity Action Plan which contains a separate publication for developers, *Nature Conservation and Development: Guideline for Developers*, and Rhondda Cynon Taff Council in Wales which has recently adopted its

46 Royal Town Planning Institute (1999) *Planning for Biodiversity a Good Practice Guide*, RTPI, London

47 Cox, P R (1996) *Wildlife on Site – a guide for developers and planners*, Babbie Group Ltd, Reading

48 'Badgers – Guidelines for developers' (English Nature, 1995)

'Great Crested Newts – Guidelines for developers' (English Nature, 1996)

'Water voles – guidance for planners and developers' (English Nature, 1999)

49 Oxford, M. (2000) *Developing Naturally*, Association of Local Government Ecologists

50 ALGE and SW Biodiversity Partnership (2000) *A Biodiversity Guide for the Planning and Development Sectors in the South West*, RSPB, Exeter

LBAP as Supplementary Planning Guidance to its Unitary Development Plan. **The contents of Local Biodiversity Action Plans as part of Community Strategies should, we believe, increasingly become the touchstone for local planning decisions affecting biodiversity.** They should indicate, for example, the areas where habitat re-creation opportunities might be taken for national or locally important species or habitats. If the LBAP is taken into account in the local development plan, individual development decisions are more likely to have proper regard to biodiversity issues.

- 12.68 Some development continues to threaten areas of biodiversity importance and there is still much to be done in relation to biodiversity and planning, particularly in the positive biodiversity potential of development. But a great deal has been achieved since the advent of the UK BAP process, especially in the policy and good practice fields. **It is important that we continue to build on good practice and that the biodiversity and ecological expertise and understanding amongst developers and local planning authorities is reinforced.**

Coastal management

- 12.69 The coastal habitats of the UK are exceptional in Europe for their variety and extent. Actions Plans have been prepared for five priority coastal habitat types namely, Maritime cliffs and slopes, Sand dunes, Machair, Coastal vegetated shingle, and Saltmarsh. Action Plans have been prepared for a number of other habitats which are also affected by coastal issues, including Coastal and floodplain grazing marsh, Reedbeds, Saline lagoons, and Mudflats.



Sand dunes: one of 5 priority coastal habitats.



The Shore dock is a vulnerable coastal species now showing signs of recovery.

- 12.70 These nine priority habitats are of primary importance to 105 of the BAP priority species (Source: Making the links). Of these, four are vertebrates; 56 are insects; 15 are vascular plants; and 17 are non-vascular plants. There are many other priority species which use coastal habitats from time to time.

- 12.71 There is variation in the quality and completeness of baseline information about the extent of coastal habitats and how they are changing. Coastal habitats are not well represented in the CS2000 field sample. But the gaps may be filled by the Land Cover Map 2000, English Nature and the Environment Agency's joint project on the use of airborne scanning techniques to monitor the changing extent of the coastal habitats and the completion and publication of the Sand Dune Survey for Scotland.
- 12.72 The main coastal threats identified in the published plans are from building development (including coastal defence works), recreation and tourism, rising sea levels and climate change, and pollution and contamination.
- 12.73 Sea-level rise, and the related issue of coastal development and defence works are posing significant challenges for the sustainable management of coastal areas. Recent work by English Nature and the Environment Agency on the implications of strategic coastal defence plans, such as Shoreline Management Plans, has predicted how changing coastal processes, combined with human activity and development could affect habitats. The main impact predicted is the loss of habitat, due to 'coastal squeeze'. This is where fixed structures or natural topography prevent landward retreat of inter-tidal and littoral habitats or loss of other types of priority habitat, such as freshwater wetlands or saline lagoons, where retreat does take place. **The natural forces driving coastal change are very powerful and coastal managers should as far as possible seek to work with rather than against these forces. Working in partnership with land owners we should learn to accept dynamic coastlines and manage change. Significant habitat losses from coastal squeeze will need to be offset by habitat restoration or re-creation.**
- 12.74 The establishment of an umbrella group to oversee the implementation of the coastal HAPs has been successful in bringing together the relevant organisations involved in flood and coastal defence management, nature conservation and coastal zone management. Important areas of progress include the production of an integrated work plan and the breakdown of targets for re-creation of coastal habitat types at both national and regional levels. The Steering Groups recognise that action for the habitat plans should be integrated with actions for the species they support.

Living with the Sea

English Nature and the Environment Agency are working on a £1.3m LIFE/Nature funded project for Natura 2000 sites on dynamic coastlines.

It will provide a strategic framework, guidance and practical mechanisms for their long-term management and maintenance.

Coastal Habitat Management Plans (CHAMPs) will be prepared for seven areas in the south and east of England identifying potential habitat losses and re-creation and restoration possibilities.

Change will be managed on the project sites and a general approach developed for similar areas in the UK and the rest of Europe.

- 12.75 MAFF have published a high level target which aims to ensure that biodiversity is considered in all flood and coastal defence work in England and Wales and that there is no net loss of Action Plan habitats as a result of flood and coastal defence work. MAFF will also publish guidance on preparing second generation Shoreline Management Plans that will include recommendations on taking account of biodiversity. In Scotland the Forth Estuary Forum is actively considering the effects that climate change will have on sea level rise. It is studying the feasibility of developing a managed realignment of ancient mudflats and saltmarshes to protect the internationally important wetland habitats. This will

represent the largest managed retreat project in the British Isles. Making biodiversity a more important consideration in flood and coastal defence projects is undoubtedly a positive step. However, it has to be recognised that protecting people and property is a crucial role of flood defence. Whilst natural habitats can often provide sustainable natural defences, there will in certain cases continue to be stark choices between biodiversity and human needs, influenced by the broader cost/benefit analysis.

The Marine Environment

- 12.76 Our knowledge of marine species and habitats and the human impact on them is more imperfect than for wildlife on land. Furthermore, historically we have exploited the marine environment, through fishing, dumping, dredging, energy exploration, shipping and recreation with scant regard for it as an ecosystem, the more so because our understanding is incomplete. There is mounting evidence that increasing pressure from human activities has led to significant modification of some habitats and changes in the distribution of some species within UK waters.
- 12.77 Management of marine habitats will require a different approach from the ways we have learnt to protect and manage wildlife on land. Mechanisms for the control of human activity are complicated by the common ownership of the sea, by international jurisdictions over rights of passage and exploitation beyond territorial limits and by greater enforcement problems. Not least, the mobility of the marine environment makes for a more complex web of cause-and-effect of human influence.
- 12.78 The marine environment below the low water mark has therefore not been well addressed by domestic nature conservation legislation. Even the newly-enacted Countryside and Rights of Way Act 2000 barely affects the marine habitats and species, and there are still no marine SPAs under the 20-year-old EU Wild Birds Directive.
- 12.79 There have, however, been major developments in European and international marine agreements, which will begin to have a considerable influence on the management of the marine environment. For example Annex V of the OSPAR Convention on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area (N-E Atlantic) came into force in August 2000. In December 2000 OSPAR published their Quality Status Report 2000⁵¹ on the waters of the N-E Atlantic which highlighted a number of important issues, notably the impact of fisheries on the marine environment.
- 12.80 Implementation of the EU Habitats Directive has for the first time given a legislative framework for conservation of some marine habitats and species and covers SPAs as well as SACs. The development of joint schemes of management for European Marine Sites involving the relevant regulatory authorities working with the nature conservation agencies is well in hand for sites within territorial waters. This includes the collection of site-specific information on impacts from human activity and the development of better and targeted ways of managing these impacts. And the conservation agencies are now working to identify potential Natura 2000 sites beyond territorial waters, following the High Court ruling in October 1999 in the Greenpeace case which declared that the Habitats Directive applies beyond the territorial waters of Member States.

⁵¹ Quality Status Report 2000 (OSPAR, 2000)

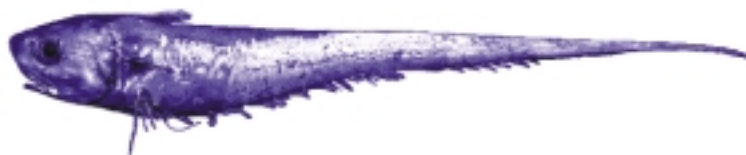
- 12.81 In 1999, the Government, recognising the problems faced by nature conservation in the marine environment, set up a Review to consider what changes might be needed to the framework for managing marine habitats and species. The Review is considering both territorial waters and the offshore seas out to the limits of the UK Continental Shelf. The Review has been assisted by a Working Group with representation from a wide range of bodies with marine interests. The Group has recently been considering interim findings. These focus on such issues as: developing strategic objectives for marine nature conservation; establishing the scientific criteria to identify marine habitats and species of conservation concern; identifying the most appropriate scale for marine nature conservation measures, (including a possible Regional Seas focus and a marine 'landscape' classification); adopting a clearer system to evaluate marine plans and projects affecting conservation interests; exploring how to provide for more effective conservation in inshore waters by making better use of existing powers, and the rationalisation of regulations. **We believe that these likely outcomes of the Working Group on the Review of Marine Conservation are areas in which firm recommendations should be adopted by Government and we consider that they would represent a significant step forward in implementation of the marine Action Plans.**



Bottlenose Dolphin.

- 12.82 The UK Biodiversity Action Plan provides a fairly comprehensive coverage of UK marine habitats, although the species coverage is limited. There are 14 marine HAPs and 19 marine SAPs, including six plans for groups of species: the Baleen whales, toothed whales, small dolphins, commercial fish, deep water fish and marine turtles. Many of the marine plans were published in October 1999 and there has therefore been little time for their implementation and few of them were included in the 1999 Lead Partner reporting round. Even for the limited number of species covered, it is clear that they are affected by similar factors to those of the habitats. Significant in implementing the marine HAPs and SAPs is the general lack of knowledge of distribution, life history and population dynamics. Filling these gaps is crucial to delivering many of the Action Plan targets (and, in many cases, ensuring that the targets are realistic). Nevertheless, the Action Plans provide an important starting point for this work, and the development of MARLin as a node of the National Biodiversity Network will increase the accessibility and application of marine biodiversity information. The existence of marine HAPs and SAPs, even for habitats and species where there are large information gaps, also provides an opportunity to raise awareness amongst users, managers and particularly the general public, who have limited knowledge of any but the most charismatic species such as whales and dolphins.

- 12.83 Arguably, the activity with perhaps the widest-ranging impact on the marine environment is fishing. Impacts range from direct effects on fish populations, impacts on other species (eg. cetaceans) as a result of bycatch and the direct impacts of fishing gear on habitats and benthic species. The OSPAR Quality Status Report 2000 found the sustainable management of fish stocks and the continued impact of some fisheries on fragile ecosystems to be the main fields where action is needed in the N-E Atlantic. Commercial fishing beyond 6 nautical miles from the UK baseline is regulated within the framework of the EU Common Fisheries Policy (CFP).



The Species Action Plan for deep-water fish such as grenadier, calls for urgent research into sustainable catch levels.

- 12.84 The European Commission has published a Communication⁵² on fisheries management and nature conservation in the marine environment identifying measures which are considered to contribute to the sustainable use of fish stocks and conservation of the marine environment. The EU Biodiversity Strategy⁵³ also set objectives for fisheries covering the conservation and sustainable use of fish stocks and feeding grounds and the reduction of impacts on non-target species and marine and coastal ecosystems. In spring 2001 the Commission is due to publish a Fisheries Biodiversity Action Plan under the overall EU Strategy and also a Green Paper with ideas for reform of the CFP by the end of 2002. There is therefore an important opportunity to influence fundamental change to the CFP towards more sustainable fisheries in European waters. **We recommend that the Government should take every opportunity to influence the adaptation of the Common Fisheries Policy towards more sustainable practices in the light of the substantial evidence of damage to marine biodiversity caused by fisheries.**
- 12.85 **In particular the Government's declared objective of prioritising integration of environmental objectives in the revision of the CFP in 2002 in pursuit of the Cardiff integration process is very important. The Government should consider supporting the Swedish Presidency's proposal that: "A further objective [of the CFP] should be the adoption of an ecosystem approach in order to ensure sustainable sound and healthy ecosystems in Community waters, by restoring and/or maintaining their characteristic structure and function, productivity and biological diversity through the application of a more ecosystem based management."**

⁵² CEC 1999 Fisheries management and nature conservation in the marine environment. (COM(1999)363)

⁵³ European Community Biodiversity Strategy (COM(1998)42)