

**Implementation of the Ramsar Convention in general, and of the Ramsar Strategic Plan 1997-2002 in particular, during the period since the National Report prepared in 1995 for Ramsar CoP6 and 30 June 1998**

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## **Foreword by the Rt Hon Michael Meacher MP, Minister for the Environment**

The UK has been a member of the Ramsar family for over 20 years and remains deeply committed to its principles. We have signalled this through the designation of Ramsar sites for inclusion on the list of wetlands of international importance, and have now listed over 120 sites. But we also recognise the need to ensure that commitment to wise use of wetlands underpins all of the actions we take. In 1998 we published actions and targets for the implementation of the Ramsar Strategic Plan in the United Kingdom. We will monitor progress carefully.

The next Ramsar Conference will address particularly relevant and important issues relating to the conservation and sustainable use of wetlands. In the UK we are in the process of taking forward and developing a comprehensive sustainable development strategy. We have consulted widely and received a huge number of responses, from individuals as well as organisations. I have been encouraged by the degree of interest shown by local communities, and by their enthusiasm.

We have lost too many of our precious places, and the wetland resource is still to some extent undervalued. I have recently visited one of our few remaining expanses of lowland bog and experienced its extraordinary beauty and the wealth of wildlife it supports. I also saw at first hand some of the positive restoration which is being undertaken. But there is a lot more to learn.

In reporting on the activities we have undertaken in the UK in respect of conservation and wise use of wetlands, I hope we can contribute to the sum of knowledge, and learn further from others, through the exchange of information. With increasing pressure on wetlands, and on water resources more generally, Ramsar will have an important role to play in the next century. The United Kingdom will continue to demonstrate its support for the Convention and for its activities and programmes. We look forward to playing a full part, in Costa Rica in 1999 and in the future.

Michael Meacher  
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## Executive summary

This document is the United Kingdom's National Report to the 7<sup>th</sup> meeting of the Conference of the Contracting Parties (COP) to the Convention on Wetlands of International Importance to be held in Costa Rica in May 1999. It contains information about the UK's efforts to implement the Convention for the period since the 6<sup>th</sup> Conference of the Contracting Parties in Brisbane in 1996 to 31 August 1998. It also summarises UK actions under each of the eight General Objectives of the Ramsar Strategic Plan as adopted at the COP6 in 1996. This report focuses on the General Objectives, emphasising key themes of: application of the Wise Use Guidelines for wetlands; restoration of wetland habitats; raising public awareness and promoting environmental education; ensuring co-operation between sectors; status of management planning and supporting international assistance.

The report is based on information drawn from a wide range of organisations: territorial Government Departments of England, Scotland, Wales and Northern Ireland; statutory agencies, and non-governmental organisations. It provides information about UK initiatives and best practice in relation to the conservation and wise use of wetlands, in the context of the General Objectives of the Strategic Plan.

A number of important developments have occurred in the UK since the last Conference of the Contracting Parties. These include:

- Establishment of a formal protocol between the UK and the Republic of Ireland ensuring common monitoring standards for waterbirds in the two countries.
- Publication on World Wetlands Day (February 1998) of the UK targets for the Ramsar Strategic Plan, 1997-2002. The document sets out specific targets to implement each of the General Objectives. In the UK progress towards the targets will be monitored through the UK Ramsar Committee, known as the Joint Working Party.
- Publication of a ten point plan to secure a water efficient, environmentally sustainable water industry, including a full review of the abstraction licensing system.
- Production of a wealth of best practice materials to promote wetlands conservation and the application of the Wise Use Guidelines from a broad cross section of organisations involved in conservation.
- Further action to take forward publication of the UK Biodiversity Steering Group Report published in 1995 which adopted a target-based approach for focusing action on priority habitats and species. To date over 172 Species Action Plans and 14 Habitat Action Plans have been published. A further 200 Species Action Plans and 17 Habitat Action Plans will be published in 1998 and early 1999. The Habitat Action Plans are particularly relevant to the Operational Objective of the Strategic Plan "to restore wetland habitats" since they establish targets for habitat maintenance, restoration or recreation.
- Development of strategies to raise public awareness of wetlands. The Joint Working Party intends also to establish an Education and Public Awareness subgroup to identify programmes for promoting public participation in the UK.
- Establishment of a UK target to complete management plans for all listed Ramsar sites by the end of 2001. These plans will be reviewed every five years to consider how objectives are being achieved and to ensure participation of all partners in plan implementation.
- Listing of 36 Ramsar sites since June 1995, bringing the UK total of listed sites to 125 covering 517,340 hectares. The UK expects to list further sites, particularly in the Overseas Territories in the near future.
- Continued funding by the UK Government of projects through the Darwin Initiative for the Survival of Species. Currently two wetland projects are in receipt of funding, in Malaysia and Madagascar, to promote sustainable management and raise local awareness.

# 1. To progress towards universal membership of the Convention

## 1.1 International co-operative working

The UK has been a strong supporter of the Ramsar Convention and is firmly committed to the principle of wise use of wetlands. As a global Convention the UK supports and promotes relevant activities with a number of countries, including promotion of the benefits of accession and the subsequent listing of sites. These activities are further described in this section. Additionally, the UK is developing guidance on management planning and methods for monitoring the condition of sites and the effectiveness of management measures, and guidance on the wise use of wetlands. Opportunities for raising public awareness and developing the educational, scientific and technical capacity of organisations and institutes that make a contribution to the wise use of wetlands are also being explored. Guidance from these programmes, which are described more fully in other sections of this report, will be widely disseminated both in the UK and internationally.

### *Ireland*

The UK Government promotes and maintains regular contact with the Irish Republic through a number of formal and informal mechanisms. The International Designations Group (IDG) meets twice a year to exchange information relating to nature conservation activities, particularly on designated sites. Members represent the Environment and Heritage Service (Northern Ireland), Dúchas-National Parks and Wildlife Service (Ireland), Joint Nature Conservation Committee (JNCC) and the Department of Environment, Transport and the Regions (DETR). In addition, a sub-committee on biological recording (SCoBR) convenes biannually and reports to the IDG. Members of the IDG are exploring opportunities to increase co-operative working and to pool information to aid the production of site documentation for transboundary sites (see sections 6.7 and 7.1).

There has been a long tradition of joint UK and Ireland monitoring for some wildlife. The last national report indicated proposals for the UK and Irish Wetland Bird Surveys to work more closely together. In early 1998 a formal Protocol was agreed and signed between UK Wetland Bird Survey (WeBS) and Irish Wetland Bird Survey (I-WeBS). This protocol ensures that waterbird monitoring in the two countries will be undertaken on the same count dates and using identical data standards. The agreement will facilitate data sharing and joint Britain and Ireland analyses which are encouraged. In formalising current co-operative arrangements the Protocol is a major step forward (see section 7.1 and section 7.4).

### *Overseas Territories*

The Foreign and Commonwealth Office (FCO) and DETR are working co-operatively to encourage the Overseas Territories to implement their obligations under the Convention and nominate new Ramsar sites. An Interdepartmental Working Group on Environmental Legislation has also been set up to encourage and assist with extending environmental Conventions to the Overseas Territories (OTs) and to help with local implementation.

Extension of the UK's ratification of the Convention to cover Guernsey, Alderney, Sark and the British Indian Ocean Territory (BIOT) is imminent.

The Joint Working Party (JWP) acts as the National Ramsar Committee in the UK. JWP members are seeking to encourage non-Contracting Party states to join the Convention. In particular work with the UK Overseas Territories may promote wider membership by influencing neighbouring countries, such as Caribbean states. The UK is considering a suite of options to promote the benefits of joining the Convention, in particular, possible financial support for non-Party states to attend CoP7 and directing efforts into developing contacts to advocate accession. Representatives from the British Virgin Islands, the Turks and Caicos Islands and the Cayman Islands will attend CoP7.



## 2. To achieve the wise use of wetlands by implementing and further developing the Ramsar Wise Use Guidelines

### 2.1.a UK National Wetlands Strategy

Since the UK acceded to the Convention in 1976 it has listed some 125 sites covering 517,340 hectares. Further sites are under consideration. All of the sites receive protection, through the planning system, under domestic wildlife legislation (through their notification as Sites of Special Scientific Interest, [SSSIs] or Areas of Special Scientific Interest, [ASSIs]), and through other regulatory systems addressing water, soil and air quality (see section 2.5).

On World Wetlands Day 1998 the UK published targets for the Ramsar Strategic Plan with the aim to set further goals, over the period to 2002. The UK targets document is our initial response to the Ramsar Strategic Plan 1997-2002. The UK targets identify a number of specific actions which underpin the General and Operational Objectives agreed in Brisbane in 1996. Activities to achieve the UK targets are primarily carried out by the range of organisations represented on the UK's National Ramsar Committee known as the Joint Working Party (JWP). The active involvement of other participants is being sought. The JWP will monitor and evaluate progress towards achieving the targets and can make recommendations to Government. As part of the evaluation process further amendments or additions to the targets may be identified.

A wide range of strategies, policies and plans are used to deliver objectives relating to the conservation and wise use of wetlands alongside, and in combination with, the achievement of other key goals such as promoting wider public participation. Through this framework we are securing significant progress with the implementation of the Ramsar Convention in the UK and Overseas Territories.

The Government is committed to the aim of sustainable development through policies based on the objectives of social progress, environmental protection, prudent use of natural resources, and economic growth and employment. Within this framework, we ensure protection of things that people need or value, such as wildlife and landscape, in a way which reflects all of the objectives of sustainable development. In 1994 the UK published its response to sustainable development, a commitment made at the Earth Summit of June 1992, in *Sustainable Development: The UK Strategy* (Cm 2426).

The UK safeguards wetlands through a combination of site-based and policy-based mechanisms. These include:

- the protection of significant areas of wetlands throughout the UK within 6,385 SSSIs in Great Britain and 145 ASSIs in Northern Ireland;
- the protection of certain wetland fauna and flora (together with other species) under the Schedules of the 1981 Wildlife and Countryside Act and the 1985 Wildlife (Northern Ireland) Order;
- the encouragement of environmentally friendly farming and land-use within 43 Environmentally Sensitive Areas (ESAs), many of which contain significant tracts of wetland;
- implementation of the EC Habitats Directive through the Conservation (Natural Habitats, &c.) Regulations 1994, the Conservation (Natural Habitats, &c.) (Northern Ireland) Regulations 1995 and Scottish Circular No. 6/1995, which gives additional protection to those Ramsar sites which are also candidate Special Areas for Conservation (SACs) or classified Special Protection Areas for birds (SPAs);
- the UK Biodiversity Action Plan (1994), involving action on a wide range of habitats and species of wetland importance and exchange of data on these (Appendix 1);
- progress towards integrated management plans for wetland units, including Local Environment Agency Plans (LEAP) and Water Level Management Plans.

A principal feature of the UK approach to conservation and wise use is the extent to which it relies on achieving objectives through partnership, albeit with support from appropriate regulatory frameworks. Our objectives and policies in relation to wetlands and water resources also go beyond the identification of key sites.

Implementation of Estuary Management Plans, Shoreline Management Plans, Local Environmental Agency Plans, and Water Level Management Plans enables us to look holistically at effective management of wetlands.

The Government has also set out a ten point plan for a world class, water-efficient and environmentally sustainable water industry. Actions under this plan include setting challenging targets for reducing leakage from water mains, and for measures to increase the efficiency of water use by consumers, thereby keeping the need for water abstraction in check. Proposals for changing the water abstraction licensing system in England and Wales have also been drawn up under this plan. These would provide even greater protection for the water environment, whilst ensuring fair and flexible access to water resources.

In 1996 the Government published *Water Resources and Supply: Agenda for Action*, setting out a long-term strategy for managing water resources following a considerable period of drought in 1995. The paper identifies 32 actions for Government, Environment Agency (EA), Office of Water Services (OFWAT), Drinking Water Inspectorate (DWI), water companies, manufacturers of water-using equipment and water consumers. The

strategy provides a comprehensive series of actions to ensure that future demand for water resources is planned effectively, and supplied in a sustainable way.

Most of the OTs, which included Hong Kong until July 1997, have been included in the UK's ratification of the Ramsar Convention, but only two of these have listed sites, North, Middle and East Caicos Islands (Turks & Caicos) and Booby Pond and Rookery (Little Cayman, Cayman Islands). Government Departments are actively seeking to encourage the relevant authorities to put in place appropriate legislation and also to list sites (see section 1.1).

### **2.1.b Assessment of adoption**

The JWP is a cross-sectoral group with representation from the territorial Government Departments of England, Scotland, Wales and Northern Ireland, their respective nature conservation agencies, and non-governmental organisations including the Royal Society for the Protection of Birds (RSPB), Wildfowl & Wetlands Trust (WWT), and Wildlife and Countryside Link (WCL). Wetlands International and the Ramsar Bureau are also members and attend when possible.

JWP member organisations have fully endorsed the UK targets document and are actively working towards the objectives identified. These include further developing the application of the Ramsar Wise Use Guidelines in the UK, and establishing wetland seminars and World Wide Web (WWW) sites to encourage greater awareness of wetlands conservation. Progress towards meeting these targets will be monitored by the JWP which meets biannually. At present a forward work plan linked to future Ramsar activities such as preparation of presentations and supporting information for technical sessions at CoP7 is being developed.

For 1998 World Wetlands Day each of the JWP member organisations demonstrated their commitment to the Ramsar Convention by disseminating widely the adoption of UK targets. Environment Minister Michael Meacher launched the UK Ramsar Strategy at the WWT Wetlands Centre being built in Barnes, London, in conjunction with the designation of three additional Ramsar sites in the UK. (See section 2.3 and 4.1.)

We are presently considering the suggestion that, to assist in disseminating information relating to the implementation of the Convention at the national level, there should be a national seminar following the Conference of the Contracting Parties in 1999. This might be one means of conveying key Conference outcomes to a wide range of statutory and voluntary conservation organisations. But other means of progressing UK implementation will also be considered.

### **2.1.c Assessment of how the UK strategy relates to other agreements**

Commitments under other international Conventions can support the Ramsar Strategic Plan 1997-2002, and vice versa. The UK ratified the Convention on Biological Diversity (CBD) in June 1994 and has since demonstrated its strong commitment to the Convention's objectives. It has sought to ensure not only that in pursuing objectives for conserving biodiversity there is regard for wetlands issues, but also that there is appropriate interchange of common sources of data and expertise, and minimal duplication of effort.

After signing the Convention on Biological Diversity at the Earth Summit in Rio de Janeiro in June 1992 the UK went on to develop and publish in 1994 its own Biodiversity Action Plan. The UK Biodiversity Action Plan set out 59 strategic objectives, known as the 59 Steps. At the launch of the Government's *Biodiversity: the UK Action Plan* in January 1994, the Prime Minister announced that a Biodiversity Steering Group would be established, with representatives drawn from key sectors and chaired by DETR, which would oversee the following tasks:

- developing costed targets for priority species and habitats;
- suggesting ways of improving the accessibility and co-ordination of information on biodiversity;
- recommending ways of increasing public awareness and involvement on conserving biodiversity;
- recommending ways of ensuring that commitments in the Plan were properly monitored and carried out; and
- publishing the findings before the end of 1995.

Members of the Steering Group were selected to represent central and local government; the nature conservation agencies; museums, business, farming and land management; academic bodies and voluntary nature conservation organisations.

The report of the UK Biodiversity Steering Group, published in 1995, identified some 400 priority species and 38 priority habitats, requiring urgent action, quantifiable targets for species population maintenance or expansion and for maintenance, restoration or recreation of habitats. The actions required to meet the established biological targets for each of these priority species and habitats were costed and mechanisms, involving Government, statutory and voluntary sectors put in place to ensure implementation of the plans.

In selecting species for which action plans have been developed, the Steering Group used the following criteria:

- species whose numbers or range have declined substantially in recent years; or
- species that are endemic; or

- species that are under a high degree of international threat; or
- species covered by relevant Conventions, Directives or legislation.

The action plans for priority habitats aim to cover those:

- for which the UK has international obligations (such as wetlands); or
- which are at risk such as those with a high rate of decline especially over the last 20 years, or which are rare; or
- which may be functionally critical; or
- which are important for priority species.

Following publication of the UK Biodiversity Steering Group report the UK Government published its own endorsement for the process. This included the establishment by JNCC of the Biodiversity Information Service to identify biodiversity information sources, establish standards and promote awareness.

In September 1998, DETR aims to issue a statement on the contribution the UK Biodiversity Action Plan will make to the application of the Ramsar Wise Use Guidelines in the UK. It is intended that DETR will review progress on the UK Ramsar Strategic Plan in light of the UK Biodiversity Action Plan (UK target 2.1.(b)). (See also sections 2.12 & 2.13 for further reference on BAP.)

The UK ratified the Bern Convention (on the conservation of wildlife and natural habitats) in 1982, and the Bonn Convention on migratory species of wild animals in 1985, the Agreement of the Conservation of Small Cetaceans in the Baltic and North Seas (1991) and the Agreement on the Conservation of Bats in Europe (1991). The UK became a signatory to the African-Eurasian Migratory Waterbird Agreement (AEWA) in May 1998, and is in the process of ratifying the Agreement.

## **2.2 Policy implementation and constraints encountered**

Details on recent developments within the UK and OTs in implementing the wise use of wetlands are reflected elsewhere in the report. In particular, the UK has placed considerable importance on securing a more integrated approach to policy, through cross-sectoral liaison. This has emphasised the further need to integrate environmental protection and improvement with other policies, across Government and in international fora. The integration of environmental protection with social and economic considerations is the basis of the UK's approach to sustainable development. In taking forward its Sustainable Development Strategy, the UK will be developing long-term objectives and principles, applicable across all policy areas, and shaped around a set of key indicators.

The report refers elsewhere to the importance of agricultural policy and practices for the wise use of wetlands. The impact of the EU's Common Agricultural Policy (CAP) is especially critical. The UK has introduced agri-environment measures under EC Regulation 2078/92 (and its predecessor) which have assisted in promoting the sustainable use of wetlands. Under this policy, a review and upgrading of ESAs to improve environmental delivery is underway. Wider changes to CAP are currently being considered, in the context of the European Commission's Agenda 2000.

There is also a great deal of uncertainty concerning future pressures from environmental change, including global warming. The UK will be undertaking research to review the current state of knowledge on the possible impacts of climate change, to help frame appropriate responses - for example, in relation to the effects of changing sea-levels on fragile coastlines and associated habitats.

## **2.3 Organisational responsibility for implementation**

The Department of the Environment, Transport and the Regions has the lead role in seeking to ensure that the UK fulfils its obligations under the Ramsar Convention, including liaison with the Ramsar Bureau. However, implementation of the UK targets under the Ramsar Strategic Plan (1997-2002) is undertaken by the JWP. It is therefore a shared responsibility of a range of organisations involved in the conservation and wise use of wetlands nationally and internationally. It is our aim to broaden progressively those formally involved in contributing to this initiative. See section 4.1.

## **2.4 Federal Government**

In the near future the UK will be establishing a separate Scottish Parliament which will have responsibility for nature conservation in Scotland. There will also be separate Assemblies for Wales and Northern Ireland. The National Assembly for Wales will be required to prepare a scheme setting out how it proposes, in the exercise of its functions, to promote sustainable development and consult widely with appropriate bodies. The Assembly for Wales will be the UK's first directly elected body to have such a duty.

## **2.5 Review of legislation and policies for wetlands**

On ratifying the Ramsar Convention the UK already had in place a legislative framework which sought to conserve key ecological resources. This was subsequently amended and expanded, principally through the Wildlife and Countryside Act 1981. The nature conservation agencies (English Nature [EN], Countryside Council for Wales [CCW], Scottish Natural Heritage [SNH] and in Northern Ireland the Environment and

Heritage Service [EHS]) have the primary responsibility for securing the protection and management of sites of nature conservation importance, including key wetlands. The agencies are sponsored, in England by the DETR, and in Wales, Scotland and Northern Ireland by the appropriate territorial Department - the Scottish Office (SO), the Welsh Office (WO) and the Department of Environment in Northern Ireland, DoE (NI). In England and Wales the Environment Agency, and in Scotland the Scottish Environment Protection Agency (SEPA), were established in 1996 and have a key role in relation to the supply and ecological quality of water resources, as well as the control of pollution on land and in the air, and (in England and Wales) the maintenance of flood and sea defence. In Northern Ireland these responsibilities are carried out by EHS.

The UK has taken forward obligations under EC Directives which affect the conservation and wise use of wetlands, including in particular the Directives on the Conservation of Wild Birds (79/409/EEC), and the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC), and Directives on Water Quality (including Bathing Water, and Urban Waste Water Treatment). The Conservation (Natural Habitats, &c.) Regulations 1994, Scottish Office Circular No. 6/1995 and the Conservation (Natural Habitats, &c.) (Northern Ireland) Regulations 1995 (known, and referred to throughout this document, as the Habitat Regulations) provide the framework for the conservation of sites designated or classified under the Directives. The UK's experience is acknowledged to have placed it as one of the leaders in this field, in the way that it has sought to reconcile conservation objectives with the continued private ownership and economic management of protected sites.

#### *UK Presidency of the European Union*

The protection of the environment was identified as one of the key themes of the UK Presidency of the EU and significant progress was made on a wide range of measures. This included the integration of environmental protection into other policy areas where the European Council at Cardiff welcomed the EC's strategy on this and agreed positive conclusions on future action which should help ensure an ongoing process of integration.

At the outset of our Presidency, the UK set itself an ambitious environmental agenda, with six areas identified as priorities on which we wanted to make particular progress. We have achieved objectives in every one of these areas: including adoption by the EC of a European Community Biodiversity Strategy. The Strategy defines a framework for the actions necessary to fulfil the EC's obligations under Article 6 of the CBD to develop strategies, plans or programmes for the conservation and sustainable use of biological diversity; and to integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes or policies.

The approach adopted in the Strategy is to integrate biodiversity concerns into the relevant sectoral Community policies and instruments, and setting of specific policy objectives to be achieved through Action Plans and other implementing measures. Specific mention is made in the Strategy of the outstanding importance of wetlands for the conservation and sustainable use of biodiversity. The Commission will produce its first report on the implementation of the Strategy by mid-2000, progress being reported to the Environment Council to an agreed timetable.

The UK Presidency saw new impetus given to the implementation of Natura 2000 network of protected sites across Europe under the EC Habitats and Birds Directives.

The UK Presidency and the EC jointly hosted a Conference in June 1998 with the objective of encouraging co-operation and understanding by bringing together Member States, European and national opinion leaders and representatives of local parties concerned with Natura 2000, providing a forum for the exchange of knowledge and experience, and an opportunity to discuss problems and issues encountered.

The programme included workshop sessions on the issues affecting marine, coastal and wetland Natura 2000 sites. The problems of managing certain socio-economic activities in Natura 2000 sites, such as agriculture, forestry, hunting and tourism; and the mechanisms for delivering solutions, dealing with issues of developing management plans, managing change, obtaining funding from local sources, and communicating with local parties were explored.

#### *Water resources*

In England and Wales, EA has a duty to secure the proper use of water resources and, the administration of the water abstraction licensing system is a key part of this. The most significant water abstractions from groundwater and inland surface water resources have to be licensed. In recent years new licences have been granted only after careful consideration of the availability of water resources and of the environmental effects of the proposed abstraction. However, there is a legacy of older licences, issued before 1963, which were granted without time limits and with little or no detailed assessment of environmental effects. The abstraction controls available to SEPA are currently very limited. However, the Government intends to address this during the implementation of the draft EC Directive on Water Policy. The statutory agencies have been actively seeking to redress this situation by dealing with licences which are causing damage to wetland sites.

In 1997 the Government initiated a thorough review of the water abstraction licensing system in England and Wales and a consultation document setting out proposed changes was published in June 1998. Some of the proposals would require amendment to the primary legislation, the Water Resources Act, 1991. This

acknowledges the importance of sites identified for their conservation interest, and the key role which freshwater resources can play, particularly in wetland habitats, in conserving prime sites and supporting key features. Implementation of the proposed EC Directive on Water Policy, presently under discussion within the European Community, will establish a framework for Community action in the field of integrated river basin management.

#### *Further reviews*

The Government has indicated that it proposes to consult on improvements to the protection and management of SSSIs, many of which are important wetland habitats. This consultation will help to identify administrative and procedural improvements which can be introduced quickly, as well as identifying options for revision of legislation.

DETR has also recently published a series of consultation papers on the UK Sustainable Development Strategy, including a paper on *Biodiversity and sustainability*. These invite views on sustainability with the intention to develop a strategy for the UK. See section 3.1.

## **2.6 Integration of wetlands into the national planning process**

The UK targets document (target 2.2. (a)) acknowledges the need to promote greater awareness of the Wise Use Guidelines amongst organisations responsible for the development and implementation of local and regional planning through measures such as Development Plans, Shoreline Management Plans [sponsored by the Ministry of Agriculture, Fisheries and Food (MAFF)], Water Level Management Plans, Local Environment Agency Plans and regional planning guidance.

The Habitat Regulations apply to all Natura 2000 sites which in turn is relevant to related Ramsar sites, (see section 2,1a). In accordance with the Ramsar Wise Use Guidelines, the UK also applies specific consideration to planning applications that may impact on national nature conservation sites (ASSI, MNR, NNR and SSSI), which include the most important wetlands. These and other policies are outlined in departmental Planning Policy Guidance and Statements. In addition, the Scottish Office recently issued (March 1998) a draft national Planning Policy Guidance on Natural Heritage (NPPG) containing policies designed to safeguard the natural heritage interest of wetlands.

The UK's policy for extraction of peat is contained in Minerals Planning Guidance Note 13. This contains advice relevant to the formulation of policies in development plans, the consideration of individual planning applications, and review of planning conditions attached to old minerals planning permissions. The guidance aims to protect areas of peat bogs which have nature conservation value and to limit current and future extraction to areas which had lost their nature conservation value due to earlier extraction or to other land uses such as commercial forestry. DETR has recently re-convened its Peat Working Group to consider the current position on peat extraction and the uses of alternatives with the aim of providing initial advice to Government Ministers in the Autumn of 1998.

EA incorporates conservation issues and actions in each of its Local Environment Agency Plans. EA has a programme to complete 160 plans, covering the whole of England and Wales by December 1999. The Agency is a key partner, with MAFF, in drawing up and implementing Water Level Management Plans, Coastal Zone Management Plans and Shoreline Management Plans. SEPA provides advice to local authority planning departments on individual development control activities and on Structure and Local Plans. A method for assessing river habitat quality has been developed by EA in association with SEPA and EHS. Copies of this method and results from a national baseline survey of 5,600 sites in the UK have been circulated to each Local Planning Authority. Where appropriate, advice is provided on the conservation value of riparian habitats and wetlands likely to be affected by any particular development. In Northern Ireland these duties are carried out by EHS and Department of Agriculture Northern Ireland (DANI).

At the national, regional and local level each of the nature conservation agencies (CCW, EHS, EN and SNH) work closely with their sponsoring territorial department to provide advice on planning guidance and planning policy. In addition, they also work closely with, and provide advice to, the Local Planning Authorities on policies to be included in emerging development plans at all levels.

At the local level the Forestry Commission (FC – heads up Forest Enterprise and the Forestry Authority) liaises closely with EA and SEPA, nature conservation agencies and with local authorities on forestry and wetland issues. In particular, FC provides advice to local authorities in relation to the preparation of Indicative Forestry Strategies. These Strategies consider the type and location of forests and woodlands which would be suitable, taking account of the implications for wetland and water issues.

## **2.7 Application of the Ramsar Wise Use of Wetlands Guidelines**

The principle elements of the Wise Use Guidelines are effected through UK legislation and policy, and in the practice of all organisations involved in wetlands conservation. To support the promotion and application of the Wise Use of Wetlands Guidelines in the UK JWP members regularly produce publications and interpretative materials for dissemination to a wide audience. The JWP aims to identify and disseminate information on a suite

of demonstration projects which illustrate the effective application of the Guidelines, with the intention of raising awareness further at a local, national and international level.

Since the last UK National Report to the CoP a range of initiatives promoting and demonstrating the application of Wise Use Guidelines have been undertaken by all sectors involved in wetland conservation. The following selects some examples:

#### *Inland waters*

To promote and co-ordinate the principles and practice of wise use the Environment Agency, following consultation with a range of statutory and other bodies, published the document *Inter-agency Co-ordination of Wetland Management* (1996). This generated much interest in identifying means of improving co-ordination and communication between all interested parties.

EA and SEPA collaborate to produce materials illustrating a range of best practice examples in relation to the wise use of water and wetlands. Recent publications have included *A Guide to Sustainable Urban Drainage* (1997) which promotes the use of created wetlands as a beneficial form of surface water management. In addition the International Association on Water Quality (IAWQ) which EA and SEPA are members of, produced a video, *Natures Way*, to promote a variety of Best Management Practice (BMP) guides on the control of diffuse pollution of wetlands. The examples of BMP material are drawn from the United States of America, France, Sweden and the UK and are aimed at a national and international audience.

Natural Habitats Improvements Initiative is currently being developed by a partnership of organisations, SEPA, Scottish Agricultural College, Farming and Wildlife Advisory Group (FWAG) and Rhône-Poulenc Agriculture. This aims to prepare and disseminate best practice guidance material on the management of riparian zones and, ultimately other wetland and terrestrial habitats.

In 1997 EN produced *Wildlife and fresh water: an agenda for sustainable management* aimed at promoting the sustainable management of water resources in order to balance and meet a range of social, economic and environmental uses, including the protection of wildlife. This document sets out an agenda for inland freshwaters and wise use and is a part of the wider EN series of *Conserving Water for Life* publications. RSPB have launched a number of interpretative and advisory guide books during 1996-97. In particular; *Reedbed Management* (1996) for commercial and wildlife interests, *The Wet Grassland Guide* (1997) and *Good Practice Guide for Minerals Industry* (1997) providing advice on habitat creation (including wetland habitats) post-extraction activities. RSPB supports these advisory guides by running on-going training programmes for a range of organisations.

Scotland's Wild Rivers Initiative aims to promote best practice for management of watercourses in agricultural areas. The project, a partnership between SEPA, FWAG, Scottish Agricultural College and the World Wide Fund for Nature-UK (WWF), issued a pilot publication in May 1998, *Farming and Watercourse Management - a good practice handbook*. This publication is linked to a series of training days for advisory staff. Following a period of evaluation and assessment, the handbook will be produced in final form during 1999.

The WWF Scotland Wild Rivers Initiative also aims to promote the restoration of natural features to Scottish rivers by working with all organisations and individuals with an interest in riparian habitats. The project reviews current policies such as for freshwater fish or land use, to identify and promote strategies for good management practice. Information is disseminated to farming and forestry interest groups through the Wild Rivers Demonstration and Advisory Project and publication of guidebooks.

The Pond Conservation Symposium was held on 5 September 1996. The audience consisted of approximately 70 delegates drawn from the local and scientific community. Several publications have been produced as a result of the Symposium. This meeting served as an advice and training opportunity for the delegates present. The Wildlife Trusts (TWT) have established an Otters and Rivers Project with 16 separate projects around Great Britain working towards the wise use of wetlands that will benefit the otter *Lutra lutra* and a large number of other wetland wildlife. The national project was recently re-launched with funding and support from Water UK, a national body representing all UK water companies.

#### *Peatlands*

During 1997, EN and CCW jointly hosted a workshop focusing on the management of Lowland Peatlands. The meeting was based at Fenns & Whixall Moss, a component of the Midlands, Meres and Mosses Ramsar site. Plans are now in hand to publish the proceedings of the meeting, with specific sections dealing with major issues such as scrub control and hydrological management. The proceedings will be edited by a multi-agency team drawn from specialist staff in EN, CCW and SNH.

In 1996 EN and CCW published a review on the effects of burning and grazing wet heath and blanket mire. CCW have reviewed available information on blanket mire degradation and are commissioning research on recent vegetation changes on degraded blanket mires in Wales. EHS (Northern Ireland) commissioned and published research on the effects of peat extraction and afforestation on blanket mire.

The Scottish Wildlife Trust, with funding support from the EC LIFE programme, undertook a three year Raised Bog Conservation project. This combined rehabilitation of afforested bogs, survey and monitoring and dissemination of best practice advice in peatland management. The project culminated in The Peatland

Convention, an international gathering in September 1995, the proceedings of which were published in *Conserving Peatlands* (Parkyn *et al* eds. 1997). The project also published the *Bog Management Handbook* which provides best practice guidance on management and rehabilitation of lowland raised bogs. In 1997 EHS in conjunction with DANI published *Heather Moorland, Peat Cutting - reducing the damage* intended to provide advice and information about mechanical peat harvesting and how to minimise impacts. The illustrated booklet forms part of a series produced to encourage appropriate management for those owners that own moorland or cut peat.

#### *Wet woodlands*

In 1998 FC published two sources of guidance relating to wetlands: *Soil Conservation Guidelines* and a guidance note on forests and peatland habitats. The latter will concentrate on active blanket and raised bog habitats which are priority habitats under the EU Habitats Directive that have been adversely affected by commercial afforestation in the past. The *Soil Conservation Guidelines* will give guidance on ways of avoiding adverse impacts on wetland soils and ecosystems. All FC's guidance documents are produced after consultation with a wide range of relevant bodies in the forest industry and environmental sectors in order to maximise relevancy and appropriateness to the target audience.

Forest Authority (FA – implement forest policy) published a guide to the management of wet woods in 1994. In order to qualify for grant aid or felling licences from FA the management should follow this guide, as well as other FA guidelines (in particular the Forestry and Water Guidelines). Forest Enterprise (FE - the commercial forest organisation) is also expected to follow these guides on their land. Guidance on ways of creating new native wet woodland is available in FA Bulletin 112, and on desirable locations for new woods in reports by CCW, EN and SNH.

#### *Agri-environment schemes and wildlife enhancement schemes*

MAFF operates a number of agri-environment schemes in England, including the Environmentally Sensitive Area (ESA) scheme, the Countryside Stewardship Scheme (CSS) and the Habitat Scheme.

Four of the 22 ESAs, Broadland, Somerset Levels and Moors, North Kent Marshes (The Swale and Medway Estuary and Marshes) and Mid-Essex Coast contain important areas of grazing marsh. There are 41,000 hectares currently under management agreements in these areas. ESAs are reviewed every five years. As part of the review a detailed monitoring programme examines the environmental effects of ESAs on landscape, wildlife and historic features.

The Countryside Stewardship Scheme was introduced in 1991 to encourage farmers and landowners, by means of incentive payments, to manage their land in an environmentally beneficial way. Several of the CSS management prescriptions include measures to create, restore, improve and conserve waterside land and features, such as wetlands, ponds, marshes, reedbeds, ditches and water margins. A three year study is currently assessing the environmental impact of the Scheme.

The Habitat Scheme was launched in England in 1994, to create or improve a range of important wildlife habitats including saltmarsh on suitable coastal land and waterside habitats alongside designated water courses or lakes.

In Wales, Tir Cymen is a countryside stewardship scheme developed and launched by CCW in 1992. The scheme aims to combine good farming practice with the conservation of existing semi-natural habitats, including habitat improvement, expansion and landscape conservation, where possible. A total of 82,377 hectares of land on 898 farms was covered by the 10 year Tir Cymen management agreements, with monitoring at 140 farms to assess the effects on landscape and wildlife. Other agricultural schemes such as ESAs and the Moorland and Countryside Access Schemes, also apply in Wales, and soon be combined with Tir Cymen into a single agri-environment scheme, known as Tir Gofal. Subject to European Union and Parliamentary approval, this is expected to start receiving applications early in 1999. The scheme will offer ten year whole-farm agreements, comprising four elements: land management of specific habitats, creating new access routes into the countryside, capital works payments and training for farmers on the management of specific habitats. Appropriate management of wetlands, including ponds, streams and rivers and the restoration or recreation of reedbeds form part of this scheme.

In Scotland, the Targeted Inputs for a Better Rural Environment (TIBRE) project, established by SNH in June 1993, is designed to enable farmers to contribute both to the environmental sustainability of Scottish agriculture, and to its agricultural sustainability through the uptake of new technology. The project aims to reduce environmental impacts on productive areas of farms and to minimise the impact on adjacent wildlife habitats; to encourage commercial companies to speed up the development of new technology with improved environmental performance and to influence policy to foster appropriate technological innovation.

Scottish Office Agriculture, Environment and Fisheries Department (SOAEFD) currently administer a series of 10 ESA schemes throughout Scotland. These schemes involve Conservation Management Plans being agreed with some 1,650 crofters and farmers and each agreement lasts for 10 years. As at June 1998 some 8,358 hectares of wetlands received protection under these schemes and of this some 4,814 hectares were being actively managed for which farmers and crofters received annual payments totalling some £385,120.



Under the Countryside Premium Scheme (CPS) in Scotland, first opened in 1997, some 1,704 hectares of wetland are being managed in return for annual payments of £136,320 as part of five year agreements with farmers and crofters and some 118 hectares of new wetlands have been created for which annual payments of £29,500 are made. Under the ESA and CPS schemes conditions ensure that wetland management has a high prominence.

English Nature's Wildlife Enhancement Scheme supports positive site management on SSSIs by using simple agreements and standard payments for annual management and capital works. An integral part of the scheme is to promote active partnerships by linking the local knowledge and practical skills of owners and occupiers, with EN's expertise.

There are three schemes that specifically address wetlands. These are the Avon Levels and Moors, and the Rivers Lugg and Coquet. Nearly 100 agreements have been concluded with owners and occupiers at these sites to secure positive management.

#### *Other initiatives*

Lindisfarne is the site for a trial of generic guidelines for establishing management of non-hunting refuges being developed by British Association for Shooting and Conservation (BASC) and English Nature. This project involves identifying the requirements at the site of both wildfowl populations and hunters, the identification and establishment suitable refuge areas, and monitoring for the experimental period followed by an assessment against success criteria which again relate to waterfowl populations and hunting success. The whole procedure is based upon the concept of a shared resource to be managed in partnership.

## **2.8 Prevention of pollution**

In the UK the statutory responsibilities for the prevention of pollution and pollution control lie with EA in England and Wales, SEPA in Scotland, and EHS in Northern Ireland.

EA is responsible for the control of water pollution in inland and coastal waters throughout England and Wales. It regulates pollution through a system of discharge consents of which there are more than 100,000 in the UK. Since 1990 the number of recorded pollution incidents has decreased. This is closely linked to an estimated £300 million investment in waste management facilities and pollution prevention programmes.

Separate regimes cover waste water, major industrial processes and radioactive substances. The Government is currently reviewing the scope for rationalising the regulatory mechanisms to improve environmental protection and efficiency.

In June 1998 EA published a report, *The State of the Environment of England and Wales: Fresh Waters*, which addressed the stresses on fresh water resources and identified a series of priorities for action. EA recognise that tackling groundwater pollution through prevention, reducing nutrient enrichment and improving urban water quality are key objectives. EA aims to achieve these objectives through co-operative working with partner organisations, such as planning authorities, private sector and the general public. In particular EA's comprehensive monitoring network of sites at rivers, lakes, canals and estuaries will provide status information about water quality.

In 1996 SEPA published a classification of the quality of Scottish rivers, estuaries and coastal waters for which they have statutory responsibilities under the Water Resources Act 1991. As part of their Corporate Plan objectives SEPA have developed a new Scottish River Classification Scheme to classify the water quality of 50,000 km of rivers and burns (streams). The scheme combines chemical and biological assessment to determine water quality. The key outputs of the scheme will aid SEPA in the identification of poor water quality, direct improvements and to monitor progress against water quality targets.

In February 1998, the *Towards 2000: marine monitoring in the 1990s* was published. The initiative is a UK-wide scheme in marine monitoring, the National Monitoring Programme, co-ordinated by the UK Marine Pollution Monitoring Management Group (MPMMG). This report on the quality of the UK's coastal waters. The report concluded that with a few exceptions the concentrations of contaminants in water, sediments and biota around the coastline, waters comply with UK Environmental Quality Standards.

In Northern Ireland, the Water Act (Northern Ireland) 1972 requires EHS to promote the conservation of the water resources of Northern Ireland and the environmental quality of water in waterways and underground strata. EHS are also responsible for implementing the provisions of a number of EC Directives and international Conventions relating to the aquatic environment.

EHS fulfils its duties through a number of mechanisms: control of effluent discharges, pollution prevention (24 hour hotline number and investigation of pollution incidents), monitoring of water quality and the production of water quality management strategies. The *River Quality in Northern Ireland 1995* report, published in April 1997, announced the introduction and use of a new river quality classification system to assess river biological and chemical quality. The report identified a decline in chemical quality which has been evident in a number of rivers, attributed largely to excessive nutrient enrichment. To address nutrient enrichment, the Department of the Environment (NI) and DANI have jointly established a specialist group to consider eutrophication and to advise on management options to control its causes and minimise its effects.

EHS have developed water quality management strategies for the Foyle and Erne catchments and these were issued for public consultation in September 1997 and January 1998 respectively. A similar document will be issued for the Lagan catchment during 1998 following inter-Departmental consultation. To support these strategies, a Geographical Information System (GIS) is being developed which will co-ordinate access to all existing geographical and aquatic information.

#### *Oil pollution of coastal waters*

Several conservation agencies and government departments, have had recent experience of major oil pollution (Sea Empress disaster 1996) and the national guidelines for managing oil spills in coastal waters has been considerably updated, as a result.

In February 1996 the Sea Empress disaster occurred off the coast of Pembrokeshire. The oil spill, an estimated 73,000 tonnes of oil, affected approximately 200 km of the coastline of south west Wales. Several organisations were involved in the immediate aftermath of the oil spillage, providing advice on clean-up operations and organising the monitoring and collection of oiled and dead birds. In March 1996 the Secretary of State for Wales set up the Sea Empress Environmental Evaluation Committee (SEEEC) to assess the impact of the disaster through a co-ordinated monitoring programme. CCW on behalf of SEEEC have engaged in a long term monitoring programme to assess the environmental impacts of the disaster. The final SEEEC report (SEEEC 1998) was published in spring 1998, detailing its findings of the impacts of the disaster and identifying a series of recommendations.

In 1997 SNH published *Oil spills in the marine environment* which investigated the impact of oil pollution on marine and coastal waters with comprehensive information for dealing with oil. The booklet is aimed at a professionals working in marine conservation and oil related industries.

#### *Other initiatives*

The Government announced its intention to introduce legislation to prohibit the use of lead shot over wetlands with a consultation paper in the summer of 1998. In addition to supporting wise use objectives of the Ramsar Convention, this enables the UK to meet its commitment under the African-Eurasian Waterbird Agreement to endeavour to phase out the use of lead shot over wetlands by the year 2000.

68 areas covering some 600,000 hectares in England and Wales were designated as Nitrate Vulnerable Zones (NVZs) in March 1996. A further zone has now been designated in Scotland. Farmers within NVZs will be required to comply with action programme measures designed to reduce nitrate pollution by, for example, restricting the amount of nitrogen which may be applied to the land and imposing certain closed periods during which the application of nitrogen fertilisers and certain manures is prohibited. The measures will take effect in December 1998.

#### *Overseas Territories*

The British Virgin Islands Government has taken steps to address the waste water and water quality situation at Cane Garden Bay, Tortola. A new sewerage treatment plant has been in operation since March 1998.

Consideration is now being given to the collection and treatment of wastewater discharges in the densely populated areas of Road Town, East End/Long Look and Virgin Gorda.

## **2.9 Assessment of wetland economic valuation techniques in planning**

In 1996 the Government published a *Indicators of Sustainable Development for the United Kingdom*, following commitments made in its UK Sustainable Development Strategy of 1994. The document reports the work to develop sustainable indicators to describe development and to prompt discussion about how to measure sustainable development. The indicators are quantifiable to provide meaningful information about change over time and a broad picture of our development, such as the level of employment or the rate of inflation over time etc.

Indicators have been prepared for a number of areas relating to wetlands: land use, water resources, acid deposition, freshwater quality and land cover and landscape. Each set of indicators are intended to be simple, measurable and capable of demonstrating trends.

A range of techniques is available which can be used to value the non marketed benefits which wetlands provide. These are discussed and summarised, for instance, in the 1991 publication by DETR *Policy Appraisal and the Environment*. They include market based approaches such as the use of replacement costs or the dose- response approach; estimates which use the travel costs visitors are willing to pay to visit wetland sites; house price based estimates which would be based on the property value of housing close to wetlands as compared with similar housing elsewhere; and survey based approaches where people are asked a series of questions to determine their willingness to pay for specific environmental benefits.

In 1997 the UK contributed to the Ramsar Bureau's production of a guidebook for policy makers and planners on the economic valuation of wetlands. Valuation work has been undertaken by the University of East Anglia for the Broads Authority.

## 2.10 Environmental Impact Assessments for wetlands

The environmental sensitivity of wetland sites is specifically recognised in the UK's implementation of the EIA Directive (85/337/EEC). Alongside the various implementing regulations the Government has issued formal guidance to planning authorities that the environmental effects of any proposed development either in or close to a Special Protection Area, Ramsar site or Special Area of Conservation should be subject to the most rigorous examination. While each case will be judged on its merits, EIA will normally be required for certain developments wherever a Ramsar site could be affected.

The UK Government has recently updated its policy guidance on 'Policy Appraisal and the Environment'. Further technical guidance should be available towards the end of 1998 which will then complete the replacement of the 1991 version.

## 2.11 Restoration of wetlands

The UK is strongly committed to wetland maintenance, restoration and recreation. As such, under Operational Objective 2.6, the JWP, in consultation with other relevant organisations and in conjunction with actions under habitat action plans, aims to identify a list of wetlands in need of restoration including wetlands where such efforts are already underway. The outcome of this exercise will identify a rationale for prioritisation, statement of ameliorating actions and plans for restoration programmes as appropriate.

The UK Biodiversity Steering Group report in 1995 (see section 2.1.c) adopted a target-based approach on which to focus action for priority habitats and species (see Appendix 1). The UK Targets Group has managed the identification and selection of UK priority habitats and species and co-ordinates the preparation of individual habitat and species action plans (HAPs and SAPs respectively). To date the Targets Group have commissioned, edited and managed consultations over 172 species action plans and 21 habitat action plans; a further 200+ species action plans have been drafted and are at varying stages of completion, together with a further 17 habitat action plans. A high proportion of these action plans will relate to wetlands or wetland species (listed in Appendix 1), and many will promote favourable wetland management to conserve these features. Under target 2.6. (d) of the UK targets document all members of the JWP have agreed to aid implementation of action plans for wetland habitats and species.

Each HAP and SAP sets out a series of actions and targets for habitat maintenance, restoration and recreation. For example eight of the 14 published habitat action plans relate to wetlands - seagrass beds, reedbeds, fens, grazing marshes, mesotrophic standing waters, saline lagoons, chalk rivers and lowland heathland. For each HAP, cross-sectoral steering groups are established to co-ordinate plan implementation; these groups include conservation agencies, government departments, voluntary organisations, land-owner groups and independent or academic specialists. The steering groups are responsible for developing detailed work programmes to focus action towards conserving their habitats. This action may take the form of direct habitat management or creation on special sites, or of influencing policies likely to have a significant impact on the habitat in question. Pooling of resources across the organisations on the steering group prevents duplication of effort and enables benefits to be maximised.

Some examples of wetland habitat restoration activities and initiatives being carried out in the UK are detailed below.

EN have established a fund of £80k per annum to support innovative habitat creation/restoration schemes undertaken by five habitat steering groups (reedbed, fen, grazing marsh, saline lagoon and lowland heathland) they lead. Key works undertaken in 1996 and 1997 include extension of reedbed at Stodmarsh NNR, creation of new saline lagoon areas at Benacre Broad NNR, and initiating a collaborative saline lagoon creation project on Teesmouth Cleveland Coast Ramsar site. Experimental trials have also been undertaken on new techniques to re-create grazing marsh on the North Kent Marshes, and fencing and grazing programmes have been introduced to ensure sustainable management on a number key fen sites, including Dersingham Bog NNR and Ramsar site. EN have also initiated a trial project aimed at restoring large areas of the countryside comprising mixtures of habitats. The EN Habitat Restoration Project has a budget of £220k over three years to trial a new approach to countryside restoration in four pilot areas, each of which includes wetland habitats. Local project officers are funded to work with land owners to identify the most suitable agri-environment schemes used to bring about changes identified within the conservation strategy for the area. To date, the trial has demonstrated a higher uptake of applications by land-owners for scheme funding, and a higher success rate in successful applications, compared with other areas.

TWT are intending to demonstrate the practicalities of reversal of habitat fragmentation and loss through large-scale restoration measures. Feasibility studies are being developed for areas within the Cambridgeshire fens and the Essex coast, where coastal squeeze has impacted on wetland habitats.

MAFF fund a large research and development programme on wetland restoration. Projects include creation of wet grassland from arable land and monitoring the impact of raising water levels on flora and birds which is linked to modelling of hydrological and edaphic factors to determine their water regime requirements.

EA is involved in partnerships to demonstrate rehabilitation and restoration of wetlands. Examples include the reinstatement of meanders and wetland floodplain on the River Cole, near Swindon, and the River Skerne in Darlington. Partners in this EC LIFE funded project include the Rivers Restoration Project, the National Trust, Northumbria Water and English Nature. Wetland restoration is currently being supported by the Agency at a number of sites, including Otmoor in the Thames catchment, where RSPB is the lead organisation. EA is soon to submit, with EN and others, a bid for an EC LIFE project to develop management plans and monitoring programmes between 1999-2004 for river Special Areas of Conservation identified under the EC Habitats Directive.

The River Ugie Wetlands Project, in north-east Scotland, is supported by a number of organisations: Farming and Wildlife Advisory Group, National Farmers' Union of Scotland, Aberdeenshire Council, Scottish Agricultural College, SEPA and SNH. The project is aimed at farmers and encourages restoration of riparian and floodplain wetlands as part of an integrated catchment management initiative. Farmers have joined the Scottish Office Countryside Premium Scheme which provides financial support for conservation activities, including establishing water margins. In addition, the Scottish Agricultural College will aid farmers by evaluating nutrient budgets and planning fertiliser and manure usage. Monitoring of ecological, physical and chemical characteristics will be carried out along portions of the River Ugie and other water courses. Other similar initiatives are in place aimed at reducing diffuse pollution impacts from agriculture.

The Heritage Ponds Consortium, which brings together 22 organisations representing statutory agencies, local government, private and voluntary sectors, have completed an 18 month pilot project funded by the Heritage Lottery Fund. The key objective of the Heritage Ponds Initiative is to help local community groups restore, protect and maintain the archaeological, historical and nature conservation value of ponds throughout the UK. The pilot project concentrated on ten ponds before expanding to a large scale programme, which will be co-ordinated by the newly formed Ponds Conservation Trust.

A joint CCW, EA, RSPB and Wildlife Trust initiative, *Wetlands for Wales*, is seeking a Heritage Lottery Fund grant to contribute towards the purchase of substantial areas of former estuarine marsh on the Dyfi Estuary (Cors Fochno & Dyfi Ramsar site) with the aim of restoring wet grassland and marsh. Management agreements are being sought on further areas to facilitate mire rehabilitation. The Wetlands for Wales project also covers The Dee Estuary.

In 1996 CCW published *Ponds and conservation* which provides information about inland standing water creation and restoration. The leaflet is aimed at promoting to a wide range of local audiences the benefits of habitat creation.

CCW's continuing *Inventory and Conservation Audit of Welsh Fens* project was commissioned in direct response to actions published in the habitat action plan for fens. The project will identify key issues affecting the conservation of the Welsh fen resource and yield a prioritised inventory of sites in need of rehabilitation. An inventory and condition assessment of the Welsh raised mire resource is planned and this will guide CCW's input to the implementation of the Action Plan for this habitat. Similar inventories for grazing marshes and floodplain grasslands in Wales are currently being developed.

A peatland conservation strategy entitled *Conserving Peatland in Northern Ireland - a Statement of Policy* was published in 1993 by Government. This encourages the wise use of peatlands in Northern Ireland particularly through minimising the impact of peat-cutting by encouraging a reduction in the use of horticultural peat, through increased site protection and a code of practice on peat cutting for domestic use. Restoration work, in the form of infilling of drains, has been undertaken at Ballynahone Bog and Black Bog (both proposed raised bog Ramsar sites) by EHS.

CCW has a programme in place to restore some wetland sites. For example, at Fenns Whixall Mosses, a major peatland site established as a National Nature Reserve and which is part of Midland Meres and Mosses Ramsar site, a long term tenure over the main core of the area has been negotiated with support from the Heritage Lottery Fund. This will help to extend and consolidate management control. The hydrology of the Mosses which has been damaged by major commercial peat cutting schemes over a central part of the site, is being reinstated simultaneously with the removal of extensive areas of scrub and woodland which have colonised or previously been planted in the fringes of the National Nature Reserve. Progress with these management actions is now beginning to show significant positive results (see section 5.3).

Work is currently being carried out by Fermanagh District Council on Cuilcagh (a proposed blanket bog Ramsar site) with funding from the EC LIFE programme and the Heritage Lottery Fund. The Council's programme of management aims to restore and provide controlled access to an extensive area of blanket bog on Cuilcagh which has suffered in the past from overgrazing and peat extraction. SNH in partnership with RSPB and Caithness and Sutherland Enterprise received matching funding from the EC LIFE (Nature) Regulation for a project to evaluate integrated peatland management in Caithness and Sutherland (Wilkie & Thompson 1998). The project aims to

raise public awareness of the importance of peat bogs, and develop restoration techniques for different types of damaged bog. As part of this project the Forestry Commission are also looking at restoring peatlands where they have been damaged at the margins by commercial forestry. SNH staff are carrying out feasibility studies of different techniques; including the use of dams to minimise drainage and methods of disposing of felled trees.

## **2.12 Local participation in wetlands conservation**

The UK has recognised that securing public support and participation is vital to the future of nature conservation. One way to encourage participation is through biodiversity initiatives aimed at implementing the UK Biodiversity Action plan at the local level.

Local Agenda 21 is one of the principal mechanisms for developing a programme of biodiversity conservation at the local level. At the UK General Assembly Special Session on the Environment in June 1997, the Prime Minister stated that he wanted all local authorities in the UK to adopt Local Agenda 21 strategies by the year 2000. The plans are usually developed at the county or district level, between conservation groups, land owners and local authorities. The plans mirror the national BAP process in being partnership-based, but they may address a range of locally important habitats and species as well as those identified as national priorities. National targets can be implemented at the local level through these plans. There are currently in excess of 100 local BAP initiatives underway across the UK. DETR aim to report to the JWP in 1999 on progress in establishing Local Biodiversity Action Plans (see sections 2.1.(c) & 2.13).

### *Statutory agencies*

Each of the statutory agencies produce reports on a regular basis to disseminate information about nature conservation, current initiatives and issues. These publications, plus a range of interpretative materials, are one of the principal media used for the dissemination of information to a wide cross section of individuals and organisations. In addition, many organisations have now developed WWW (Appendix 2) sites that promote greater openness and understanding of nature conservation priorities whilst encouraging increased involvement at all levels. See section 3.1.

In 1996 CCW entered into an agreement with Merched y Wawr (Women's Institute of Wales) in order to increase environmental awareness of its members and develop activities to increase participation. CCW aims to develop this initiative to encourage involvement at the local level.

EHS has gained considerable experience in generating public interest in the management of important wetland sites through its development of management groups for Lough Neagh and Strangford Lough Ramsar sites and through its participation with DANI as part of the management group for Lough Erne Ramsar site. These groups help to widen public acceptance and understanding of wetland conservation policies and the need for appropriate designations, such as Ramsar sites. Under UK target 2.7.(b) EHS intends to share its experience gained in developing user groups with other organisations to produce recommendations for engaging public interest and participation in wetlands conservation.

The Rural Action Programme, a partnership between the Countryside Commission, English Nature and the Rural Development Council, has been successful in attracting community action in local conservation projects and using grants to develop projects. In 1996/97 Rural Action supported 860 projects on a budget of £1.2 million. Of the 860 projects, 72 are wetland related and include projects to restore village ponds such as Ashby cum Fenton; restoration of rivers and canals such as at the Wet and Arun canal; wildlife surveys such as at the Cam valley, and specific educational projects run by groups such as Wilts and Bucks Canal group.

In 1997 SNH published *Firths* which sets out the importance of estuaries in Scotland in the context of sustaining local economies and explaining their natural heritage importance. This provides information to support the 1994 initiative *Focus on Firths*, which is a Scotland wide initiative to encourage the integrated management of estuaries. The leaflet sets out the principles of the initiative and the key objectives, such as establishing forums for each firth to develop individual management strategies, for achievement based on co-operative partnerships. There are currently fora in place for the Clyde, Cromarty, Forth, Moray, Solway and Tay.

#### *The Forth Estuary Forum*

The Forum has two key objectives; to promote the wise and substantial use of the Forth estuary, and to increase understanding and awareness of its natural heritage. It is a voluntary partnership comprising members drawn from a broad range of relevant and interested organisations and individuals. The Forum hopes to secure a balance of interests acting on the Forth to achieve sustainable economic development, recreation and protection of the environment.

The Forum has produced a range of publications and interpretative materials to support and promote the Forth initiative locally.

The Forum is included as one of the two UK case-studies being considered by The World Conservation Union (IUCN) in their review of community-based wetland management programmes, for CoP7.

### *Community education*

SNH have distributed Environmental Community Chests to community education workers throughout Scotland. The chests were stocked with resource materials to promote a better understanding of Scotland's natural heritage. SNH supported the initiative by hosting a series of workshops to inform education trainers.

### *Voluntary sector*

As part of the UK targets under the Ramsar Strategic Plan Operational Objective 2.7, WWT aims to report to the JWP by October 1998 on its initiative in relation to regional wetland seminars. The seminars are aimed at encouraging local communities to become involved in wetland conservation and management.

In Wildlife Week (June 6-14 1998) The Wildlife Trusts celebrated *Water for Life*. The focus of the week was to promote through a series of events around the UK the importance of wetlands at all levels and to demonstrate how local communities can help to conserve water.

The Peatlands Campaign Consortium (PCC) actively promote the use of peat free compost often running promotions in stores to help gardeners understand the benefits of selecting peat free alternatives. In addition PCC continue to research the performance of peat free products.

The Wildlife Trusts in conjunction with PCC and statutory conservation organisations hold an annual International Bog Day. Across the UK events are held to raise public awareness and promote local community participation in peatland conservation. Over the last few years events have been held in Canada, France, Slovenia, Kenya, Indonesia and the Republic of Ireland.

WWT was fully involved in activities to promote World Wetlands Day in the UK. All of its eight Centres ran activities for the general public on or around 2nd February 1998 ranging from special guided walks at reserves to children's programmes related to the theme of wetlands and water. WWT intend to seek funding for activities to promote future World Wetlands Days and raise public awareness of wetlands values and functions.

Major works are being carried out at Slimbridge, the headquarters of WWT, following a 50% grant from the Millennium Commission; the new Conservation Centre will include a Wetlands Discovery Centre, resource centre, audio-visual experience and a sustainable gardening exhibit and will open to the public in the autumn of 1999. The latter exhibit, focusing upon how people can help conserve wetlands in the home and garden, such as water conservation and peat-free gardening, is also being displayed at other Wetland Centres. See section 2.13 for information about WWT's Wetland Centres and their success in promoting public awareness of wetland conservation and generating community participation.

BASC are actively involved at the local level through its co-ordination of wildfowling management groups. This mechanism promotes greater understanding of the interests of wildfowling, conservation organisations and local communities.

The RSPB run a number of specific community projects linked to the conservation of priority habitats and species including reedbeds and curlew *Emberiza cirrus*. In addition, RSPB volunteers assist in running a variety of activities, approximately 12,000 events per year aimed at children. Local RSPB groups also offer around 5,000 trips and meetings each year.

## **2.13 Progress in ensuring involvement of private sector organisations**

Many of the Ramsar sites in the UK, and other important wetlands notified as SSSIs or ASSIs, are in private ownership. A fundamental principle of the UK's approach is the need for partnership in managing these sites. The interest and involvement of the private sector in positive wetland management is a key indicator of how successful we have been in protecting and enhancing special places.

We are also committed to further enhancing the involvement of the private sector in the wise use and conservation of wetlands. JWP members aim to identify opportunities to develop initiatives with farming unions, woodland managers, industry associations, professional institutions, banks and other investment bodies which would incorporate extensive publicity about the Wise Use Guidelines. Other initiatives include development of private sector funding and wider dissemination of best practice examples for industry e.g. the WWT manual on *Wetlands, Industry and Wildlife*, and similar wetland habitat management guidelines.

As part of the UK's commitments to the CBD, one of the main priorities is the implementation of costed action plans for 116 species and 14 habitats as published in the UK Biodiversity Steering Group report in December 1995. Recently (June 1998) a second tranche of habitats and species action plans have been identified for action (see section 2.11). The full list of habitats and species identified for action plans, which includes a number of important wetland habitats and species, can be found in Appendix 1. The UK Government, through the UK Biodiversity Group, has promoted the idea of 'Biodiversity Champions' for individual species action plans. Under this concept private sector companies or individuals are encouraged to be directly associated with a particular species action plan through the provision of funds or 'in-kind' support. Eight corporate 'champions' have been found for nine of the 172 species action plans published so far. Four of the species concerned are wetland species, otter *Lutra lutra*, water vole *Arvicola terrestris*, bittern *Botaurus stellaris* and medicinal leech

*Hirudo medicinalis*. It is hoped that further wetland species will benefit from the champions scheme in the future.

In addition, as part of the reporting process for habitat and species action plans we will disseminate information about how to develop private sector involvement through a register of organisations and guidance to attract sponsorship.

One further initiative aimed at the private sector is the production of the guide *Business and Biodiversity*. This aims to provide businesses with a simple step by step approach to the integration of biodiversity into environmental management systems. The Guide, which was produced by Earthwatch on behalf of the UK Round Table on Sustainable Development and with support from Glaxo Wellcome, was published in May 1998. Impacts on wetlands and rivers are among many aspects which the guide highlights for consideration by private sector companies.

The example below demonstrates how the private sector and conservation organisations can work co-operatively for wetlands conservation.



*The Wetland Centre, Barnes, London*

On World Wetlands Day (1998) WWT launched its ninth Centre in the UK dedicated to promoting wetlands conservation. The Centre at Barnes in London is due to open in the year 2000 and will consist of a visitor complex, exhibits and a reserve.

Since 1993 WWT, in partnership with Thames Water and Berkeley Homes (Thames Valley) Ltd, have been working towards creating an urban wetland reserve to attract migratory species over winter. Over 70 acres have been landscaped to create a range of wetland habitats to support different feeding and breeding requirements e.g. lagoon and reedbed habitats. The visitor centre and exhibits will support the work of the reserve, promote wetland conservation and raise public awareness through a series of multi-media interpretative information displays.

### **3. To raise awareness of wetland values and functions throughout the world and at all levels**

#### **3.1 Status of programmes for education and raising public awareness**

The UK has identified a number of targets to raise public awareness of wetland issues and to demonstrate how they can contribute in the UK and internationally (UK target 3.1.(c)). The JWP are aiming to establish an 'Education and Public Awareness' subgroup, chaired by WWT, to develop a national programme of Education and Public Awareness (EPA) on wetlands. The EPA subgroup will initially identify Education and Public Awareness requirements in the UK and existing sources of information available by carrying out a literature search. It is likely that this subgroup will work very closely with the Biodiversity Education Group of the Council for Environmental Education. The subgroup aims to submit examples of UK Education and Public Awareness information to the Ramsar Bureau on an annual basis.

In Autumn 1997, the publication *Educating for Life* was launched by the Council for Environmental Education (CEE), following research funded by the DETR. This publication demonstrates practical measures for communicating the biodiversity message more informally, but in settings that are still recognisably educational, such as field centres, museums, botanical and zoological gardens.

In June 1998 the Government published a consultation paper *Making Biodiversity Happen*. This is aimed at increasing public awareness of biodiversity work in the UK and involving a wider range of people and organisations in it. The consultation paper is one of five which follows up *Opportunities for Change* - a consultation exercise leading to the establishment of a new Sustainable Development Strategy for the United Kingdom. Both these publications are biodiversity-focused but encompass wetland issues as part of the overall package. See section 2.5.

For the 1998 World Wetlands Day members of the JWP organised a series of activities to promote wetland issues and generated extensive media coverage. The Minister for the Environment, Michael Meacher whilst at the new WWT Wetlands Centre launch in London, also launched publication of the *UK targets for the Ramsar Strategic Plan 1997-2002*.

To support the Ramsar Convention's commitment to the development of a Communications Strategy the UK aims to support the Bureau's consultation activities by providing our experience, expertise and financial contributions where applicable. For example, since the last UK Ramsar National Report a considerable number of the organisations involved in wetlands conservation have developed World Wide Web (WWW) sites to improve access to information about wetlands (Appendix 2).

#### **3.2 Progress in incorporating wetlands issues as part of education curricula**

A target for action for the UK in the next few years, will be to promote consideration of the requirements for wetland conservation across the range of educational programmes, (UK target 3.2.(b)). We will be looking to proposed JWP EPA subgroup to take forward co-operative work on this issue.

The statutory agencies and the voluntary sector are already active in promoting formal environmental education at all levels of learning. Since the last National Report a number of educational strategies and initiatives relating to the environment and encompassing wetland issues have been launched. Some examples of the work being carried out by all sectors are detailed below.

##### *Statutory agencies*

In 1996 the Environmental Education Council for Wales was set up to promote wider understanding of the natural environment. The Council aims to establish a database of environmental education resources in Wales, disseminate best practice and provide a platform for debate about environmental education policy. CCW provides financial support to the Council and plays an active role in developing its work.

In spring 1997 SNH launched an environmental education strategy for Scotland to promote formal learning about the environment and foster awareness and concern about Scotland's natural heritage. In particular, working with the Scottish Environmental Education Council to distribute grants for environmental education, and in partnership with WWF, SNH produced a series of data sheets and supporting information aimed at teachers and curriculum developers in Scotland. The datasheets, which included material on freshwater in Scotland, provide information about the issues and principles for interpretation.

EA have produced an Education Resource Pack for teachers which provides them with material that can be used to introduce pupils to a whole range of environmental issues. The pack aims to complement and support certain areas of the national curriculum. EA are currently working towards the development of a national strategy for environmental education. The Agency is developing an interactive CD-ROM for key stages 1-4 in the national curriculum based on its River Habitat Survey database, introducing the concept of integrated river basin management. SEPA provides educational information on water which is available on their WWW site and from SEEC.

FC have developed an *Environmental Awareness Strategy* which incorporates information about wetlands and associated plants and animals. FC emphasise the promotion of wetlands conservation as part of their broader awareness literature and as part of information disseminated locally by forest rangers to visiting parties. EN have introduced a scheme promoting fieldwork projects by college students. The scheme called CEL (College-English Nature Links), provides a directory of possible fieldwork projects; training on scientific techniques and grants to support the most beneficial wildlife projects. Many projects have been initiated including: assessing the impact of grazing on the Yorkshire Dales; visitor management in the Derbyshire Dales National Nature Reserves, and analysis of pollution effects within molluscs on the North Kent Marshes. EHS produce a number of environmental education leaflets to promote public awareness. In particular, the Peatlands Park in County Tyrone was established to promote awareness of peatland conservation and associated issues. The park offers educational programmes covering peatland, woodland, soils and freshwater ecosystems. Visitors can take guided walks along paths and boardwalks to view the peat body.

#### *Voluntary sector*

WWT continues to provide advice and co-ordination to the Ramsar Bureau on education and public awareness matters. A resource page was produced for the Ramsar website in readiness for World Wetlands Day (WWD) 1998 (on water related issues) and a similar one will be prepared for WWD 1999 emphasising wetlands and people.

WWT is working on an information pack for teachers of Key Stages 2 and 3 (targeting the 8-12 age range) on wetland issues for publication early next year. WWT has also developed a number of specific exhibits at its Centres including: Pond Zones at Slimbridge and Martin Mere, focusing upon the ecology of wetlands; a Wetlands Discovery Centre at Washington, and the Welsh Water Discovery Centre at Llanelli which will investigate the links between wetlands and water quality and quantity, due to open in Spring 1999. In addition, the WWT Wetland Centres will continue to provide interpretation on wetlands of the world to promote public awareness.

WWF UK produces a number of education packs related to water and wetlands. At Primary school level items include *Our World Our Water*, which encompasses teachers notes and video, and *Focus on Coasts* which is a teachers guide with a photopack. At Secondary school level a number of data bulletins have been produced including *Pollution of the North Sea*, *Marine Nature Reserves* and *Exploring Europe's Environment* in collaboration with the European Commission and the European Environment Agency, which contains sections on Rivers, Coasts and Wetlands. The data bulletins are available electronically drawing a wide variety of information presented as text, graphics and tabular data items, which students are asked to explore.

WWF Scotland in conjunction with Scottish HydroElectric plc operates the Bright Awards Scheme. The scheme is aimed at promoting environmental education in schools' curriculum for children aged 5-14 years. The theme in 1998 was People and Water.

## **4. To reinforce the capacity of institutions in each Contracting Party to achieve conservation and wise use of wetlands**

### **4.1 Progress in ensuring co-operation between sectors**

In June 1997 the newly-elected Government decided to integrate the former Departments of the Environment, and Transport. The Department of Environment, Transport and the Regions is responsible for a wide range of policies and activities covering: housing; planning and construction; all forms of transport; local government and regional policy; and environmental protection, including water and waste, and countryside and wildlife. The aim of the merger is to ensure greater coherence and a more integrated approach to policy.

One of the new Department's most significant publications has been the White Paper on Integrated Transport Policy, setting out a strategic framework for sustainable transport policy which would protect the environment and promote social and economic benefits. The paper emphasised the commitment to give better protection to the environment, promising a major effort to reduce greenhouse gases as well as protection to wildlife and areas of special importance.

There was also a full review of countryside and rural policy within the Comprehensive Spending Review, which examined both Departmental expenditure and the achievement of key objectives, including institutional arrangements. The review acknowledged that there was room for improvement in the way the Government delivers rural policy in an integrated way. A new strategic approach, underpinned by improved co-ordination and financial planning for the programmes of DETR and MAFF, will enhance opportunities for managing landscape and wildlife resources.

The UK Round Table on Sustainable Development was established in 1995. It aims to encourage discussions on major sustainable development issues and to build consensus between people who have different perspectives and different responsibilities. It includes people from a wide range of backgrounds. Much of the work is carried out in sub-groups, and the Government has indicated it will consider its recommendations very carefully. One of its most recent reports examined aspects of sustainable agriculture, including the organisational arrangements for the development and delivery of countryside policy.

As already mentioned, the JWP acts as the UK National Ramsar Committee. The group is an informal, non-statutory Committee which draws its membership from government departments, nature conservation agencies and non-governmental organisations (see section 2.1.b).

The JWP is evaluating its current membership with a view to identifying other relevant organisations outwith the group which could be encouraged to attend. The group recognises that in order to improve the effectiveness with which it can deliver UK Ramsar targets it may be necessary to draw on broader expertise and experience, or set up additional subgroups.

As one of the UK targets under Operational Objective 4.1, RSPB is preparing a paper for the JWP, identifying and proposing further action to increase co-operation and synergy between institutions. The paper should be complete later this year and draws on existing efforts to support inter-agency co-ordination. See sections 2.1.c and 2.3.

At the national and regional level there are a wide range of co-operative activities to achieve nature conservation priorities and targets. Examples are detailed below.

#### *UK Biodiversity Action Plan*

Partnership is a key element of the action plan process with involvement from a variety of organisations. The consultation process has been thorough, scientifically-based, and secures a firm commitment from all groups, principally government, central government departments, nature conservation agencies, museums and botanical gardens (The Natural History Museum, Royal Botanic Gardens Kew, Royal Botanic Gardens Edinburgh), local authorities, academia, industry, farming and land management groups and voluntary conservation groups under the umbrella group Biodiversity Challenge.

All these groups play a significant role in the implementation of individual habitat and species action Plans. Each Plan has a contact point usually within a central government department or statutory agencies whose role is to provide a secretariat and oversee action. A Lead Partner, often from the voluntary sector, has a key role in leading implementation, monitoring and reporting on progress with implementation of each plan. The priority habitat and species action plans can be supported by 'champions' drawn from business and other sectors to provide additional resources for implementation (section 2.13).

#### *Peatlands*

One of the mechanisms in place in the UK for increasing co-operation for peatlands conservation is the NGO led Peatlands Campaign Consortium. The Campaign was founded in March 1990 in an effort to safeguard all UK peatlands of nature conservation importance. With the support of over 4 million members, the Consortium has been active in the promotion of peat-free products and encouraging action to save lowland peat bogs. The Peatlands Campaign Consortium is composed of a number of UK and Irish voluntary conservation organisations which meet quarterly and communicate regularly by e-mail. The Peatlands Campaign Consortium is represented on the Peat Working Group (see section 2.6).

#### *National Biodiversity Network*

The key objectives of the National Biodiversity Network is to add value and importance to biodiversity information by making them more widely accessible to inform decision making at all levels. Individuals and organisations will be able to draw on experience and expertise of colleagues, public, private and charitable organisations.

The NBN framework is supported by a consortium of organisations involved in the collection and use of biodiversity information. The partnership intends to work within an agreed framework of standards, which will allow parties to exchange and provide access to wildlife information at the local and national level, and provide guidance about how to maximise the use and influence of information.

## **4.2 Assessment of UK training and development programmes for wetlands**

Training and development of individuals involved in the conservation of wetlands and their wise use is vital to support the implementation of UK targets under the Ramsar Strategic Plan. RSPB will undertake an audit of the skills and knowledge base available in the UK for wetland conservation. From this audit they will seek to identify significant gaps in the UK's training provision and make recommendations to the JWP by October 1998(UK target 4.2(a)). Members of the JWP aim to support the RSPB-led audit by providing details of their in-house training programmes, particularly information about individual course objectives, content and audience. Other training initiatives which the JWP will investigate include the development of opportunities for secondments or study visits to wetland development projects, and other exchange mechanisms, (including Overseas Territories) focusing on wetlands issues (UK target 4.2.(c)).

All the nature conservation agencies operate annual programmes of training and development for their permanent and long-term contract staff. The training initiatives cover a broad range of courses and workshops related to nature conservation and encompassing wetland habitats and species, management needs and opportunities to secure external funding.

Examples of wetlands related training are detailed below. See section 2.7 for specific information concerning the promotion and application of the Wise Use Guidelines.

#### *Training activities in CCW*

A programme of career development and in-service training ensure that staff within CCW maintain an up-to-date perspective on issues relating to the conservation and management of wetlands in Wales. Issue-based workshops planned for the future will focus on habitat recognition, the restoration of drained wetlands and the use of conservation prescriptions in Environmental Land Management Schemes. Most of these courses will be supported by in-house documentation e.g. proposed extensive documentation to guide the work of Project Officers implementing the All-Wales Agri-environment Scheme (see section 2.7). In addition CCW has set up

an exchange programme with the Everglades National Park as a training opportunity to share experience and expertise.

*Overseas Territories*

In Gibraltar, a partnership exists between the Government and the Gibraltar Ornithological and Natural History Society (GONHS) who provide expert advice on a wide range of environmental issues. The GONHS hold a series of lectures all year round which focus on the protection and conservation of both marine and terrestrial nature reserves.

The Cayman Islands Government have implemented a Development Plan for their protected sites. As part of this plan, and in order to raise public awareness about the importance of wetlands conservation, the Government and the National Trust have produced information sheets and a video aimed at raising funds for the purchase of conservation land in the Cayman Central Mangrove Wetland. In addition, they are preparing a Teacher's Guide on Coral Reefs which will include a section on the interconnections between mangroves, seagrasses and coral reefs. This should be in schools by September 1998. The National Trust are also collaborating with the private sector to produce a Teacher's Guide for Wetlands.

On Bermuda, the Bermuda Zoological Society has developed comprehensive educational guides on Bermuda's marine and wetland environments. The Bermuda National Trust are working with local dairy farmers to educate them about the importance of carefully controlled rotational free-grazing on the Devonshire Marsh Reserve land. This land is now the only surviving example of sustainable grazing in Bermuda.

A number of staff from St Helena's Environmental Conservation Section attended a Conservation Techniques Course held at Royal Botanic Gardens, Kew, in 1997. The FCO wrote to UK OTs at the beginning of the year to publicise environmental courses at Kew and to offer possible funding UKOTs' attendance.

## **5. To ensure the conservation of all sites included in the List of Wetlands of International Importance (Ramsar List)**

### **5.1 Status of management planning for Ramsar sites**

A wide range of organisations are responsible for the preparation and implementation of management plans on Ramsar sites and other wetlands in the UK. These are principally:

Nature conservation organisations: CCW, EHS, EN and SNH. These agencies have responsibility for preparing and ensuring implementation of management plans on wetlands in their ownership (NNRs). They are also preparing short management statements or management briefs on those sites not in public ownership but which are designated either as ASSIs, SSSIs or additionally as Ramsar sites or Natura 2000 sites.

A number of NGOs either own or manage land within the UK network of Ramsar sites. Those with the most significant holdings are RSPB, WWT, NT and individual Wildlife Trusts. All RSPB reserves have full management plans which are reviewed every five years. Sixty reserves have a significant wetland component and thirty of these are wholly or partly within Ramsar sites. Where NGOs own land within a Ramsar site the development and implementation of management planning is undertaken in close co-operation with the relevant nature conservation agency.

The UK Strategy includes a target to complete management plans or statements for all existing UK Ramsar sites by the end of 2001 (target 5.2.(b) & 5.2.(c)). Management plans or statements will also be reviewed every five years. The review process will consider effectiveness against the achievement of objectives and how to ensure the participation of all partners in the implementation of management plans or statements. The status of management planning for UK Ramsar sites is detailed in Appendix 3.

#### *Management planning*

For English Ramsar sites, Site Management Statements (SMS: summary management plans for individual owners and occupiers) or Estuary Management Schemes or Reserve management plans will be produced for all sites by 31 March 1999. A comparable system is being developed in Scotland by SNH. These SMS are intended to provide a practical and effective means of addressing the actions of private owners on land designated as SSSI (which includes other designations such as Ramsar). They set out what each tenure unit contributes to the objectives of the site as a whole, as well as how this can be achieved.

EHS aims to prepare draft Conservation Plans for all listed Ramsar sites in Northern Ireland over the next two years. These plans will form the basis of consultation with other interested parties regarding the management of sites.

Management plans will be completed for all listed Ramsar sites in Wales by the end of 1998. The CCW management planning approach is a developed and refined version of the Ramsar planning format, thus management plans for Welsh sites will always comply with the Ramsar standard. Concise and measurable objectives are prepared to include each conservation feature and the other areas of interest including public interest, community involvement, access, amenity, education and interpretation.

#### *Overseas Territories*

An Interim Management Plan for the Cayman Island's designated Ramsar site, the Booby Pond Nature Reserve on Little Cayman, which is in National Trust ownership, was developed by the Trust's Environmental Advisory Committee. This site is home to one of the largest breeding colonies of red-footed boobies *Sula sula* in the western hemisphere. The interim Management Plan identified a number of information gaps including the need to acquire more detailed information on the booby population and the hydrological and biological processes occurring within the pond itself. To this end, a census of the booby population was carried out in 1997 and in February 1998 a study aimed at clarifying the feeding strategy of the boobies was conducted. In addition, an FCO funded study of the saline ponds of the Cayman Islands carried out during the past two years yielded some very valuable information about the ecology of the Booby Pond. All of the information from these studies will contribute significantly to the Trust's ability to develop responsible and appropriate management strategies for the Booby Pond Nature Reserve.

Other Ramsar sites in UK Overseas Territories are likely to be designated during 1998/99 and the FCO will work together with the UK Overseas Territories to encourage the development of management plans for these new sites. (See section 6.5).

### **5.2 Status of monitoring programmes for Ramsar sites**

A new co-ordinated UK-wide programme of monitoring the condition of features on designated nature conservation sites commenced in 1998. Common Standards Monitoring and Reporting is a framework of basic standards for assessing the condition of features on sites designated as Sites of Special Scientific Interest (SSSIs) and Areas of Special Scientific Interest (ASSIs), areas designated as part of the Natura 2000 series and Ramsar

sites. Each of the nature conservation agencies is responsible for implementing the basic standards and the programme will be trialled and refined in the light of operational experience, over a number of years. Under Operation Objective 2.6 of the UK targets document the JWP aims to identify a list of wetlands in need of restoration and determine actions for rehabilitation. Site condition monitoring will support this target by detecting the condition status of interest features on sites (see section 2.6).

Site condition monitoring is based on being able to detect whether or not an interest feature is in 'favourable condition'. Statements, known as "Conservation Objectives", will be prepared as part of the management planning process for each interest feature on a site. These will describe and set down the attributes and targets used to determine whether or not the desired condition is being achieved. The attributes can be either biological (e.g. coverage of different National Vegetation Classification (NVC) communities on blanket bog) or physical (e.g. water table levels for blanket bog). For each attribute measurable and recognisable targets are identified, so that adherence to, or movements away from, favourable condition can be monitored. These targets should act as the "trigger points" to set restorative management in motion. Establishing meaningful Conservation Objectives can be complex so JNCC, with the country conservation agencies, will produce generic guidance for different habitats and species over the next 2 years. This will assist local staff to prepare consistent site-specific Conservation Objectives.

The principles underlying the site condition monitoring and management planning conform to the recommendations made by CoP6 in Resolution 6.13. In addition, monitoring can determine whether the site series as a whole is achieving the required condition, and the degree to which current legal, administrative and incentive measures are proving effective.

The site monitoring programme will operate on a six yearly cycle. This takes account of the scale of monitoring required, the likely rate of changes and the national and international reporting needs; key European Directives and international agreements and Conventions operate generally on a six year cycle. An interim UK wide report on a proportion of the statutory site network should be produced every three years and a full report every six years.

The UK is developing a strategy for long term monitoring of biodiversity and environmental change. An Environmental Change Network of a small number of intensively monitored sites has been established by NERC and other partners to determine the dimensions of environmental change in the UK.

The vast majority of sites designated for their waterbird interest are monitored annually by the Wetland Bird Survey (WeBS) which monitors about 1,500 wetlands through the UK. This usually involves undertaking monthly counts during the non-breeding season by volunteers. Results are reported annually (*e.g.* Cranswick *et al.* 1997). A major initiative is currently underway to ensure the precise co-incidence of WeBS count sector boundaries with the boundaries of relevant statutory designated sites, including Ramsar sites. This will further aid the interpretation of monitoring of ecological character of these wetlands.

WeBS will be developing a formal system of 'alert limits' which will assess changes in numbers of waterbirds at each monitored site in the light of previous dynamics of populations in these wetlands. Under new arrangements, it is intended that WeBS will provide JNCC with a commentary of changes in waterbird population numbers at each Ramsar site and/or SPA for the previous three years especially in relation to those outside expected variability for the site. One third of all sites will be assessed each year such that every three years a composite report will be possible.

Data from these programmes will inform the production of future UK national reports to Ramsar CoPs, especially in respect of reporting requirements regarding changes in the ecological character of sites.

### **5.3 Summary assessment of ecological character at Ramsar sites**

In the UK the ecological character of wetland habitats can be affected by a number of factors. These are characterised below for different broad habitat categories:

#### *Coastal and marine*

- Construction of coastal defences and artificial stabilisation methods, land claim, or dredging activities can disrupt the movements of sediment along the shoreline and lead to a weakening of the natural coastal structures through sediment starvation, as well as resulting in the direct loss of wetland habitats e.g. saltmarsh.
- Falling water tables affects communities dependent upon a seasonally high water table especially where there is formation of temporary or permanent ponds. Long term fall in the water table leads to lack of specialist slack flora and invasion by coarse vegetation and scrub.
- Grazing is necessary to maintain typical fixed dune. Under-grazing leading to invasion by coarse vegetation and scrub is becoming more widespread leading to loss of conservation interest.



- Beach management using mechanical methods or the pressure of pedestrian and vehicular traffic restricts accretion of sand dune systems leading to either static or eroding dunes.
- Sand and shingle extraction from the beach and dune systems increase the rate of coastal retreat
- Rising sea levels and maintenance of sea defence resulting in coastal squeeze can increase erosion of habitats.
- Construction of marinas and other leisure facilities such as golf courses or car parking facilities may destroy valuable habitat and can lead to increased pollution.
- Water abstraction from standing water bodies in the catchment areas can lead to a reduction in the throughput of fresh water and an increase the salinity of a water body e.g. lagoons.
- Pollution particularly from oil, and the chemical or physical techniques used in any subsequent clean-up operation, can damage the plant and animal communities.

#### *Inland waters*

- Eutrophication, caused primarily by nitrates or phosphates in sewage or fertiliser run-off, can lead to increased growth and dominance of vigorous plant species.
- Acidification may occur locally in areas with sensitive geology and soils, as a result of atmospheric deposition of pollutants.
- Pollution from organic matter, silt, heavy metals and thermal discharges can occur.
- Over abstraction of surface or ground water for industrial use, public supply or irrigation, or by drainage can lead to a lowering of water levels.
- Industrial housing, hydro-electric power generation, construction of dams, water transfer schemes between rivers flood defence works can cause water fluctuation in some catchment areas, may reduce stream habitat and isolate streams from their flood plains.
- Changes in surrounding land-use may alter the water table, change the pollution load, or degrade or remove valuable adjacent habitat. The long-term effect of such land-use changes is an increase in the risk of pollution and of siltation, which can smother fish spawning sites and damage aquatic vegetation.
- Introduction of fish, the removal of predators, and the manipulation of existing fish stocks for recreational fishing leads to the loss of natural fish populations and may affect plant and invertebrate communities. Heavy stocking of bottom-feeding fish can cause turbidity and accelerate the release of nutrients from sediments.
- Use of standing waters for recreational and sporting purposes may create disturbance which affects bird populations. Marginal vegetation may suffer from trampling and the action of boat hulls and propellers destroys aquatic plants and stirs up sediment, contributing to enrichment and encouraging the growth of algae.

#### *Reedbeds, fens and swamp*

- Excessive water abstraction for industrial use, public supply or irrigation, and drainage and conversion to intensive agriculture, can lead to drying out of these marginal habitats.
- Eutrophication can cause an increased growth and dominance of vigorous plant species leading to a loss of biodiversity and death of reeds.
- Pollution of freshwater supplies to fens and reedbeds by toxic chemicals may lead to loss of fish and amphibian prey for key species and accumulation of poisons in the food chain.
- Changes in land cover can release nutrients from the soil and these may enter water bodies, causing enrichment. These problems are exacerbated by the removal of waterside vegetation and reedswamp, which are effective barriers to particulate matter and act as sinks for nutrients.
- Lack of/inappropriate management of existing fens and reedbeds can lead to drying out, scrub encroachment and succession to woodland.
- Relative sea level rise could lead to the loss of significant areas of reedbeds around the coastline.

#### *Peatlands*

- Drainage of extensive tracts of blanket bog has occurred in the past in attempts to improve the quality of the grazing. New drains continue to be dug and old drains cleaned in some areas. Even without maintenance most drains continue to lower the adjacent water table and some initiate erosion.
- Heavy grazing (by sheep, red deer, cattle and horses) especially if accompanied by supplementary feeding, burning, fencing and drainage, has a significant impact on vegetation.
- Agricultural and sporting management both involve the use of fire to modify the vegetation for the benefit of livestock, grouse and deer in particular. Poorly managed and/or accidental fires can be particularly damaging.
- Existing forestry plantations have an increasing impact on the hydrology and species composition of adjacent areas of blanket bog as the trees mature. Aerial application of fertilisers and pesticides can also result in drift on to adjacent bog.

- Commercial peat extraction though relatively limited in extent is not insignificant. Domestic cutting, most of which occurs on common land, is locally very significant and particularly where mechanical methods are employed, has a locally significant impact.
- Drainage, fertiliser application and conversion to pasture has occurred frequently in the past and can be of local significance.
- Popular walking routes, some of which are also used by cyclists and for horse-riding, traverse blanket bog areas which are very sensitive to such pressure. The increased use of all-terrain vehicles for recreational, agricultural and sporting activities can also result in local erosion.

#### *Wet woodlands*

- Cessation of management in formerly coppiced sites, resulting in loss of former structure and increased shading of the herbaceous layer.
- Lowering of water-tables through drainage or water abstraction, results in changes to drier woodland types.
- Heavy-grazing and poaching of the soil by sheep, cattle and deer leading to a change in the woodland structure, ground flora impoverishment and difficulties for regeneration.
- Flood prevention measures, river control and canalisation, can lead to loss of dynamic disturbance-succession systems and invertebrate communities, as well as possible reductions in the extent of individual sites.
- Poor water quality arising from eutrophication, industrial effluents or rubbish dumping may lead to changes in the composition of the ground flora and invertebrate communities.
- Clearance and conversion to other land-uses, particularly in woods recently established on wetland sites.
- Invasion by non-native species which alter vegetation composition and lower conservation value; air pollution which may influence particularly bryophyte and lichen communities; and diseases such as *Phytophthora* root disease of alder.

At a countrywide scale these factors are being addressed through the implementation of biodiversity habitat and species action plans, and other land-use and water resource management plans and policies described in earlier sections. At the site level the UK monitors change in ecological character using the approaches outlined in section 5.2. The JWP also has a Monitoring and Reporting Sub-Group which has not met for some time: it is intended to review this group; with the aim of meeting twice each year; reporting to the JWP on potential changes in ecological character and making recommendations where appropriate for remedial action. It is intended, subject to agreement at the next meeting, that the remit of the group will incorporate all aspects of monitoring and reporting, particularly the appropriateness of the Management Guidance Procedure, in relation to UK Ramsar sites (target 5.1.(a) in the UK targets document).

The JWP will consider the outcomes of the Monitoring and Reporting Sub-Group assessment of ecological character and make recommendations to Government, where appropriate regarding the Montreux Record. In 1995 the UK Ramsar National Report reported on 12 Ramsar sites with recorded or predicted negative change in ecological character. This National Report provides an opportunity to update the situation, below, at those 12 sites in terms of current condition and the status of factors identified in 1995 as causing negative change.

#### *Esthwaite Water*

##### *Factors causing recorded or predicted negative change in 1995*

- Nutrient status of the lake has increased since 1950s. A variety of measures being undertaken to review and reduce phosphate loads.

##### *Update on condition of site and factors causing change in 1998*

The nutrient status of the lake is still cause for concern. English Nature working with the Environment Agency, phosphate levels from the sewage works at Hawkshead have been controlled. In addition, a project has been established to monitor the aquatic plant assemblages to determine the sources of nutrient inputs into the lake.

#### *Exe Estuary*

##### *Factors causing recorded or predicted negative change in 1995*

- Unauthorised shell-fishing causing local impacts.
- Environmental impact of proposals to dredge approaches to estuary channel being considered by local authority.

##### *Update on condition of site and factors causing change in 1998*

The pressures on the estuary from recreation has increased especially from the water skiing, wind surfing and jet skiing. English Nature has undertaken a consultation exercise involving users, local authorities, statutory agencies and other interested parties with a view of securing an agreed management plan to ensure that the estuary's wildlife is maintained and enhanced.



*Hamford Water*

*Factors causing recorded or predicted negative change in 1995*

- Long-term erosion of saltmarsh as consequence of relative sea-level rise leading to loss of saltmarsh diversity and decline in breeding success of waders such as redshank *Tringa totanus*.

*Update on condition of site and factors causing change in 1998*

The site, as are others on the Essex coast, continues to be the subject of coastal erosion, estimated at 2% per annum. This erosion is exacerbated by the sea wall which does not allow the natural migration of saltmarsh inland to compensate for rising sea levels.

A small experimental saltmarsh creation project has been undertaken on Horsey Island, inside the sea wall and has been used as a nesting site for avocet *Recurvirostra avosetta*, redshank *Tringa totanus*, lapwing *Vanellus vanellus*, oystercatcher *Haematopus ostralegus* and tufted duck *Aythya fuligula*.

Where the erosion of the foreshore has been severe and the underlying clays have been exposed dredged material (sand and gravel) has been placed to dissipate wave energy. Soft silts have been placed behind the gravel bar and these now support new saltmarsh vegetation.

Plans have been made to reinforce the sand bar, that protects the entrance to the site, with dredgings.

*Llyn Idwal*

*Factors causing recorded or predicted negative change in 1995*

- Damage to part of site as a result of overgrazing and erosion.
- Acidification posing a threat to site.

*Update on condition of site and factors causing change in 1998*

Overgrazing and erosion has been intense, but this is now being tackled through a recent agreement with grazing being removed from the site for an initial 10 year period.

Acidification is not thought to be causing an impact at the site.

*Loch Ken and River Dee Marshes*

*Factors causing recorded or predicted negative change in 1995*

- Pollution, particularly in the form of increased phosphate loading.
- Increase in water level fluctuations association with hydro-electric power generation which may have adversely affected breeding birds and aquatic vegetation.

*Update on condition of site and factors causing change in 1998*

SEPA through carrying out routine monitoring of the Loch Ken and River Dee system have identified four sources of pollution input: forestry, diffuse agricultural inputs, fish farms and sewage discharges. To address these pollution inputs a number of initiatives are in place: adoption of the *Forest and Water Guidelines* by FE in forest design plans located around the catchment; RSPB, FWAG and SNH promoting environmentally friendly farming in the ESA area, and monitoring by SEPA of phosphate loadings and other nutrient inputs from sewage discharges, agriculture and fish farms. The monitoring is intended to determine the significance of inputs and the trophic status of Loch Ken.

In 1996 RSPB entered into an agreement with Scottish Power to control water levels on the Loch Ken and River Dee Marshes SPA/Ramsar site and RSPB reserve. This agreement is reviewed annually. The agreement involves maintaining favourable water levels for breeding waterfowl and waders throughout the nesting season. A key feature is to maintain the assemblage of breeding birds on the site. Scottish Power agreed to maintain water levels between March and June, and to minimise water level fluctuations throughout the summer. This consultation exercise was undertaken in liaison with all other interested parties on the loch.

A significant increase in the number of breeding birds has been noted by RSPB as a result of monitoring those areas previously affected by high water flows.

The Loch Ken and River Dee Marshes Advisory Group meet biannually to address issues relating to the area. A Management Plan is in place.

### *Loch Leven*

#### *Factors causing recorded or predicted negative change in 1995*

- Continuing nutrient eutrophication as a consequence of major, diffuse source phosphate inputs to loch.

#### *Update on condition of site and factors causing change in 1998*

Loch Leven is a National Nature Reserve managed for its nature conservation interest by SNH using bylaws, a Nature Reserve Agreement, liaison with landowners and the presence of wardening staff. The problem of eutrophication is being addressed through the Loch Leven Catchment Management Project which is encouraging collaboration between all the parties present within the catchment to reduce nutrient input. Research is also being undertaken into the hydrology of the loch and water quality is being monitored.

Parts of the shore are being eroded. A gabion reef is being used to prevent further erosion.

Scrub is encroaching on wetland habitats. SNH are using contractors to cut back the scrub.

There is a threat from invasive aquatic plants such as *Polytrichum* which could disrupt the ecology of the loch. SNH are monitoring the spread of such species and will take action where necessary.

The loch is heavily used for recreation, mainly for fishing birdwatching and wildfowling. Disturbance to the interest is controlled by limiting the number of fishing boats and by encouraging birdwatchers to use hides provided at certain points along the shore. Wildfowling and fishing at the loch are controlled by the estate under an agreed regime, and numbers of birds shot are monitored by SNH.

### *Silver Flowe*

#### *Factors causing recorded or predicted negative change in 1995*

- Approximately one third of the site damaged by fire in 1994.
- Continuing acidification of the hydrological unit from acid precipitation.

#### *Update on condition of site and factors causing change in 1998*

Shortly after the fire in 1994, SNH peatland specialists visited to site to ascertain the extent of damage and establish a likely timescale for recovery. The site is being monitored as part of the UK Site Condition Monitoring trial currently underway.

SEPA have an ongoing monitoring programme in place in the Loch Dee area (which encompasses Silver Flowe). They have noted a decrease in sulphur emissions in the last two years in this area. In addition, Forest Enterprise are undertaking large scale restructuring of Galloway Forest Park and any replanting will exceed current water quality guidelines for forestry.

### *Lochs Druidibeg, Loch a'Machair and Stilligary*

#### *Factors causing recorded or predicted negative change in 1995*

- Decline in extent of active arable land under cultivation within the machair, and loss of traditional rotational cultivation and beneficial grazing regimes and fodder production practises.
- High rabbit *Oryctolagus cuniculus* densities causing erosion through overgrazing and loss of vegetation cover.
- Introduction of ferrets and hedgehogs *Erinaceus europaeus* resulting in serious threats to internationally important concentrations of ground-nesting waders.
- Sheep and red deer *Cervus elaphus* overgrazing of relict woodland vegetation on islands on Loch Druidibeg.

#### *Update on condition of site and factors causing change in 1998*

The decline in extent of active arable land under cultivation has been reduced by ESA agreements with owner/occupiers to cultivate a minimum of 15% of machair. This has follow on benefits for the rotation cultivation, grazing and fodder production.

A management scheme between SNH and local crofters is underway to address overgrazing and loss of vegetation cover caused by rabbits.

Research is at an advanced stage to identify the impacts of hedgehog predation on ground-nesting waders and to investigate measures to address this issue.

Sheep and red deer overgrazing of relict woodland is being monitored.

### *Midland Meres and Mosses Phase 1*

#### *Factors causing recorded or predicted negative change in 1995*

- Eutrophication of some meres as a result of agricultural intensification within catchments, fertiliser run-off and from domestic and agricultural effluents.

#### *Update on condition of site and factors causing change in 1998*

The overall position is broadly the same as in 1995 in that various inputs are still causing eutrophication. However, a number of actions have been taken on some of the component sites (there are 16 component sites in total). In some cases remedial work has been carried out and the wetland sites are beginning to improve. At The Mere the sewage treatment works have closed; at Wybunbury Moss and at Flaxmere inflows from septic tanks have been intercepted, and at Betley Mere silt traps have been installed. At Hatchmere the County Wildlife Trust have purchased the site which should further safeguard the interests. Other remedial actions have taken place including tree felling and heathland restoration at Brown Mere to address water levels.

As part of English Nature's Meres and Mosses Strategy, case studies were carried out in 1997 which identified options for restoration and rehabilitation of sites.

#### *Ouse Washes*

##### *Factors causing recorded or predicted negative change in 1995*

- Over-frequent spring-flooding causing vegetation change reducing suitability of site for breeding waders and wintering waterfowl.
- Nutrient enrichment possibly contributing to decreases and extinctions of some plant species.

##### *Update on condition of site and factors causing change in 1998*

Spring and summer flooding events are still a cause for concern. Flooding has adversely affected both the breeding birds and the traditional washland management regime, particularly grazing, mowing of grassland and rotational ditch clearance. As a result *Glyceria* advances at the expense of other grasses and herbs which may affect food availability for wintering waterfowl. This problem is now being addressed by the Environment Agency, in conjunction with other organisations with an interest in managing the washes, through the Ouse Washes Management Strategy.

The construction of Welmore Lake sluice, due to be completed by June 1999, by the Environment Agency may go some way towards addressing flooding problems. However, severe siltation in the Great Ouse River is a factor affecting the drainage of the Ouse Washes. This issue is currently being investigated.

Nutrient enrichment continues to be a problem, possibly resulting in some plant species as well as some fish and invertebrate species declining. More recent concerns include the increased water abstraction and the possibility of saline intrusion, both of which are being addressed with the Environment Agency.

#### *Redgrave and South Lopham Fen*

##### *Factors causing recorded or predicted negative change in 1995*

- Long-term deterioration of the site due to groundwater abstraction from borehole leading to loss of specialist wetland species, wholesale scrub invasion, progressive decline in the conservation value of the site's plant communities and a decline in many of the site's 125 Red Data Book invertebrate species.

##### *Update on condition of site and factors causing change in 1998*

The condition of the site is still cause for concern. The problems are believed to have arisen due to: groundwater abstraction from a borehole adjacent to the site; over deepening of the River Waveney; cessation of traditional management resulting in scrub and rank grass encroachment, and increased use of land in the catchment for outdoor piggeries and disposal of slurry.

A project, part-funded by EC LIFE, began in 1992 to restore the hydrology of the site, including moving the borehole and re-establishing fen habitat, and raising water levels in the River Waveney. Raising public awareness through education forms a substantial part of the project.

To date the project has investigated and tested a new borehole which should be fully operational in December 1998. In addition, large areas of scrub have been cleared; flood banks have been built along the river to prevent flooding; a sluice has been refurbished to provide improved water level control; grazing has been reintroduced, and a reserve educational centre has been built.

#### *The Dee Estuary*

##### *Factors causing recorded or predicted negative change in 1995*

- Foreshore land claim and ancillary works proposed at Mostyn Docks would lead to loss of inter-tidal habitats.
- Damage as a result of sea defence works: monitoring being undertaken.
- Potential threats from high levels of commercial cockling; bylaws being sought to control activity.
- Damage as a result of vehicle access for recreation.
- Water pollution from a factory being dealt with through Dee Estuary Catchment Management Plan being drawn up by Environment Agency.

- Tipping is causing damage which may continue to occur until 2005.
- Continued, but decreasing spread of cord grass *Spartina anglica*.

*Update on condition of site and factors causing change in 1998*

The Secretary of States' decision on the Mostyn Dock proposals following the Public Inquiry in 1995 permitted the development subject to conditions. CCW have and are pursuing the safeguarding and management of the mitigation areas proposed prior to the Inquiry with the Flintshire County Council. As part of the conditions of permission the Port of Mostyn have agreed an estuarine bird monitoring programme around the development area to assess the impact of the developments on estuarine bird populations. This programme began in the autumn/winter 1997.

The dock development started in April 1998 with site works in the Estuary. Development of the full facility is likely to be on a modular basis and may take up to five years.

The Dee Estuary fishery is managed by the Environment Agency. Since 1995 the EA have amended bylaws to manage the cockle fishery in a more sustainable manner. If this does not work further controls will be promoted.

Vehicle access onto the foreshore occurs at Point of Ayr. In recent years the local authority has created additional parking areas inland of the sea wall and over time it is hoped that visitors will use these facilities in preference to the foreshore. In addition measures have been taken to restrict the area of foreshore over which access can be gained.

Tipping at Point Of Ayr Colliery has now ceased following the closure of the mine in late 1996. The colliery waste tip is now being restored to maximise its potential for the Dee waterfowl populations by containing the tip profile and creating water features on it.



#### *SSSI and Ramsar site boundary revision*

As the first stage of this exercise, CCW with EN have reviewed a number of the SSSI boundaries in 1997 and early 1998. Following confirmation in early 1999, attention will then be concentrated on a detailed review of the boundaries of the Ramsar site and Special Protection Area. Revision to the SSSIs will include extensions to several areas peripheral to the main estuary and these incorporate all the mitigation areas proposed earlier in lieu of the Mostyn Dock development. CCW will then work positively with the local authority, other relevant statutory agencies and voluntary conservation bodies to bring these latter areas under conservation management.

#### *Ramsar Information Sheets*

The UK has noted with some concern that some of the information held by the Bureau on UK Ramsar sites is regarded as being of poor quality. Undertaking the programme to review and update all of the information has caused some difficulty because of the large volume of sites.

In June 1997, JNCC in conjunction with the nature conservation agencies initiated a programme to complete Ramsar Information Sheets (RIS) for all listed wetland sites. The programme has been developed to ensure that information is collated in a consistent and systematic manner in order to meet the requirements of relevant CoP6 Resolutions. Each RIS contains the basic site information and additional supporting data including sections on adverse factors affecting the site, conservation measures taken and a vulnerability or management statement.

The RIS retrospective exercise, due for completion in 1998/99 will provide information that can be used to identify those Ramsar sites with demonstrated or potential positive or negative change in ecological character.

At the conclusion of the RIS programme, JNCC, as DETR's scientific will carry out a comprehensive analysis of the information collated, to develop an overview of the UK site series as well as report changes in ecological character for all sites (as defined in Resolution C.6.1). This assessment will be published as a supplement to the National Report, prior to CoP7.

The RIS programme operates in conjunction with the preparation and implementation of management plans and the UK strategy for site condition monitoring. These strands for monitoring and evaluation of the ecological character of Ramsar sites should enable an effective long-term assessment process (see section 5.2).

#### **5.4 Development of Management Guidance Procedure for Montreux Record Ramsar sites**

The UK only has one site entered on the Montreux Record, the Dee Estuary. In February 1996 the Dee Estuary Strategy, was launched. The Strategy is supported by voluntary commitment from interested organisations including local authorities, statutory agencies and other estuary users.

CCW is contributing to the implementation phase of the Dee Estuary Strategy, which embraces the concepts of wise use of wetlands into planning policy, and land use in the Estuary. It has agreed mitigation measures relating to the development of power generating plant and oil and gas treatment alongside the Estuary. These measures include the provision and recreation of wetland habitats compatible with the requirements of the major waterfowl populations which overwinter in the Estuary and are additional to the estuarine habitats. Other initiatives include the re-profiling of a coal waste dump at Point of Ayr colliery (tipping ceased in 1997) to provide a high tide roosting site for waders and an estuarine bird monitoring programme associated with the expansion of the Port of Mostyn.

In 1997 the Government reported to the Ramsar Bureau updating them on action taken in relation to the Management Guidance Procedure (MGP) recommendations. The JWP Monitoring and Reporting Sub-Group are likely to be invited to review and report on the implementation of the Dee Estuary Monitoring Procedure and MGP recommendations and identify any additional recommendations as appropriate. This action will be repeated for any other UK Management Guidance Procedure cases arising during the Ramsar Strategic Plan (1997-2002) period.

## 6. To designate for the Ramsar List those wetland types still under represented in the List and transfrontier wetlands

### 6.1 Assessment of information relating to wetlands

Data on wetlands is held in the UK in a wide variety of databases maintained by the statutory agencies, the voluntary sector and research institutes. In 1995, the UK Biodiversity Steering Group recommended the development of a national biodiversity network to improve access to, and management of, data within the UK. The National Biodiversity Network (NBN) will facilitate the pooling of information by enhancing access to, and linkages between existing datasets maintained by organisations operating both locally and nationally. The NBN framework will operate common standards for those contributing organisations to ensure standards of data quality, validation, survey and sampling are applied, and to the sharing of data and information. A number of organisations are involved in the consortium developing the NBN: JNCC (on behalf of CCW, EHS, EN and SNH), National Federation for Biological Recording (on behalf of Association of Local Government Ecologists, Biological Recording in Scotland and Biology Curators Group), NERC, The Natural History Museum, RSPB and TWT.

The International Designations Database (IDD) holds definitive information on designated sites (SACs, SPAs and Ramsar sites) in the UK. The database is maintained by JNCC and draws on information from a variety of sources: site safeguard, habitat and species specialists, Geographical Information System (GIS) derived digital boundary data, and designation status data. The IDD supports the process for completing RIS and Natura 2000 data forms and other reporting requirements for designated sites (UK target 5.4.(a)).

#### *Coastal and marine*

The Marine Nature Conservation Review (MNCR) programme was established in 1987 by the Nature Conservancy Council (NCC) and then at JNCC from 1991. The key objective of the MNCR was to describe the UK marine biological resource for nature conservation. A considerable proportion of the UK coast has been surveyed and reported as *Area Summaries*. Each summary provides an account of discreet stretches of open coast, marine inlets or lagoons in terms of the physical features, marine biology and main human influences. The MNCR programme is supported by a database holding data for 674 surveys which cover over 15,000 sites. In addition MNCR published *Marine Biotope classification for Britain and Ireland* (Connor *et al.* 1997 a & b) which sets out in two volumes, over 360 littoral and sublittoral biotopes.

In May 1998 the MNCR programme concluded and JNCC established a two year Marine Information Project. The project will manage and disseminate information on marine habitats and species at UK level. The project aims to maintain and consolidate existing datasets whilst developing links with other organisations to share information and promote common standards, such as through the NBN framework.

The Seabird Colony Register provides information on all seabird colonies around UK. It will be fully updated by a project (Seabird 2000) which started in 1998 and will be complete in 2001, reporting in 2001/2. The project will be undertaken by a partnership of organisations including JNCC, RSPB and the Seabird Group. The Coastal Directories project, co-ordinated by JNCC on behalf of a consortium of partners including government departments and local authorities, established extensive baseline environmental information for the UK coastal and nearshore marine zone. The Directories are intended to aid coastal zone management so that biological diversity is maintained whilst use is sustainable. The 17 volume series is available in book and electronic format (Coasts and Seas of the United Kingdom. Coastal Directories Series. JNCC).

EHS have carried out littoral and sub-littoral surveys which provide a resource survey of marine habitats of Northern Ireland. The survey information is maintained by EHS.

In 1995/96 a biological assessment of saline coastal ponds on the Cayman Islands was carried out with UK Government funding from the FCO to provide information needed in management planning for the Ramsar site on Little Cayman and other protected ponds on Grand Cayman and Cayman Brac. The study has helped to provide a basis for advice to the Cayman Islands Government on priorities for future conservation measures, including listing of new Ramsar sites. Similar surveys have been carried out at BIOT, Anguilla and British Virgin Islands (BVI).

#### *Inland waters*

EA hold a considerable body of information relating to the UK inland wetland resources. In particular the publication of *The State of the Environment of England and Wales: Fresh Waters* in June 1998 investigates the stresses on our fresh water resources particularly, the impacts of climate change, abstraction trends and the links to changes in demography, discharge consents and pollution and the state of fresh waters in terms of water resources, habitats, water quality and health. Underpinning the Environment Agency's publication are a number of priorities, such as addressing long term climate change and reducing pressures on water resources, to guide future work to minimise stresses on water resources to improve sustainability for the future.

In 1998 DETR published the results of the Lowland Pond Survey (LPS96). The survey, carried out in 1996 in conjunction with Pond Action and Institute of Terrestrial Ecology (ITE), aimed to describe the number, condition and quality of Britain's lowland ponds; review current policies which affect their maintenance and protection, and make recommendations. The survey defined a pond as "a body of standing water 25m<sup>2</sup> - 2 hectares in area which usually holds water at least four months of the year". The survey covered a random sample of 150 one-kilometre squares across lowland Britain that had been previously surveyed as part of the Countryside Surveys 1984 and 1990. LPS96 and Countryside Survey 1990 have been compared to provide an estimate of loss, gain and net change in the number of lowland ponds between 1990 and 1996 (for summary results see section 6.3).

The EA, SEPA and EHS collect and hold data on river habitat quality for the UK, using the River Habitat Survey methodology (Raven *et al.* 1998). Also data collected for the purposes of flowing and standing water monitoring/evaluation and classification schemes. In addition, chemical and biological data on water quality, plus some hydrology and morphology information is available. A database of information recording habitat features and impacts at 5,600 baseline survey sites has been established.

EHS have carried out extensive survey of most inland standing waters over one hectare in size. To date, the Lake Survey of freshwater habitats including detailed vegetation surveys of most sites provides wetland resource information for Northern Ireland. In EHS' current work programme river surveys are currently being undertaken.

Over the last 20 years the Wales Wetlands Survey (and follow-on surveys) have provided plant community-level data for 270 sites based on over 4,200 samples, as well as outline data on site and management characteristics. This data-set covers a very high proportion of the total wetland resource in Wales and has been used extensively for the selection of SSSIs. The collection of much of this data pre-dated computer-based storage methods and work is now planned to provide a modern revision of this historical data source together with an assessment of report requirements in the future and to meet NBN standards. CCW's integrated classification and assessment of Welsh lakes project is in a data and analysis phase. This represents another detailed wetland habitat survey database. Palaeolimnological techniques have been used to investigate recent environmental change in nine Welsh lakes (Bennion *et al.* 1997). Macrophyte and river habitat surveys have been carried out on a number of Welsh rivers.

The Loch Survey commenced in 1983 with a systematic botanical survey of 2,897 Scottish lochs. The survey programme was finalised in 1997 and SNH are currently carrying out analysis and aggregation of the data to produce regional reports.

The UK Rivers Database, held and maintained by CCW, EN and SNH, stores survey information on the plant communities of British rivers. The initial survey programme began in 1978 carried out by the Nature Conservancy Council (NCC) and ran until 1982. Between 1988 and 1991 additional surveys have been carried out to produce a macrophyte river classification scheme covering UK rivers. The database also holds invertebrate data for some British rivers drawn together from the Institute for Freshwater Ecology under contract to NCC. Although the invertebrate data is based on a limited sample it provides a full taxon list for each sites (aggregated for each river) and an assessment of species richness.

The System for Evaluating Rivers for Conservation (SERCON) was completed in 1995 and has been used to assess the conservation status of some British rivers. SERCON is funded by SNH, together with contributions from EA, CCW, joint Scotland and Northern Ireland Forum for Environmental Research (SNIFFER) and EN. SERCON evaluates conservation status by analysing existing field survey data and species records coupled with expert opinion to determine the impacts affecting rivers. The attribute data held in the system is grouped within six conservation criteria: physical diversity, naturalness, representativeness, rarity, species richness, and special features.

RSPB maintain an inventory of reedbeds in the UK at it's headquarters in Bedfordshire (Gilbert & Gibbons 1996). The inventory covers England, Wales and Scotland and provides a census of 922 sites carried out in 1993. The data is based on areas dominated by reed *Phragmites australis* located from a variety of published and unpublished sources, such as SSSI schedules. Detailed survey work was carried out at 41 sites providing a quality assessment of the reedbeds.

#### *Peatlands*

In 1996 SNH (on behalf of CCW, EN and SNH) published a report, *An inventory of lowland raised bogs in Great Britain* which is the culmination of the National Peatland Resource Inventory (NPRI) lowland raised bog survey of Great Britain. The inventory is maintained by SNH and holds site specific information, including extent, location and condition data for all known sites.

The inventory provides an assessment of the condition and conservation of lowland raised bog sites and provides an estimate of area of the land covered by this habitat. It also records the status of sites in terms of SSSI or NNR notification. As further survey work is carried out by the statutory agencies details will be add to the existing dataset for example, CCW carried out a Peatland Invertebrate Survey which provides comprehensive species

data for a large number of peatland sites in Wales, guidance on management regimes and information which could be used to define species assemblages.

The information held on inventory will form an essential part of the implementation of the UK Biodiversity Action Plan as the basis for future resource level surveys under habitat action plan, as well as for managing designated peatland sites.

At present SNH is developing a Scottish blanket bog resource inventory (Reid *et al* 1996, Quarmby *et al* 1997). These data will complement the existing inventory on lowland raised bogs in Great Britain. The inventory is based upon the classification of satellite imagery using ground-truthed sample plots. The data relate to vegetation type (NVC community level), structure and condition. Site-specific survey information forms an important local adjunct. Currently three of the eight satellite scenes covering Scotland have been classified. Efforts are being made to make the data available through SNH's local GIS facility, raising the potential for wider availability.

In Northern Ireland, EHS are responsible for maintaining information from the Northern Ireland Peatland Survey which includes detailed vegetation surveys of all freshwater wetlands. Using aerial photography the distribution of different types of peatland was recorded and mapped and an indication of the condition of each site made. The peatland survey underpins the establishment of the ASSI network for peatland habitats.

#### *Wet woodlands*

There are a number of significant inventories on woodlands available, including the FA's National Inventory of Woodland and Trees (NIWT), initiated in 1995, which provides information on the extent, distribution and composition of woodland in the whole of GB. Information on woodland type and management is also collected as part of the FA's Woodland Grant Scheme (WGS), documentation through local woodland management initiatives or information held on the Forest Enterprise compartment database. The nature conservation agencies also hold relevant information in Ancient Woodland Inventories as well as information from individual surveys of statutory protected sites.

## **6.2 Assessment of 'important' wetlands**

The UK has a long history of documenting 'important' areas for nature conservation. The nature conservation agencies maintain current lists of sites, including areas for wetland habitats and species, which are considered to be 'important' at both a national and international scale.

A detailed classification and description of the overall wildlife resource of Britain was presented in *A Nature Conservation Review* (1977). The objective of the Nature Conservation Review (NCR) was to select according to established criteria of nature conservation value a series of sites which give acceptable representation of all the more important features within the range of variation in natural and semi-natural ecosystems in Great Britain. Three distinct stages are used in the selection of NCR sites namely: a record of the intrinsic site features (i.e. details of the primary environmental and biological characteristics of a site); information on comparative site quality which is used to judge the 'best' sites within a related group (i.e. details of size, diversity, naturalness, rarity, fragility, typicalness, recorded history, position in an ecological and/or geographical unit, potential value and intrinsic appeal); and finally selection of the national series which is based on assessment of information gathered during stage 1 and 2 and the collective judgement of 'experts'. To date 954 NCRs have been identified, of which around 148 are coastal habitats, 117 open water habitats and 135 fen or peatland habitats. The JNCC maintains the list of NCR sites.

At a national scale the JNCC has published and maintains *Guidelines for the selection of biological SSSIs* (NCC 1989, JNCC 1994 & 1996). These provide a consistent rationale for the evaluation and selection of biological SSSIs which are of 'special interest'. SSSIs are areas where a statutory notification can be applied to conserve the 'special interest'. The guidelines help statutory nature conservation staff in the selection of SSSIs but they also provide a public statement of the selection process for all interested individuals and organisations. The biological SSSI series forms a national network of areas representing sufficient examples, in terms of type, number and extent, to conserve the total national 'special interest' of the range of variation in habitats and their associated plants and animals. The primary criteria for site evaluation are similar to those used for the NCR series, however, they are subdivided into primary criteria: size, diversity, naturalness, rarity, fragility and typicalness and secondary criteria which include recorded history, position in an ecological and/or geographical unit, potential value and intrinsic appeal. Application of the criteria is complex and different combinations or emphases are needed for evaluation and selection. The SSSI Selection Guidelines therefore provide for broad habitat groupings (coastal, woodland, lowland grasslands, lowland heathland, non-montane rock habitats, freshwater habitats, fens, bogs, upland habitats, artificial habitats) and broad species groupings (vascular plants, non-vascular plants, mammals, birds, reptiles and amphibians, freshwater and estuarine fish, invertebrates, butterflies and dragonflies) additional information to assist with the application of the criteria, including guidance on how to define acceptable levels of quality.

To date 6,235 SSSIs have been identified in Great Britain and 145 ASSIs in Northern Ireland. Further work to identify and notify new sites for different habitats is progressing under the individual priority species and habitat

action plans with a target completion date of 2004 (see section 2.1.c). Lists of the SSSIs and ASSIs with details of the area covered, administrative regions and the 'special interests' are maintained by the relevant nature conservation agency.

The UK has also published its rationale for the selection of sites, including those listed for wetland habitats and species, under the EC Habitats Directive (Brown *et al* 1997). The UK established seven specialist working groups covering woodlands, uplands/peatlands, lowlands (i.e. grassland and heaths), freshwater, marine, coastlands and species to identify the locations of areas containing good quality examples of each of the habitats and species listed in the Directive. The relative emphasis given to the individual Annex III criteria for habitats (degree of representativity, area, degree of conservation of habitat structure and function and restoration possibilities, and overall assessment of the site) and species (proportion of the total national population at the site, degree of conservation and restoration possibilities of the features of the habitat that are important for the species, degree of isolation of the population, overall assessment) was varied because of the wide range of habitats and species concerned. The List of 'important' sites and details for selection are maintained by the JNCC.

In 1992 the RSPB, with grant aid from the then NCC, published a book listing 256 areas considered to be 'important' for birds. All the areas identified were considered to be of international importance and to qualify for protection under the EC Birds Directive, and many also under the Ramsar Convention. The lists of sites, which are the subject of regular consultation within the forum of the JWP, are selected on the basis of criteria adopted by the Contracting Parties to the Ramsar Convention, the International Council for Bird Preservation (ICBP) criteria and the NCC's criteria expounded in *Protecting Internationally Important Bird Sites* (Stroud *et al* 1990); linked with the national guidelines for selecting SSSIs.

Lists of areas falling within the Natura 2000 (SACs and SPAs) and Ramsar sites are maintained by JNCC. Additional details covering administrative data, ecological and hydrological character, factors affecting the resource and management requirements are maintained for each of the internationally 'important' wetlands by JNCC within the International Designations Database (see section 6.1).

In addition to the identification of 'important' wetland sites the UK also produces inventories of wetland habitats. Two of the most important inventories to date have been published by JNCC in the series '*An Inventory of UK Estuaries*' and '*Coasts and Seas of the United Kingdom*'. The former provides details of the size, environmental and wildlife characteristics, human use, conservation status and a site map for estuaries around the UK coastline. The latter, the Coastal Directories, provides regional accounts of the coastal geology, measures taken for coastal defence and sea protection, the distribution and importance of the wildlife and habitats, including fish and fisheries and the climate and sea level changes they are subject to. Details of these and others are given in section 6.1.

### 6.3 Assessment of the status of wetland resource

Details of national site monitoring programmes were outlined in section 5. In this section we present information on surveillance and monitoring programmes which provide contextual data on the whole wetland resource.

A programme for long term monitoring of land use and ecological changes in the wider countryside has been established by NERC, DETR and EHS. Surveys have been repeated in 1978, 1984 and 1990. The latest 'Countryside Survey' is currently underway and will report results in 2000 which will contribute to detecting future change. The reporting framework is set closely to that for the Convention on Biological Diversity and will enable the UK to report current trends.

The table below provides results of the Countryside Survey 1990 detailing the total wetland habitat resource in 1990 and an estimate of change for the period 1984 to 1990 for Great Britain.

**Table 1** Countryside Survey 1990 results for wetland habitats (Great Britain)

Cover type	Stock 1990 (ha)	Standard error (ha)	Change 1984-1990 <sup>1</sup> (ha)	Standard error (ha)
Wetland *Includes fen, marsh and flush	370,000	± 60,000	19,000	± 12,000
Wet heath and saturated bogs*Includes very wet heaths with low ericoid cover. Vegetation characterised by <i>Trichophorum</i> and <i>Eriophorum angustifolium</i>	1,660,000	± 150,000	11,000	± 5,000

Saltmarsh *Intertidal sand-, silt- or mud-based habitats, colonised by halophytic grasses such as <i>Puccinellia</i> spp. and <i>Spartina</i> spp., rushes such as <i>Juncus gerardi</i> and herbs such as <i>Limonium</i> spp.	40,000	± 20,000	-3,000	± 3,000
Inland water bodies*Lake, pond, mere, reservoir	210,000	± 70,000	12,000	± 1,000
Inland water courses*River, canal	80,000	± 10,000	0	0

<sup>1</sup> Note: the estimates of change are based on recorded changes in 381 sample squares surveyed in both 1984 and 1990.

Source: *Countryside Survey 1990 Main Report*

The National Countryside Monitoring Scheme (NCMS) is a sample survey of 464 sites extending across 7.5% of the land area of Scotland. From the interpretation of air photography, it provides estimates of land cover change from the late 1940s to the early 1970s and to the late 1980s. The NCMS classified Scottish land cover into 31 aerial features, with a mapping resolution down to 0.1 hectare.

**Table 2** NCMS results for wetland habitats (Scotland)

Cover type	Stock 1988 (ha)	Standard error (ha)	Change 1973-1988 <sup>1</sup> (ha)	Standard error (ha)
Wet ground*Small areas if wet land including flushes	68,000	5,000	15,500	6,700
Marginal inundation *Includes swamp or fen margins, banks of ponds and ditches, and reservoir drawn-down zones	6,000	1,000	500	1,000
Blanket mire - heather dominated*wet acidic peat under heather	1,013,000	95,000	-265,000	78,300
Blanket mire - grass dominated*wet acidic peat under rough grass	780,000	91,000	-80,000	78,100
Lowland mire *dome formations of raised bog, but includes unwooded fens	13,000	5,000	-3,900	1,600
Lochs	108,000	21,000	-2,400	2,500
Reservoirs	32,000	2,000	3,500	2,600
Rivers	22,000	8,000	0	600
Canals	1,000	<500	-200	100

<sup>1</sup> Note: stock estimates rounded to the nearest 1,000 hectares, change estimates to the nearest 100 hectares.

Source: *National Countryside Monitoring Scheme*

The Land Cover of Scotland 1998 represents a medium scale census (1:25,000) of land cover for the whole of Scotland in the late 1980s. Interpretation of aerial photographs was based on 126 land cover classes with a variable minimum mapping unit of between two and ten hectares, depending on the land cover feature. Below the minimum mapping resolution, mixture of features were clumped together as 'mosaics', according to the dominant (primary) and next most abundant (secondary) features present.

**Table 3** Land Cover Map of Scotland 1988 results for wetland habitats (Scotland)

Cover type	Single feature area (ha)	Estimated additional area in mosaics (ha)	Estimated total area 1988 (ha)
Marshes*Includes land with surface water, flushes, pond and ditch margins	13,000	3,000	16,000
Peatland*Includes blanket bog and raised bog	660,000	672,000	1,332,000
Wet heather moor*Communities include bog heather moor, Atlantic heather moor and moist boreal heather moor	65,000	309,000	373,000
Saltmarsh	6,000	<500	6,000
Fresh waters*Lochs, reservoirs, rivers, canals	153,000	<500	154,000

<sup>1</sup> Note: the area accounted for in mosaics is estimated by assuming that, on average, the primary feature occupies 60% of a mosaic and the secondary feature 40%. Estimates rounded to the nearest 1,000 hectares.

Source: *Land Cover of Scotland 1988*

The UK holds a wealth of habitat extent information including various wetland types. The information below provides summary statistics of the available area extent estimates for UK wetlands.

#### *Coastal and marine*

There are over 100 estuaries in the UK covering over 350,000 hectares which represents approximately 30% of the total of the North Sea and Atlantic seaboard of western Europe. In addition, there are numerous other types of marine inlet, including the rias of South-west England and Wales and the sealochs of Scotland.

The estimated area of saltmarsh is about 45,000 hectares which represents approximately 10% of the UK coastline. Coastal and floodplain grazing marsh is estimated to cover some 300,000 hectares in the UK. Saline lagoons connected with the sea are scarce in the UK, with over 300 lagoons covering about 5,000 hectares.

The estimated extent of coral reef in UK Overseas Territories is in the region of 6,000 km<sup>2</sup>, including some saline lagoons.

#### *Inland waters*

Standing inland waters are represented in the UK by natural lakes and pools and by man-made features such as reservoirs, ponds, gravel pits and canals. The total area extent for this type is estimated to be in the region of 2,100 km<sup>2</sup>. Running water (rivers and streams) is estimated at 800 km<sup>2</sup>.

DETR recently published the Report of the Lowland Pond Survey 1996 (LPS96). The DETR funded research, by Pond Action and the Institute of Terrestrial Ecology, involved detailed surveys of 150 kilometre squares in Britain in 1996 to assess changes in pond numbers in lowland areas and to establish a baseline for assessing changes in pond quality. These followed up earlier surveys of the same areas undertaken as part of the Countryside Survey 1990, which focused on recording the number and size of ponds. The results of LPS96 are given below.

**Table 4** Number and density of lowland ponds (1996) and estimate of change between 1990-1996

Cover type	No. of ponds 1996 (ha)	Standard error (ha)	Net change 1990-1996 (ha)	Standard error (ha)
England	203,100	± 23,000	-1,700	± 6,000
Scotland	10,100	± 2,700	-1,200 <sup>1</sup>	± 900
Wales	15,700	± 3,500	+800 <sup>1</sup>	± 1,600
Britain	228,900	± 25,900	-2,100	± 7,500

<sup>1</sup> Note: Survey found no new ponds.

Source: *Lowland Pond Survey 1996*

Reedbeds are characterised as wetlands dominated by stands of common reed (*Phragmites australis*) and are estimated to cover approximately 5,000 hectares in the UK.

The UK is thought to host a large proportion of the fen surviving in the European Union, extending some 3,500 hectares.



### *Peatlands*

Two types of peatlands with a water supply obtained almost exclusively from precipitation occur in the UK; these are blanket bogs and lowland raised bogs. The total area of blanket peat soils in the UK is approximately 1.5 million hectares, of which the majority is found in Scotland. Lowland raised bogs are one of the most rare and threatened habitats in the UK and the rest of Europe. Approximately 6,000 hectares remain in the UK.

### *Wet woodlands*

Wet woodland occurs on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species, but sometimes including ash, oak, pine, birch and beech on the drier riparian areas. It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hill-side flushes, and in peaty hollows. There are no precise data on the total extent of wet woodland in the UK, but in the late 1980s the Nature Conservancy Council estimated the total extent of this type in ancient semi-natural woodland to be about 25,000 - 30,000 hectares. The area of recent wet woodland may be at least as large again. Thus a crude estimate of the total wet woodland area in the UK is 50,000 - 70,000 hectares.

## **6.4 Listing of Wetlands of International Importance**

The UK Government proposes to publish a list of known and recognised candidate sites meeting the Ramsar criteria, in line with Conference Resolution VI.12, during 1998. At a later stage the identification of further, under-represented Ramsar sites particularly of a non-avian character and peatlands, and the development of a forward programme of targets for designation will be carried out and then reviewed annually once the list is agreed.

JNCC has a number of Lead Co-ordination Networks (LCNs) for uplands, grasslands, woodlands and freshwater habitats. Membership of each network is drawn from specialists representing each of the nature conservation agencies. Currently the Uplands and freshwater LCNs are considering enhancements to regional guidelines for the application of Ramsar's site selection criteria for non-avian species and habitats agreed as under-represented at CoP6. JNCC has been asked to contribute to the small global group being convened to redraft the guidelines. Results from this group will be reported at CoP7.

### *Waterbird populations*

The UK recognises that continued support to aid the development of the International Waterfowl Census (IWC) in the Western Palearctic through the JNCC's input to the IWC's Steering Committee and contract support is vital to further the listing of wetlands that meet the Ramsar criteria. In addition, the UK continues to provide annual waterbird population data to Wetlands International's waterfowl population estimates through the WeBS partnership. As a supplementary mechanism the UK aims to provide expertise in response to consultations from the Ramsar Bureau and Scientific and Technical Review Panel (STRP) on issues relating to criteria and regional guidelines for application.

### *Peatlands*

The outline below is an example of a peatland Ramsar site which the UK listed in November 1996.

#### *Pettigoe Plateau, Northern Ireland*

Pettigoe Plateau is one of the largest expanses of blanket bog in Northern Ireland (1264.32 ha), formed on relatively low-elevation rolling landscape interspersed with hills, depressions and small lakes. The blanket bog exhibits the full range of characteristic vegetation, *Sphagnum* mosses, and structural features associated with this habitat type.

The site regularly supports 133 individuals of Greenland white-fronted goose *Anser albifrons flavirostris* over winter and 12 pairs of golden plover *Pluvialis apricaria* in the breeding season. The numbers of migratory and wintering wildfowl and waders are monitored annually as part of I-WeBS. RSPB carry out upland breeding bird monitoring and there are winter goose counts on the site.

### *Subterranean karst*

Further to Resolution VI.4, to date the UK has not listed any Ramsar sites for cave wetland systems and it is unlikely that the nature conservation agencies will identify any sites which may qualify under Resolution VI.4. In the UK little is known about this wetland types as a comprehensive national survey of cave flora and fauna has not been carried out. Much clearer site selection criteria, established at an international scale, would be necessary before meaningful comparative assessments can be made.

### *Coral reefs*

JNCC is proposing to review the proportional coverage of relevant wetland interests on existing and candidate sites, including coral reefs in the Overseas Territories and generate recommendations for redressing any shortfall identified. The analysis document and any proposals for future action will be presented to a future meeting of the JWP.

## 6.5 Ramsar sites listed since CoP6

The UK programme for listing Ramsar sites continues to progress and is complemented by site designation programmes under the EU Birds and Habitats Directives, and further notification of SSSIs and ASSIs under domestic legislation. To date the UK has listed 125 sites covering 517,340 hectares. 36 of which have been designated since June 1995 (see the table below).

**Table 5** Ramsar sites listed since June 1995

Site name	Country	Date listed
Severn Estuary	EnglandWales	13 July 1995
Teesmouth and Cleveland Coast	England	15 August 1995
Dersingham Bog	England	12 September 1995
Wicken Fen	England	12 September 1995
Woodwalton Fen	England	12 September 1995
Loch of Strathbeg	Scotland	27 November 1995
Rinns of Islay	Scotland	27 November 1995
Westwater	Scotland	27 November 1995
Mersey Estuary	England	20 December 1995
Deben Estuary	England	11 March 1996
Castle Loch, Lochmaben	Scotland	15 March 1996
Greenlaw Moor	Scotland	15 March 1996
Breydon Water	England	29 March 1996
Loch Ruthven	Scotland	16 August 1996
Alde-Ore Estuary	England	4 October 1996
Foulness (Mid-Essex Coast Phase 5)	England	4 October 1996
Morecambe Bay	England	4 October 1996
Pettigoe Plateau	Northern Ireland	19 November 1996
Avon Valley	England	2 February 1997
Midland Meres and Mosses Phase 2	England	2 February 1997
	Wales	
Caithness Lochs	Scotland	2 February 1997
Moray and Nairn Coast	Scotland	2 February 1997
River Spey-Insh Marshes	Scotland	2 February 1997
Corsydd Mon a Llyn/Anglesey and Llyn Fens	Wales	2 February 1997
Larne Lough	Northern Ireland	4 March 1997
Upper Lough Erne	Northern Ireland	4 March 1997
Dornoch Firth and Loch Fleet	Scotland	24 March 1997
Somerset Levels and Moors	England	26 June 1997
East Sanday Coast	Scotland	11 August 1997
Ronas Hill - North Roe and Tingon	Scotland	11 August 1997
South Uist Machair and Lochs	Scotland	1 December 1997
Carlingford Lough	Northern Ireland	9 March 1998
Strangford Lough	Northern Ireland	9 March 1998
Duddon Estuary	England	16 March 1998
Ythan Estuary and Meikle Loch	Scotland	30 March 1998
Belfast Lough	Northern Ireland	20 August 1998

### *Overseas Territories*

There have been no new Ramsar sites listed in UK Overseas Territories since June 1995. However a number of important candidate Ramsar sites are known. Much progress is being made on future listings and a number of sites are likely to be designated during 1998. The British Virgin Islands is expected to declare the Western Salt Ponds of Anegada as its first Ramsar site. This will help to conserve a 1,071 hectare saltpond, home to the endemic Anegada rock iguana *Iguana pinguis* and the re-established Caribbean flamingo bird *Phoenicopterus ruber ruber*. Additional candidate sites, including Beef Island and Paraquita Bay will be considered by the BVI Government in 1998.

Bermuda hope to designate seven Ramsar sites in 1998 totalling 37 hectares of wetland, including Government owned parkland Bermuda National Trust, Bermuda Audubon Society and Warwick Parish Council lands. These

sites are home to many endemic plant species, including the very rare Bermuda sedge *Carex bermudiana* and also migratory waterfowl. They are already zoned protectively as Nature Reserves and are managed as such. Additionally, the Bermuda Government is negotiating the possible land acquisition and future designation of further sites, including the Devonshire Marsh east and west basins, Trott's Pond and Mangrove Lake, and Walsingham Pond.

The Falkland Islands have received funding from the FCO to produce a detailed documentation of sites suitable for Ramsar designation and the report on suitable sites has now been submitted to the Falkland Islands Government. Work to designate sites in the Falkland Islands should therefore begin soon.

British Indian Ocean Territory is in the process of preparing the necessary paperwork for Ramsar site designation. In addition, the Government of Gibraltar is considering the possibility of designating the Bay of Gibraltar as a Ramsar site and the Cayman Islands are considering the designation of Little Sound. As a result of all these deliberations, it is hoped that a good number of new Ramsar sites will be designated before CoP7. (See section 5.1).

## 6.6 Transfrontier Ramsar sites

Of the Ramsar sites listed since CoP6 a number listed in Northern Ireland have the potential to be cross-border sites with the Irish Republic. The table below sets out the cross-border sites.

**Table 6** Cross-border Ramsar sites

Site name	Country	Date listed
Pettigoe Plateau	Northern Ireland	19 November 1996
Upper Lough Erne	Northern Ireland	4 March 1997
Carlingford Lough	Northern Ireland	9 March 1998

## 6.7 Progress with listing further transfrontier Ramsar sites

EHS and Dúchas-National Parks and Wildlife Service (Ireland) began collaborative discussions in June 1998 to consider the boundaries of transboundary Ramsar sites. See section 7.1.

## **7. To mobilise international co-operation and financial assistance for wetland conservation and wise use in collaboration with other conventions and agencies, both governmental and non-governmental**

### **7.1 Collaboration with international organisations for the management of transfrontier wetlands**

EHS is seeking agreement with the Republic of Ireland Government to develop a framework of actions for managing transboundary wetlands. Such actions may include joint management plans and catchment plans. There are currently no formal management initiatives on cross-border nature conservation sites although there is regular contact between EHS and Dúchas-National Parks.

### **7.2 Status of 'twinned' Ramsar sites**

The UK has three twinned Ramsar sites with other contracting Parties to the Ramsar Convention. The first of the twinned sites brought together was The Wash and the Waddensea in 1991 with the first linked work programme between EN and the Netherlands being agreed in 1992. The programmes operate across 4 priority themes namely: management of waterfowl populations; management of water quality in coastal areas; management of sustainable fisheries, and management and creation of coastal habitat.

These themes are progressed through joint projects and workshops involving scientists and land managers from both sites, for examples in May 1998 a seminar was hosted by EN on eutrophication of coastal and estuarine waters and its significance for nature conservation. Later in 1998 a project on freshwater habitat creation will be hosted by the Waddensea States.

Twinning is seen as a very successful initiative providing exchanges on practical management techniques and experiences, and a pooling of scientific and management knowledge.

### **7.3 Assessment of co-operative action on implementation of the Ramsar Convention and other agreements**

The UK is particularly aware of commitments it has already made under other Conventions and agreements with similar objectives. Of the Conventions the UK has ratified, the Convention on Biological Diversity, Bonn, Climate Change and World Heritage are particularly relevant to the implementation of the Ramsar Convention in the UK.

The UK, as described in the UK targets document (target 7.2.(a)), aims to ensure that the implementation of objectives under Conventions, EC Directives and international Agreements account for, and take due regard to each other and thus assuring compatible and consistent actions.

In the UK implementation of the various Conventions are often carried out by the same organisations, Government Departments, nature conservation organisations and the voluntary sector which assists a close working relationship and co-operative action.

#### *Convention on Biological Diversity*

The UK ratified the CBD in June 1994. The UK's strong commitment to the CBD is demonstrated by the publication of *Biodiversity: The UK Action Plan* (1994) and the subsequent '59 Steps' outlined by it. See section 2.1.b.

The UK is committed to the functional integration of work relating to implementation of the CBD and the Ramsar Convention by ensuring that national, regional and site-specific reports and action plans under the Conventions are based on compatible and complementary actions. The linkages between the CBD and the Ramsar Convention are notable in relation to the implementation of habitat and species action plans which include a number of wetland features. In particular the UK welcomes the joint work programme for inland water ecosystems between the Ramsar and Biodiversity Conventions as agreed at the CBD CoP4 in Bratislava (May 1998).

#### *Framework Convention on Climate Change*

The JWP aims to ensure that implementation of the Framework Convention on Climate Change accounts for, and has regard to our commitments under other Conventions that we have ratified.

The UK and European Community ratified the Framework Convention on Climate Change in December 1993. The national report *Climate Change: the UK programme* (Cm 2427, 1994) set out how the UK intended to meet its commitments to limit carbon dioxide emissions to 1990 levels by the year 2000. Subsequently the Government has published a progress report on the UK programme in 1995, *Climate Change: the UK programme: Progress Report on Carbon Dioxide* (DoE, 1995).

#### *Convention on Migratory Species*

In 1985 the UK ratified the Bonn Convention on Migratory Species. This requires the protection of listed endangered migratory species and encourages separate international agreements covering these and other threatened species. The UK is also signatory to the African-Eurasian Waterbird Agreement (AEWA) which proposes a framework within which the conservation of migrant waterbirds can be secured. Ratification by the UK is currently proceeding and the UK will look to be supportive in the national and international implementation of the Agreement once it comes into force.

#### *World Heritage Convention*

The UK ratified the World Heritage Convention in 1984. To date the World Heritage Committee of Party States have accepted two sites covering 923 hectares as meeting the Convention's criteria of universal value and integrity and as such are included in the World Heritage List. In addition, the UK provides financial contribution to the World Heritage Fund, the mechanism by which the protection of sites can be secured.

### **7.4 Co-operative action for migratory wetland species**

In May 1998 WeBS and I-WeBS joint protocol was launched (see sections 1.1 and 5.2). Since the last UK national report significant progress has been made in improving waterfowl count data compatibility, enhancing international co-operation in the survey and census of waterfowl in Britain and Ireland, and in the use of these data for research and conservation. The protocol stresses the need for close co-operation between the two recording schemes to ensure co-ordination of counting, particularly at cross-border wetlands, and maximisation of common standards e.g. agreed count dates, consistent recording forms and quality assurance procedures. The protocol has also improved the dissemination of information through the sharing of count results and the joint distribution of publications which are overseen by the Steering Committees of I-WeBS and WeBS.

At present RSPB and JNCC are working collaboratively to implement a timetable for undertaking a programme of surveys of scarce bird species, some of which are wetland birds.

As indicated in section 7.3 the UK will be seeking to implement the African-Eurasian Waterbird Agreement in a positive and co-operative manner.

The UK is pursuing an agreement with Ireland, Iceland and Greenland to establish an International Plan for the Greenland white-fronted goose *Anser albifrons flavirostris*. A Memorandum of Understanding with Iceland, Greenland and Ireland concerning the common conservation management of Greenland white-fronted geese was drafted in 1992 but remains to be finalised. In its Ramsar targets the UK has indicated that it will seek rapidly to conclude this Memorandum with the other Range States, thus allowing the formalisation of a joint International Plan outlining co-operative measures for research, survey and conservation.

The UK is working to finalise flyway management plan for Svalbard barnacle goose *Branta leucopsis* with Norway. The plan will be published in 1998. In addition, the UK is providing input to an international flyway management plan for dark-bellied brent geese *Branta bernicla bernicla* with other range states.

SOAEFD have set up the Scottish National Goose Forum (SNGF) to discuss agriculture and the impacts of large populations of wintering geese in Scotland in an attempt to reconcile issues. The SNGF representatives are drawn from a wide range of interest including conservation, government, shooting and agriculture. The Forum has met three times and will produce a report in early 1999 considering the management options available for the nine species that regularly overwinter and the single breeding species occurring in Scotland. Implementation is aimed for the start of the 1999/2000 winter.

### **7.5 Assessment of financial support to the Ramsar Convention in the UK**

Under the EC Habitats and Birds Directives the UK has been successful in securing funding through the LIFE (Nature) Regulation. A number of the projects forwarded by the UK Government have received match funding on wetland habitats and species at Natura 2000 sites for conservation works. Particular emphasis is given to those projects which demonstrate a programme for conserving priority habitats and species under the EC Habitats Directive (92/43/EEC) and Annex I species under the EC Birds Directive (79/409/EEC). UK projects are often cross-sectoral, based on joint proposals for conservation activities, DETR actively encourage applicants by holding annual LIFE funding seminars to raise awareness amongst relevant UK organisations. Some examples of successful LIFE projects which bring benefits to wetland habitats or species are outlined below:

#### *UK Marine SACs Project*

After receiving £4 million from LIFE (Nature) the project began in May 1996 and will run until February 2001. The project's key objective is to establish management schemes on selected UK marine SACs and this also brings benefits to certain Ramsar sites e.g. Strangford Lough in Northern Ireland and Chesil and the Fleet. Each scheme will be developed through joint partnerships between the relevant nature conservation organisations and local authorities. This will ensure an integrated approach to conserving all of the qualifying marine features. The project aims to demonstrate best practice guidance for the development of management schemes at other

marine sites, and to disseminate information widely building on existing knowledge and expertise such as techniques for monitoring and assessing the condition of features.

One aspect the project aims to tackle is the integration of estuary plans and SAC management plans to ensure that they are consistent and complementary. Whereas the SAC scheme focuses on the qualifying marine interests an estuary plan is often broader, encompassing a range of nature conservation features in a socio-economic framework. However, an estuary plan can often discharge the statutory requirements of a SAC management scheme through existing mechanisms e.g. the Solway Firth Partnership.

### *Urgent Action for bittern*

This RSPB led project is based on a partnership with seven conservation organisations in UK. The project addresses degradation of habitat at 13 localities in England within the Natura 2000 network. The project will also bring positive benefits to a number of associated Ramsar sites. The project aims to achieve its objectives by acquiring land for reedbed creation and extension of existing reedbeds, carrying out works to lower surface and improve water control, and reed management. The project started in 1996 and will run for 45 months.

The Wildlife Habitat Trust (WHT) is the UK's sporting shooting conservation fund. While established with the assistance of BASC in 1986, it is an independent organisation dedicated to the acquisition, creation, management of all types of wildlife habitat. It is empowered to both acquire and manage land and assist others to do so through grants and loans.

The UK Habitat Stamp Programme is closely modelled on the United States Federal Duck Stamp Programme and was set up in 1991 with the assistance of Ducks Unlimited Inc from the USA. The programme represents a unique cross continental conservation initiative as Ducks Unlimited have not only provided invaluable advice and technical help in establishing the Programme but sales of UK stamps to collectors in the United States have contributed significant additional funds to aid conservation work in Europe.

A major source of funding for the WHT is the United Kingdom Conservation Stamp Programme which it administers. The purchase of the annual £5 UK Habitat Stamp has been adopted by many shooting clubs and individual sporting shooters as a means of making a vital personal commitment to conservation. A number of BASC affiliated wildfowling clubs require their members to buy the stamp as an annual conservation levy. The Habitat Stamp is also required by EN and CCW to validate shooting permits on the Lindisfarne and Dyfi National Nature Reserves. Some 50 projects distributed throughout Great Britain and Northern Ireland have now been supported by the WHT. These have helped to put over 800 hectares of prime wildlife habitat into secure and sympathetic management. A diverse range of wetland wildlife has benefited including migratory waterfowl, great-crested newt *Triturus cristatus*, breeding waders and shore birds, natterjack toad *Bufo calamita*, and rare coastal plants. Collectively these projects represent an investment by shooting interests of over £500,000.

## **7.6 Summary analysis of the budget for implementation**

The UK Government, its nature conservation agencies and the voluntary sector all have annual budget allocations which are used to support nature conservation, and commitments towards the wise use of wetlands form a part of this. Although generally difficult to extract specific contributions for different habitat types, such as wetlands, some examples are provided below.

### *Government departments*

Since July 1997 the Government has been carrying out a Comprehensive Spending Review across all departments. The results of the review, made available in July 1998, provide an additional £98 million to DETR for improving the environment, enhancing rural communities and the countryside. The total budget for countryside programmes stands at £146 million for 1999/2000.

DETR's Wildlife and Countryside Directorate has commissioned research projects since 1996 totalling over £500,000. Examples of projects funded include: the phasing out of lead shot; Canada goose *Branta canadensis* population distribution and movements; coastal zone management plans; fish eating birds population, dynamics, movement and feeding ecology.

The agri-environment and research programmes run by DETR, SOAEFD, the Welsh Office Agriculture Department, the Department of Agriculture for Northern Ireland, MAFF and the Forestry Commission have an estimated budget of £80 million (1996/97). In addition, the 1997/98 Departments' research budget amounted to approximately £5 million, which includes MAFF's, aquatic environment research programme (£2.9 million). The total combined MAFF, SOAEFD and DANI research and development budget for the aquatic environment is estimated at £5.8 million (1997/98). A further £5.9 million was allocated by government departments for research on fish and shellfish management and conservation.

The estimated cost of the ESA programme is just under £7 million per annum. Under the CSS farmers received £14.5 million in 1997/98 and £1.8 million for water fringe areas and saltmarsh projects under the Habitat Scheme.

Through the Environmental Action Fund, DETR provides support to assist voluntary groups carrying out environmental activities. EAF is currently being granted to the Sea Watch Foundation (£53,460 over three years) the Advisory Committee on the Protection of the Sea (£19,400 in 1998/99) and Wildlife and Countryside Link (£10,670 in 1998/99).

### *Statutory agencies*

EA's budget for pollution control and regulating water resources is approximately £130 million. Together with environmentally-friendly flood and sea defence works, it is estimated that £20 million of the Agency's total

annual budget of £550 million directly benefits wetland conservation. The annual budget for wetland conservation, over and above EA's regulatory and operational duties, is about £250,000 per annum. This is mainly spent on supporting individual collaborative project work to enhance wetlands and rivers. In addition, about £50,000 per year of research and development is available for wetland related projects. SEPA allocate approximately £65,000 per annum on project spending but this does not include any estimate of the expenditure on water pollution control.

EHS expenditure is in the region of £200,000 per annum (1997/98) for research connected with wetlands conservation. The total expenditure on ASSI management agreements programme was in the region of £450,000 in 1997/98 of which about 50% went towards agreements on designated wetland sites.

A significant proportion of the nature conservation agencies resources contribute to habitat and species protection, species recovery programmes, land management, habitat restoration, survey and monitoring programmes and public awareness. In 1997/98 the combined spend totalled £98.95 million: CCW £23.2 million, EN £38.7 million and SNH £37.05 million.

In 1997/98 EN received a grant-in-aid budget of £38.743 million to discharge their functions, of which an estimated £24.82 million was allocated to the protection and management of designated areas, SSSIs, NNRs, Natura 2000 sites and Ramsar sites.

For 1997/98 SNH spent £37 million on nature conservation a proportion of which is allocated to support the conservation and wise use of wetlands. This budget incorporated spending on policy, conservation, management and monitoring of designated sites, research, communications (including publications) and advisory services (including training). As part of SNH's remit for safeguarding and enhancing Scotland's natural heritage, funds are also allocated to promoting responsible recreation and access which includes wetlands.

#### *Voluntary sector*

The NGOs have significant annual budgetary allocations which are used to support the conservation and wise use of wetlands e.g. RSPB estimate their annual spend as around £1 million per annum. These funds are allocated to all aspects of wetlands conservation encompassing policy, site safeguard, management and monitoring, research, communications and advisory services.

### **7.7 Development assistance programmes in other countries**

Since the UK Government announced the establishment of the Darwin Initiative for the Survival of Species in 1992 a number of projects concerning wetlands conservation have been undertaken. The UK maintains its commitment to the Darwin Initiative and during 1998 aims to ensure that projects related to wetlands, where possible, contribute to the fulfilment of the General Objectives and actions under the Ramsar Strategy. In addition to the prime purpose of furthering implementation of the CBD. Recent examples of Darwin Initiative projects with wetland components are given in section 8.1.

In 1998 DETR and Department for International Development (DFID) aim to review the contribution which DFID investment has made to implementation by developing countries of the Wise Use Guidelines and Conference Resolutions, Recommendations and other Ramsar materials, in order to assess the compatibility of Ramsar obligations with the creation and maintenance of sustainable livelihoods and the eradication of poverty in developing countries. As part of that process the UK Government will ensure the extent to which efforts by aid recipients to meet Ramsar obligations is a recognisable component of a national strategy for sustainable development, and thus a priority in programme and project planning. Conservation and sustainable development must be closely integrated, particularly in small island developing states.

DFID Development Co-operation funds for wetlands research and wetland management in UK Overseas Territories and developing countries, since 1990, have exceeded £9 million. Examples of recent DFID support include:

Collaboration with the USA, France, Sweden, Jamaica, Australia and others in establishing the International Coral Reef Initiative (ICRI). In 1995 the UK funded the ICRI South Asia Region Coral Reef Management Workshop on wise use of coral reef, mangrove and sea grass resources in India, Sri Lanka, Maldives, Pakistan and Bangladesh.

The UK, in partnership with Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), The World Conservation Union (IUCN) and United Nations Environment Programme (UNEP) have established a South Asia component of the Global Coral Reef Monitoring Network, based in Sri Lanka, and trained regional specialists in monitoring techniques.

Other projects include: analysis of the biological, economic and social impacts of coral reef protection in Island states; analysis of impacts of organic and inorganic pollutants in coastal and inland wetland environments in developing countries; publication of a *Manual of Coastal Management in South Asia*; identifying mechanisms to resolve conflicts in conservation and management in wetland environments, and support for sustainable management systems for biodiversity conservation in Varzea wetlands.



## **7.8 Progress in ensuring cross-sectoral involvement in the development assistance programme?**

DETR consult regularly with DFID about overseas development programmes for promoting wetlands conservation. Any information about projects and future work in terms of funding initiatives are reported to the biannual JWP meetings. The sharing of information and pooling of resources of the UK partners ensures that the UK is involved in broad range of overseas wetland related projects. In addition, as part of the UK targets document, JWP members are asked to promote partnership projects with developing countries in relation to Ramsar wetlands, wherever possible.

The FCO works very closely with other Government departments on environmental issues, and is sponsoring and co-funding with DFID a Marine Biodiversity Workshop to be held in Montego Bay, Jamaica in October 1998. Caribbean UK Overseas Territories will be present at this event and part of the discussion will focus on coral reefs.

The FCO also funds a variety of worthy environmental projects in developing countries. As part of last year's allocation, the FCO provided £10,000 to fund Project Aloatra in Madagascar, a project to raise public awareness and education of wetlands issues. One aim of the project was to provide a springboard for the development of community-based conservation activities, ultimately leading to formal protection of some marshland and sustainable use of wetland resources. This year, the FCO has allocated £2,815 to a Mangrove Conservation Project which will include a re-planting programme and an environment awareness and training programme for the local community.

## **8. To provide the Convention with the required institutional mechanisms and resources**

### **8.1 Contributions to further the work of the Convention globally**

The UK makes an annual financial contribution to the Bureau's running costs which totalled £70,914 in 1997. Additional contributions are made whenever possible and in 1997, in celebration of World Wetlands Day, the UK donated £10,000 towards an IUCN research project to review a number of case-studies where local and indigenous people are involved in the management of wetlands. The UK government contributed nearly £16,000 towards the travel costs of delegates from Central and Eastern Europe and the cost of producing the report for the Pan-European regional meeting held in Latvia in June 1998.

As part of the UK targets document the Government is committed to allocating each year appropriate additional voluntary budget contributions for priority tasks and activities under the Ramsar Convention, which meets or exceeds the six-year total allocated in the period 1991-1996.

The UK recognises that the Ramsar Small Grants Fund is a fundamental mechanism to further wetlands conservation and the wise use of wetlands. As part of the UK's contribution to the Fund, WWF, together with other partner organisations, aim to prepare a paper for the JWP in 1998, with practical suggestions on fundraising, in the context of the Small Grants Fund for wetland conservation projects (UK target 8.4.(a)).

Two wetland projects are currently being funded through the Darwin Initiative (see section 7.7):

#### *Malaysia*

In April 1996 Wetlands International started work with Darwin Initiative funding of £75,492 on a project in Malaysia to address the gap in information related to biodiversity in tropical freshwater and peat swamp forests. It aims to train personnel of government agencies and local NGOs in order to build local capacity in the management of the area; to aid government agencies and local NGOs in developing awareness and publicity material; to promote a higher degree of community responsibility; to promote awareness of the biodiversity value of peat and freshwater swamp forests through the organisation of study camps; to provide input to Malaysia's policy document on wetlands; to develop a sustainable management plan for a core protected area.

#### *Madagascar*

The Royal Holloway Institute for Environmental Research, following a grant of £62,699, has just started a second project which aimed at promoting the sustainable management of wetland biodiversity in Madagascar. The project will investigate the biodiversity and other important values (such as coastal production and hydrological controls) of Lac Sahaka; document traditional methods used by local people at Lac Sahaka and assess the status and likely future changes in the ecosystems, through participatory rural appraisal with long-term inhabitants and discussions with managers. It will use UK expertise in wetland biodiversity and functioning to train Malagasy scientists in assessment of these values; to identify and promote sustainable activities and benefits as justification for 'Wise Use', and to encourage the ratification of the Ramsar Convention and implementation of the Convention on Biodiversity Diversity by the Government of Madagascar.

## **9. Participation of non-governmental organisations in the implementation of the Convention**

### **9.1 Assessment of cross-sectoral involvement at international, national and regional level**

RSPB is largest wildlife conservation organisation in Europe with over one million members. The RSPB actively promote bird conservation by: carrying out biological and economic research; informing and encouraging participation of its members; supporting and developing community education; influencing policy and working with a wide range of organisations and the public to achieve conservation; managing nature reserves, and providing advice on wildlife law enforcement. In addition RSPB is a member of BirdLife International.

WWT is a registered charity working 'to save wetlands for wildlife and people'. It operates at an international, national and regional level promoting wetland issues and is supported by a strong UK membership (68,000 individuals). Underpinning their mission statement WWT are active in education, aviculture and research e.g. raising public awareness, care of collection birds and sites and species monitoring. WWT currently manage eight Centres with one under construction in London, of which five are listed as Ramsar sites (Caerlaverock [Upper Solway Flats and Marshes], Llanelli [Burry Inlet], Martin Mere, Slimbridge [Upper Severn Estuary] and Welney [Ouse Washes]).

BASC is the national representative body for sporting shooting in the United Kingdom. It has over 120,000 members. Waterfowl hunting (wildfowling) in the United Kingdom is predominantly undertaken on the coast through the auspices of some 200 wildfowling clubs affiliated to the BASC. Collectively these clubs own or lease hunting or management rights over some 30,000 hectares of coastland of which 98% is of designated conservation important (SSSI/ASSSI). This includes land within many Ramsar sites and designated or proposed Natura 2000 sites. The hunting club system has proved to be a rapid, inexpensive, effective and long lasting mechanism for regulating hunting and an important conduit for integrated management.

The Wildlife Trusts are a network of 47 regional Wildlife Trusts and 50 Urban Wildlife Groups. The Trusts have been campaigning for wildlife since 1912 and are particularly active in raising public awareness of conservation issues. TWT manage 2,000 nature reserves covering over 60,000 hectares in the UK, many of which are open to the public.

WWF is formally recognised as a partner organisation to the Ramsar Convention and in the UK, WWF UK represents the NGO consortium Wildlife & Countryside Link on the JWP. WWF UK is active in funding a number of wetland initiatives including the Wetland Centre at Barn Elms, conservation of peatlands, reduction of pollution affecting wetlands, coastal zone management and conservation of wetland species such as otter *Lutra lutra* and water vole *Arvicola terrestris*. WWF UK also has a large education component which has generated a number of teaching materials encompassing water and wetlands.

### **9.2 Progress in ensuring cross-sectoral discussions about wetlands**

The UK Government strongly supports a constructive and open relationship with the voluntary sector. In developing general principles for co-operation, as well as in addressing individual cases, it will have regard to the principles underpinning the relationship between Government, volunteering and community sectors in England, which will be set out in a formal compact for the first time in Autumn 1998.

The main mechanism in the UK for formal cross-sectoral co-operation for wetland conservation and implementation of the Ramsar Convention is the JWP. See sections 2.1.b, 2.3 and 4.1 for detailed information about its remit.

EHS has established local committees to advise and assist in the management of two key wetland areas in Northern Ireland; Strangford Lough and Lough Neagh. These groups comprise individuals representing local committees, user groups and conservation organisations. During 1997/98 the Lough Neagh co-ordinating and Advisory Committees commissioned and published a tourism and recreation strategy for Lough Neagh. The Strangford Lough Management Committee is currently involved in the formulation of a sustainable development strategy for the Lough and the surrounding countryside.

The Department of Agriculture (Northern Ireland) has established a similar structure for Lough Erne in Fermanagh. In 1996 DANI published on behalf of the executive bodies represented on the Lough Erne Liaison Group a statement of management objectives and priorities.

The Wash Forum is a well established mechanism for cross sectoral discussion about wetland issues. The Forum represents users of The Wash and conservation organisations presents an effective opportunity for regular discussion. In England and Wales similar fora exist for Morecambe Bay, the Exe Estuary and Burry Inlet.

### **9.3 Voluntary sector involvement at CoP**

The voluntary sector are not represented at the UK delegation to CoP. However, prior to each CoP, cross-sectoral meetings are convened to ensure that the UK delegation are fully briefed about UK activities contributing to the implementation of the Ramsar Strategic Plan and specifically in relation to the main themes of the CoP.

### **9.4 Voluntary sector programmes for education and raising public awareness**

The voluntary sector are strongly committed to local, regional, national and international programmes to promote environmental education and raise public awareness of wetlands issues. Each of the NGOs operate their own educational, publicity and awareness programmes and are contributing to the UK target to develop a national strategy for education and public awareness on wetlands (see sections 3.1 and 3.2).

BASC and the nature conservation agencies have adopted Joint Statements of Common Interest and Co-operation aimed at developing partnerships between conservationists and hunters. These include promoting best hunting practice, capitalising on hunting as an incentive to realise additional management resources and ensuring local community involvement in realising BAP targets. Various communication methods are used including a series of wildfowling conferences organised on a UK, Scotland, Wales and Northern Ireland basis at which the nature conservation agencies and the voluntary sector are regular contributors. In 1997 BASC launched a specialist *Wildfowling News* newsletter covering topical wildfowling and wetland conservation issues which is circulated twice a year to all BASC club members in addition to BASC's quarterly magazine.

### **9.5 Voluntary sector representation at Ramsar Committees**

See sections 2.1.b, 2.3, 4.1 and 9.1 for information about JWP membership.

### **9.6 Themes of the Convention where Voluntary sector are most active**

See sections 2.1, 2.7, 2.11, 2.12, 3.1, 3.2, 4.1, 5.1, 6.1 and 9.1 for information about voluntary sector initiatives and efforts.

## 10. Final comments

### 10.1 General comments on implementation of the Ramsar Strategic Plan

The UK approach to the implementation of the Ramsar Strategic Plan was outlined earlier in this report and was presented to the Pan-European meeting of Contracting Parties in Latvia in June 1998. The approach of setting specific achievable targets for required actions has attracted much attention both nationally and internationally. Indeed, the process of work to derive, and now to start to implement these targets has, and is, generating renewed interest in the aims of the Convention within the UK and to that end has been particularly valuable. The targets derived cover only a proportion of the necessary actions to fully implement the Strategic Plan, so as part of the monitoring and review process further targets may be developed. All involved in the process felt, however, that it was more important to start with deriving some achievable targets for specific areas of work and then progressively building on these, rather than attempting to put in place a greatly ambitious and possibly bureaucratic process that might have run the risk of stagnation. Whatever the approach, monitoring of actions will be crucial. To this end the UK's close linkage of work to implement the Ramsar Strategic Plan, and its Biodiversity Action Plan will be very important.

### 10.2 Observations concerning the functions and services of the various Ramsar bodies

#### *The Bureau*

The Bureau continues to grow in professionalism and expertise, and in the past triennium has provided leadership in promoting the aims of the Convention. We particularly commend the Bureau's staff for their dedication and commitment.

#### *Scientific and Technical Review Panel*

We have some doubts as to whether the STRP, as currently constituted, is able to draw adequately on the full breadth of relevant international scientific expertise in its considerations. Whilst the concept of each Contracting Party formally nominating a member would create an unwieldy structure, there seems to be strong merit in considering mechanisms that would facilitate the scope of expanding the network. In this regard we would strongly support current suggestions that each CP nominate a focal point that could feed relevant information and expertise into the work of the STRP.

To broaden the base of scientific expertise available to the STRP, we also consider that thought needs to be given as to how best to draw upon the considerable wealth of experience of the Specialist Groups of Wetlands International and IUCN. As key component sectors of these partner organisations there may well be elements of the work charged to STRP following CoP7 that they could contribute to, either through the provision of background reports or other assessments.

As in 1996, an early meeting of the STRP following CoP7 should occur so as to facilitate the project planning of the triennium's work plan linking to timetables of Partner Organisations and others.

### 10.3 General observations and recommendations for the future

There is a process in hand to derive additional guidance relating to the use of Ramsar site selection criteria. It is anticipated that this will again stress, as do the current guidelines, the desirability of regional guidelines for site selection, especially for certain wetland formations or other difficult geographical areas or species groups. We would strongly endorse the need for such additional guidance which in the UK view is urgently needed. It would be useful if any covering Decision mandated the development of draft guidance for particular interests. Perhaps this could be undertaken through the establishment of small working groups drawing on expertise in relevant CPs, Wetlands International Specialist Groups and the STRP, reporting to STRP and thence to CoP8. Possible suitable interests on which additional guidance might be drawn up include temperate peatlands; habitats of Arctic waterfowl; mangrove systems; and subterranean karst wetlands.

The Convention is rightly diversifying the areas of its activity and is currently, and correctly, giving priority to issues of water resource management, and the role of wetlands in human health and development. Yet, the Convention derived from concerns for more traditional nature conservation aspects of wetland conservation, specifically for waterbird conservation. It is the UK's view that in diversifying the activity and scope of the Convention, it is important that traditional nature conservation aspects, especially for waterbirds, are not neglected. As well as their own importance, flagship or 'totemic' taxa such as waterbirds are frequently very valuable in wetland education and public awareness programmes, not just in developing countries. We would wish to see the current development of the Convention's activities to be alongside and as well as rather than instead of traditional consideration of nature conservation issues.

Listed Ramsar sites have the potential to play a key role in the conservation of globally threatened wetland species, and to this end we consider it as important that any revised guidance on the use of site selection criteria stresses such a role.

As noted in the main text of this report, the UK welcomes the growing co-ordination with the Convention of Biological Diversity. Steps to further integrate the work programmes of the two Conventions and to reduce duplication in the work of Secretariats and national focal points can only be helpful. We consider that both Conventions have a separate role and full integration of the subsuming of Ramsar under the CBD is unnecessary, however we would strongly encourage further such close co-ordination.

## List of abbreviations and acronyms

AEWA	African-Eurasian Migratory Waterbird Agreement
ASSI	Area of Special Scientific Interest
BAP	Biodiversity Action Plan
BASC	British Association for Shooting and Conservation
BIOT	British Indian Ocean Territory
BMP	Best Management Practice
BVI	British Virgin Islands
CAP	Common Agricultural Policy
CBD	Convention on Biological Diversity
CCW	Countryside Council for Wales
CoP	Conference of the Parties
CPS	Countryside Premium Scheme
CSS	Countryside Stewardship Scheme
DANI	Department of Agriculture (Northern Ireland)
DETR	Department of Environment, Transport and the Regions
DFID	Department for International Development
DoE(NI)	Department of Environment in Northern Ireland
DWI	Drinking Water Inspectorate
EA	Environmental Agency
EAF	Environmental Action Fund
EHS	Environment and Heritage Service
EIA	Environmental Impact Assessment
EN	English Nature
EPA	Education and Public Awareness
ESA	Environmentally Sensitive Area
FA	Forest Authority
FC	Forestry Commission
FCO	Foreign and Commonwealth Office
FE	Forest Enterprise
FWAG	Farming and Wildlife Advisory Group
GIS	Geographical Information System
GONHS	Gibraltar Ornithological and Natural History Society
HAP	Habitat Action Plan
ICBP	International Council for Bird Preservation
ICRI	International Coral Reef Initiative
ITE	Institute of Terrestrial Ecology
IUCN	The World Conservation Union
I-WeBS	Irish Wetland Bird Survey
IAWQ	International Association on Water Quality
IDD	International Designations Database
IDG	International Designations Group
IUCN	International Union for Conservation of Nature and Natural Resources
IWC	International Waterfowl Census
JNCC	Joint Nature Conservation Committee
JWP	Joint Working Party
LCN	Lead Co-ordination Network
LEAP	Local Environmental Agency Plans
LPS96	Lowland Pond Survey 1996
MAFF	Ministry of Agriculture, Fisheries and Food
NCC	Nature Conservancy Council
NCMS	National Countryside Monitoring Scheme
NIWT	National Inventory of Woodland and Trees
MNCR	Marine Nature Conservation Review
MNR	Marine Nature Reserve
MPMMG	Marine Pollution Monitoring Management Group
NBN	National Biodiversity Network
NCR	Nature Conservation Review
NERC	Natural Environment Research Council

NGO	Non-Governmental Organisation
NNR	National Nature Reserve
NPPG	National Planning Policy Guidance on Natural Heritage
NPRI	National Peatland Resource Inventory
NVZ	Nitrate Vulnerable Zone
OFWAT	Office of Water Services
OSPAR	Oslo and Paris Commissions
OT	Overseas Territories
PCC	Peatlands Campaign Consortium
RIS	Ramsar Information Sheet
RSPB	Royal Society for the Protection of Birds
SAC	Special Areas of Conservation
SAP	Species Action Plan
SCoBR	Sub-Committee on Biological Recording
SEEC	Sea Empress Environmental Evaluation Committee
SEPA	Scottish Environment Protection Agency
SERCON	System for Evaluating Rivers for Conservation
SMS	Site Management Statements
SNGF	Scottish National Goose Forum
SNH	Scottish Natural Heritage
SNIFFER	Scotland and Northern Ireland Forum for Environmental Research
SO	Scottish Office
SOAEFD	Scottish Office Agriculture, Environment and Fisheries Department
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STRP	Scientific and Technical Review Panel
TIBRE	Targeted Inputs for a Better Rural Environment
TWT	The Wildlife Trusts
(UNEP)	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
UKOT	United Kingdom Overseas Territories
WCL	Wildlife and Countryside Link
WeBS	Wetland Bird Survey
WGS	Woodland Grant Scheme
WHT	Wildlife Habitat Trust
WI	Wetlands International
WO	Welsh Office
WWD	World Wetlands Day
WWF	World Wide Fund for Nature-UK
WWT	Wildfowl & Wetlands Trust
WWW	World Wide Web



## References

- Association of Directors and River Inspectors of Scotland. 1995. *Quality classification of Scottish standing waters*. unpublished report (fourth revision). ADRIS sub-group on Classification of Standing Waters, May 1995.
- Anon. 1998. Convention on Wetlands: UK targets for the Strategic Plan 1997-2002. Bristol, DETR.
- Anon. 1998. *Towards 2000: marine monitoring in the 1990s*. The 5th Report of the UK Marine Pollution Monitoring Management Group. Lowerstoft, Centre for the Environment Freshwater Aquaculture and Science.
- Barr, C., *et al.* 1993. *Countryside Survey 1990: Main Report*. Countryside 1990 Series, Volume 2. London, Department of the Environment.
- Bennion, H. *et al.* 1997. *A study of recent environmental change with selected standing waters proposed as Special Areas of Conservation in Wales Phase II*. Countryside Council for Wales Research Report. No. 187. Bangor, Countryside Council for Wales.
- Biodiversity Secretariat. 1998. *Biodiversity News*. Bristol, DETR.
- Biodiversity: The UK Steering Group Report. 1995. *Volume 2: Action Plans*. London, HMSO.
- Brown, A.E., Burn, A.J., Hopkins, J.J. & Way, S.F., *eds.* 1998. The Habitats Directive: selection of Special Areas of Conservation in the UK. *JNCC Report No. 270*. Peterborough, Joint Nature Conservation Committee.
- Climate Change: the UK program. 1994. London, HMSO.
- Connor, D. W., *et al.* 1997. *Marine Biotope classification for Britain and Ireland*. Joint Nature Conservation Committee Report, No. 229 & 230. Peterborough, Joint Nature Conservation Committee.
- Countryside Council for Wales. 1996. *Annual report for year ending 31st March 1996*. Bangor, Countryside Council for Wales.
- Countryside Council for Wales. 1996. *Ponds and Conservation*. Bangor, Countryside Council for Wales.
- Countryside Council for Wales. 1997. *Annual report for year ending 31st March 1997*.
- Countryside Council for Wales, Royal Society for the Protection of Birds, Environment Agency, North Wales Wildlife Trust, Ynys Mon ESA. 1996. *Anglesey wetland strategy. Working together to restore wetlands for wildlife*.
- Cranswick, P.A., Waters, R.J., Musgrove, A.J. & Politt, M.S. 1997. *The Wetland Bird Survey 1995-96: wildfowl and wader counts*. Slimbridge, British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee.
- Crofts, A. & Jefferson, R.G. (Eds.) (1994). *The Lowland Grassland Management Handbook*. EN/The Wildlife Trusts, Peterborough.
- Department of the Environment. 1994. *Biodiversity: The UK Action Plan*. London, HMSO.
- Department of the Environment. 1995. *Biodiversity: The UK Steering Group Report. Volume 1: Meeting the Rio Challenge*. London, HMSO.
- Department of the Environment. 1995. *Biodiversity: The UK Steering Group Report. Volume 21: Action Plans*. London, HMSO.
- Department of the Environment 1998. *UK Biodiversity Group Tranche 2 Action Plans: Volume 1 – Vertebrates and Vascular Plants*. Peterborough, English Nature
- Department of the Environment. 1995. *UK National Report to the Sixth Meeting of the Conference of the Contracting Parties, Brisbane, Australia*. Bristol, DoE.
- Department of the Environment. 1995. *Climate Change: the UK program: Progress Report on Carbon Dioxide*. London, DoE.
- Department of the Environment. 1996. *Indicators of Sustainable Development for the United Kingdom*. London, HMSO.
- Department of the Environment, Transport and the Regions. 1997. *Convention on Biological Diversity: The United Kingdom's First National Report*. DETR, London.

- Institute of Terrestrial Ecology 1998. *Countryside Survey 2000 News*. Institute for Terrestrial Ecology, Merlewood.
- Drury Hunt, I. & MacGuire, F., eds. 1996. *High and Dry: The impacts of over-abstraction of water on wildlife*. Biodiversity Challenge. Sandy, RSPB.
- Duigan, C. A. & Tegai Jones, A. 1997. *Pond Conservation Symposium: Introduction*. Aquatic Conservation: marine and freshwater ecosystems, 7: 87-89. Chichester, Wiley.
- English Nature. 1996. *Habitat Restoration Project*. Peterborough, English Nature.
- English Nature. 1997. *Annual report for year ending 31st March 1997*. Peterborough, English Nature.
- English Nature. 1997. *Wildlife and fresh water: an agenda for sustainable management*. Peterborough, English Nature.
- Environment Agency & Scottish Environment Protection Agency. 1997. *Nature's Way*.
- Environment Agency & Scottish Environment Protection Agency. 1997. *A Guide to Sustainable Urban Drainage*.
- Environment Agency. 1998. *The State of the Environment of England and Wales: Fresh Waters*. London, The Stationery Office.
- Forestry Authority 1994. *Forestry Practice Guides: The management of semi-natural woodlands*. Edinburgh, Forestry Authority.
- Forestry Authority & Department of Agriculture for Northern Ireland 1998. *The UK Forestry Standard: the Government's approach to sustainable forestry*. Edinburgh, Forestry Commission.
- Forestry Commission 1988. *Forests and water guidelines*. Edinburgh, Forestry Authority.
- Forth Estuary Forum. 1997. *Forth Sight*. Edinburgh.
- Fozzard, I.R, Doughty, C.R. and Leatherland, T.M. 1997. Defining the quality of Scottish freshwater lochs. In Boon, P.J. and Howell, D.L. eds. *Freshwater quality: defining the indefinable?* The Stationery Office, Edinburgh, pp. 134-143.
- Gilbert, G. & Gibbons, D. W. 1996. *A review of habitat, land cover and land-use survey and monitoring in the United Kingdom*. Sandy, Royal Society for the Protection of Birds.
- Government Response to the UK Steering Group Report on Biodiversity. 1996. London, HMSO.
- Green, C., Sarjeant, I. & Anderson, G., eds. 1998. *Scotland's Natural Heritage*. No 12. Edinburgh, Scottish Natural Heritage.
- Environment and Heritage Service & Department of Agriculture for Northern Ireland. 1997. *Heather Moorland, Peat Cutting - reducing the damage*. Belfast, DANI.
- Joint Nature Conservation Committee. 1994. *Guidelines for selection of biological SSSIs: bogs*. Peterborough, Joint Nature Conservation Committee.
- Joint Nature Conservation Committee. 1996. *Guidelines for selection of biological SSSIs: inter-tidal habitats*. Peterborough, Joint Nature Conservation Committee.
- Lindsay, R.A. & Immirzi, C.P. 1996. *An inventory of lowland raised bogs in Great Britain*. Scottish Natural Heritage Research, Survey and Monitoring Report. No. 78. Edinburgh, Scottish Natural Heritage.
- Ministry of Agriculture, Fisheries and Food. 1998. *Conservation Grants for Farmers*. London, Ministry of Agriculture, Fisheries and Food.
- Nature Conservancy Council. 1989. *Guidelines for selection of biological SSSIs*. Peterborough, Nature Conservancy Council.
- Pritchard, D.E., Housden, S.D., Mudge, G.P., Galbraith, C.A., Pienkwocki, M.W., eds. 1992. *Important bird Areas in the United Kingdom including the Channel Islands and the Isle of Man*. Sandy, Royal Society for the Protection of Birds.
- Quarmby, N.A., Everingham, F. and Reid, E. 1997. *Scottish Blanket bog inventory: Lewis and Harris - characterisation of blanket bogs using Landsat Thematic Mapper*. Scottish Natural Heritage Research, Survey and Monitoring Report. No. 85. Edinburgh, Scottish Natural Heritage.

- Ramsar Convention Bureau. 1996. *Proceedings of the 6th Meeting of the Conference of the Contracting Parties, Brisbane, Australia, 19-27 March 1996*. Gland, Ramsar Bureau.
- Ratcliffe, D.A., ed. 1977. *A Nature Conservation Review*. Cambridge, Cambridge University Press.
- Raven, P. J., Holmes, N.T.H., Dawson, F.H., Fox, P.J.A., Everard, M., Fozzard, I.R. & Rouen, K.J. 1998. *River Habitat Quality: the physical character of rivers and streams in the UK and Isle of Man*. River Habitat Survey Report No. 2. Bristol, Environment Agency.
- Reid, E., Ross, S.Y., Thompson, D.B.A. and Lindsay, R.A. 1996. From *Sphagnum* to satellite: towards a comprehensive inventory of the blanket mires of Scotland. In: *Conserving Peatlands*, ed. by L. Parkyn, R.E. Stoneman and H.A.P. Ingram, 204-216. Wallingford, Centre for Agriculture and Bioscience Publication.
- Rodwell, J.S. & Patterson, G. 1994. *Forestry Authority Bulletin 112: Creating New Native Woods* Edinburgh, Forestry Authority.
- Scottish Natural Heritage. 1994. *National Countryside Monitoring Scheme Scotland: Main report of findings*. Edinburgh, Scottish Natural Heritage.
- Scottish Natural Heritage. 1994. *Focus on Firths*.
- Scottish Natural Heritage. 1995. *Boglands: Scotland's living landscapes*. Edinburgh, Scottish Natural Heritage.
- Scottish Natural Heritage. 1995. *Grants for environmental education and interpretation*. Edinburgh, Scottish Natural Heritage.
- Scottish Natural Heritage. 1997. *Annual report for year ending 31st March 1997*. Edinburgh, Scottish Natural Heritage.
- Scottish Natural Heritage. 1998. *Lowland Raised Bogs*. Edinburgh, Scottish Natural Heritage.
- Scottish Natural Heritage. 1996. *TIBRE: agriculture, environment and industry growing together*. Edinburgh, Scottish Natural Heritage.
- Smith, I. and Lyle, A. 1979. *Distribution of freshwaters in Great Britain*. Edinburgh, Institute of Terrestrial Ecology.
- Stroud, D.A., Mudge, G.P. and Pienkowski, M. W., eds. 1990. *Protecting Internationally Important Bird Sites*. Peterborough, Nature Conservancy Council.
- This Common Inheritance: UK Annual Report 1997. 1997. London, The Stationery Office.
- UK Marine SACs Project. 1998. *Marinelife*. Peterborough, English Nature.
- Wilkie, N. M. & Thompson, P. S. 1998. Conservation and restoration of active blanket bog in Caithness and Sutherland, Scotland. In: *Towards a Conservation Strategy for the Bogs of Ireland*, ed. by G. O'Leary & F. Gormley, 167-176. Dublin, Irish Peatland Council.
- Nature Conservancy Council. 1989. *Guidelines for the selection of biological SSSIs*. Nature Conservancy Council, Peterborough.
- Wolfe-Murphy, S.A., Lawrie, E.W., Smith, S.J. and Gibson, C.E. 1992. *Northern Ireland loughs survey*. Unpublished report. Department of the Environment, Northern Ireland.

## Appendix 1: Priority Habitat and Species Action Plans

### *Habitats*

The UK Biodiversity Steering Group identified 38 priority habitats for action plans. In 1995 the Steering Group published the first 14 of these. The remaining plans are currently being prepared, and will be finalised and published by early 1999.

**Table 7** Priority habitat action plans published in 1995

Ancient and/or species rich hedgerows
Cereal field margins
Chalk Rivers
Coastal and floodplain grazing marsh
Fens
Limestone pavements
Lowland heathland
Mesotrophic lakes
Native pinewoods
Purple moorgrass and rush pastures <i>Molinia-Juncus</i>
Reedbeds
Saline lagoons
Seagrass beds
Upland oakwood

*Source: UK Biodiversity Steering Group Report 1995*

**Table 8** Priority habitat actions for publication in 1998

Aquifer-fed naturally fluctuating water bodies
<i>Ascophyllum nodosum mackii</i> beds
Blanket bog
Coastal sand dunes
Coastal vegetated shingle
Deep mud (Seapen and burrowing megafauna communities)
Eutrophic standing waters
Littoral and sublittoral chalk reefs
Littoral and sublittoral seagrass beds
<i>Lophelia pertusa</i> reefs
Lowland acid grassland
Lowland beech and yew woodland
Lowland calcareous grassland
Lowland hay meadows
Lowland raised bog
Lowland wood pasture and parkland
Machair
Maerl beds
Maritime cliff and slopes
<i>Modiolus modiolus</i> beds
Mudflats
Offshore sands and gravels
<i>Sabellaria alveolata</i> reefs
<i>Sabellaria spinulosa</i> reefs
Saline lagoons
Saltmarsh
<i>Serpula vermicularis</i> beds
Sheltered muddy gravels
Tidal rapids
Upland calcareous grassland
Upland hay meadows
Upland heath
Upland mixed ashwoods
Wet woodland

Source: JNCC

## Species

In 1995 the UK Biodiversity Steering Group published 116 species action plans and more recently a second tranche of 56 SAPs were produced. Each of the plans are costed and have a lead partner to co-ordinate action. Over the next year a further 250 SAPs will be prepared, finalised and published. The list below includes all priority species identified for action.

**Table 9** Priority species with existing, or proposed for, action plan (\* = wetland species)

Mammal	* <i>Arvicola terrestris</i>	water vole
Mammal	<i>Barbastella barbastellus</i>	barbastelle
Mammal	<i>Lepus europaeus</i>	brown hare
Mammal	* <i>Lutra lutra</i>	European otter
Mammal	<i>Muscardinus avellanarius</i>	dormouse
Mammal	<i>Myotis bechsteinii</i>	Bechstein's bat
Mammal	<i>Myotis myotis</i>	greater mouse-eared bat
Mammal	<i>Phocoena phocoena</i>	harbour porpoise
Mammal	<i>Pipistrellus pipistrellus</i>	pipistrelle bat
Mammal	<i>Rhinolophus ferrumequinum</i>	greater horseshoe bat
Mammal	<i>Rhinolophus hipposideros</i>	lesser horseshoe bat
Mammal	<i>Sciurus vulgaris</i>	red squirrel
Mammal	Single grouped plan for baleen whales	
Mammal	Single grouped plan for dolphins	
Mammal	Single grouped plan for toothed whales	
Bird	* <i>Acrocephalus paludicola</i>	aquatic warbler
Bird	* <i>Acrocephalus palustris</i>	marsh warbler
Bird	<i>Alauda arvensis</i>	skylark
Bird	* <i>Botaurus stellaris</i>	bittern
Bird	<i>Burhinus oedicnemus</i>	stone curlew
Bird	<i>Caprimulgus europaeus</i>	nightjar
Bird	<i>Carduelis cannabina</i>	linnet
Bird	<i>Crex crex</i>	corncrake
Bird	<i>Emberiza cirulus</i>	cirl bunting
Bird	* <i>Emberiza schoeniclus</i>	reed bunting
Bird	<i>Jynx torquilla</i>	wryneck
Bird	<i>Lanius collurio</i>	red-backed shrike
Bird	<i>Loxia scotica</i>	scottish crossbill
Bird	<i>Lullula arborea</i>	woodlark
Bird	* <i>Melanitta nigra</i>	common scoter
Bird	<i>Miliaria calandra</i>	corn bunting
Bird	<i>Muscicapa striata</i>	spotted flycatcher
Bird	<i>Passer montanus</i>	tree sparrow
Bird	<i>Perdix perdix</i>	grey partridge
Bird	* <i>Phalaropus lobatus</i>	red-necked phalarope
Bird	<i>Pyrrhula pyrrhula</i>	bullfinch
Bird	* <i>Sterna dougallii</i>	roseate tern
Bird	<i>Streptopelia turtur</i>	turtle dove
Bird	<i>Tetrao tetrix</i>	black grouse
Bird	<i>Tetrao urogallus</i>	capercaillie
Bird	<i>Turdus philomelos</i>	song thrush
Amphibian	* <i>Bufo calamita</i>	natterjack toad
Amphibian	* <i>Rana lessonae</i>	pool frog
Amphibian	* <i>Triturus cristatus</i>	great crested newt
Reptile	* <i>Lacerta agilis</i>	sand lizard
Reptile	Single grouped plan for turtles	
Fish	* <i>Alosa alosa</i>	allis shad
Fish	* <i>Alosa fallax</i>	twaite shad
Fish	* <i>Cetorhinus maximus</i>	basking shark
Fish	* <i>Coregonus albula</i>	vendace
Fish	* <i>Coregonus autumnalis</i>	pollan

Fish	* <i>Lota lota</i>	burbot
Fish	* <i>Raja batis</i>	common skate
Fish	Single grouped plan for selected commercial fish species	
Fish	Single grouped plan for selected deep water fish species	
Ant	<i>Anergates atratulus</i>	dark guest ant
Ant	<i>Formica aquilonia</i>	scottish wood ant
Ant	<i>Formica exsecta</i>	narrow-headed ant
Ant	<i>Formica nigricans</i>	black-backed meadow ant
Ant	<i>Formica rufa</i>	red wood ant
Ant	<i>Formica rufibarbis</i>	red-barbed ant
Ant	* <i>Formica transcaucasica</i>	bog ant
Ant	<i>Formicoxenus nitidulus</i>	shining guest ant
Bee	<i>Andrena ferox</i>	mining bee
Bee	<i>Andrena gravida</i>	banded mining bee
Bee	<i>Andrena lathyri</i>	a mining bee
Bee	<i>Bombus distinguendus</i>	great yellow bumble bee
Bee	<i>Bombus humilis</i>	brown-banded carder bee
Bee	<i>Bombus ruderatus</i>	large garden bumble bee
Bee	<i>Bombus subterraneus</i>	short haired bumble bee
Bee	<i>Bombus sylvarum</i>	shrill carder bee
Bee	<i>Colletes floralis</i>	northern colletes
Bee	<i>Lasioglossum angusticeps</i>	a mining bee
Bee	<i>Nomada armata</i>	a nomad bee
Bee	<i>Nomada errans</i>	a nomad bee
Bee	<i>Nomada xanthosticta</i>	a nomad bee
Bee	<i>Osmia inermis</i>	a mason bee
Bee	<i>Osmia parietina</i>	a mason bee
Bee	<i>Osmia uncinata</i>	a mason bee
Bee	<i>Osmia xanthomelana</i>	a mason bee
Beetle	* <i>Agabus brunneus</i>	a water beetle
Beetle	<i>Amara famelica</i>	a ground beetle
Beetle	* <i>Anisodactylus poeciloides</i>	a ground beetle
Beetle	<i>Anostirus castaneus</i>	a click beetle
Beetle	* <i>Aphodius niger</i>	a scarab beetle
Beetle	* <i>Badister anomalus</i>	a ground beetle
Beetle	* <i>Bembidion argenteolum</i>	a ground beetle
Beetle	* <i>Bidessus minutissimus</i>	a water beetle
Beetle	* <i>Bidessus unistriatus</i>	a water beetle
Beetle	<i>Byctiscus populi</i>	a leaf-rolling weevil
Beetle	<i>Carabus intricatus</i>	blue ground beetle
Beetle	<i>Cathormiocerus britannicus</i>	a weevil
Beetle	<i>Chrysolina cerealis</i>	rainbow leaf beetle
Beetle	<i>Cicindela germanica</i>	a tiger beetle
Beetle	<i>Cicindela hybrida</i>	a ground beetle
Beetle	<i>Cicindela sylvatica</i>	heath tiger beetle
Beetle	<i>Cryptocephalus coryli</i>	a leaf beetle
Beetle	* <i>Cryptocephalus exiguus</i>	a leaf beetle
Beetle	<i>Cryptocephalus nitidulus</i>	a leaf beetle
Beetle	<i>Cryptocephalus primarius</i>	a leaf beetle
Beetle	<i>Cryptocephalus sexpunctatus</i>	a leaf beetle
Beetle	* <i>Curimopsis nigrata</i>	mire pill beetle
Beetle	* <i>Donacia aquatica</i>	a reed beetle
Beetle	* <i>Donacia bicolora</i>	a reed beetle
Beetle	* <i>Dyschirius angustatus</i>	a ground beetle
Beetle	<i>Ernoporus tiliae</i>	a bark beetle
Beetle	<i>Gastrallus immarginatus</i>	a beetle
Beetle	<i>Gnorimus nobilis</i>	a chafer
Beetle	* <i>Graphoderus zonatus</i>	spangled water beetle
Beetle	<i>Harpalus dimidiatus</i>	a ground beetle
Beetle	<i>Harpalus froelichi</i>	a ground beetle

Beetle	<i>Harpalus obscurus</i>	a ground beetle
Beetle	* <i>Helophorus laticollis</i>	a water beetle
Beetle	* <i>Hydrochara caraboides</i>	lesser silver water beetle
Beetle	* <i>Hydroporus cantabricus</i>	a water beetle
Beetle	* <i>Hydroporus rufifrons</i>	a water beetle
Beetle	* <i>Laccophilus obsoletus</i>	a water beetle
Beetle	<i>Limoniscus violaceus</i>	violet click beetle
Beetle	<i>Lucanus cervus</i>	stag beetle
Beetle	<i>Malachius aeneus</i>	scarlet malachite beetle
Beetle	* <i>Melanapion minimum</i>	a weevil
Beetle	<i>Melanotus punctolineatus</i>	a click beetle
Beetle	* <i>Oberea oculata</i>	a longhorn beetle
Beetle	<i>Pachytychius haematocephalus</i>	a weevil
Beetle	* <i>Panagaeus crux-major</i>	a ground beetle
Beetle	* <i>Paracymus aeneus</i>	a water beetle
Beetle	<i>Procas granulicollis</i>	a weevil
Beetle	<i>Psylliodes sophiae</i>	flixweed flea beetle
Beetle	* <i>Pterostichus aterrimus</i>	a ground beetle
Beetle	<i>Pterostichus kugelanni</i>	a ground beetle
Beetle	<i>Rhynchaenus testaceus</i>	a jumping weevil
Beetle	*Single grouped plan for <i>Bembidion testaceum</i> , <i>Lionychus quadrillum</i> , <i>Hydrochus nitidicollis</i> , <i>Meotica anglica</i> , <i>Perileptus areolatus</i> & <i>Thinobius newberyi</i>	beetles
Beetle	Single grouped plan for <i>Harpalus cordatus</i> & <i>Harpalus parallelus</i>	ground beetles
Beetle	* <i>Stenus palposus</i>	a rove beetle
Beetle	* <i>Synaptus filiformis</i>	a click beetle
Beetle	* <i>Tachys edmondsi</i>	a ground beetle
Butterfly	<i>Argynnis adippe</i>	high brown fritillary
Butterfly	<i>Aricia artaxerxes</i>	northern brown argus
Butterfly	<i>Boloria euphrosyne</i>	pearl-bordered fritillary
Butterfly	<i>Carterocephalus palaemon</i>	chequered skipper
Butterfly	* <i>Eurodryas aurinia</i>	marsh fritillary
Butterfly	<i>Hesperia comma</i>	silver-spotted skipper
Butterfly	* <i>Lycaena dispar</i>	large copper butterfly
Butterfly	<i>Lysandra bellargus</i>	adonis blue
Butterfly	<i>Maculinea arion</i>	large blue butterfly
Butterfly	<i>Mellicta athalia</i>	heath fritillary
Butterfly	<i>Plebejus argus</i>	silver-studded blue
Coral	<i>Leptopsammia pruvoti</i>	cup coral
Cricket/Grasshopper	<i>Decticus verrucivorus</i>	wart-biter grasshopper
Cricket/Grasshopper	<i>Gryllotalpa gryllotalpa</i>	mole cricket
Cricket/Grasshopper	* <i>Gryllus campestris</i>	field cricket
Cricket/Grasshopper	* <i>Stethophyma grossum</i>	large marsh grasshopper
Crustacean	* <i>Austropotamobius pallipes</i>	freshwater white-clawed crayfish
Crustacean	* <i>Triops cancriformis</i>	freshwater tadpole shrimp
Damsel/Dragonfly	* <i>Coenagrion mercuriale</i>	southern damselfly
Fly	<i>Asilus crabroniformis</i>	a robber fly
Fly	<i>Blera fallax</i>	a hoverfly
Fly	<i>Bombylius discolor</i>	a bee fly
Fly	<i>Bombylius minor</i>	a bee fly
Fly	<i>Callicera spinolae</i>	a hoverfly
Fly	<i>Chrysotoxum octomaculatum</i>	a hoverfly
Fly	<i>Doros conopseus</i>	a hoverfly
Fly	<i>Dorycera graminum</i>	a large otitid
Fly	* <i>Eristalis cryptarum</i>	a hoverfly
Fly	<i>Hammerschmidtia ferruginea</i>	a hoverfly
Fly	* <i>Lipsothrix ecucullata</i>	a crane fly



Fly	<i>*Lipsothrix errans</i>	a crane fly
Fly	<i>*Lipsothrix nervosa</i>	a crane fly
Fly	<i>*Lipsothrix nigristigma</i>	a crane fly
Fly	<i>Myolepta potens</i>	a hover fly
Fly	<i>*Odontomyia hydroleon</i>	a soldier fly
Fly	<i>*Psilocephala rustica</i>	a stiletto fly
Fly	<i>*Rhabdomastix hilaris</i>	a crane fly
Fly	<i>*Thereva lunulata</i>	a stiletto fly
Fly	<i>Thyridanthrax fenestratus</i>	a beefly
Fly	<i>Tipula serrulifera</i>	a crane fly
Mollusc	<i>*Anisus vorticulus</i>	a snail
Mollusc	<i>Atrina fragilis</i>	fan mussel
Mollusc	<i>*Catinella arenaria</i>	sandbowl snail
Mollusc	<i>*Margaritifera margaritifera</i>	a freshwater pearl mussel
Mollusc	<i>*Myxas glutinosa</i>	glutinous snail
Mollusc	<i>*Ostrea edulis</i>	native oyster
Mollusc	<i>*Pisidium tenuilineatum</i>	a freshwater bivalve
Mollusc	<i>*Pseudanodonta complanata</i>	a freshwater mussel
Mollusc	<i>*Segmentina nitida</i>	a freshwater snail
Mollusc	<i>Thyasira gouldi</i>	northern hatchet shell
Mollusc	<i>*Vertigo angustior</i>	a snail
Mollusc	<i>*Vertigo genesii</i>	a snail
Mollusc	<i>*Vertigo geyeri</i>	a snail
Mollusc	<i>*Vertigo moulinsiana</i>	a snail
Moth	<i>Acosmetia caliginosa</i>	reddish buff
Moth	<i>Aspitates gilvaria gilvaria</i>	straw belle
Moth	<i>*Athetis pallustris</i>	marsh
Moth	<i>Bembecia chrysidiformis</i>	fiery clearwing
Moth	<i>Calophasia lunula</i>	toadflax brocade
Moth	<i>Catocala promissa</i>	light crimson underwing
Moth	<i>Catocala sponsa</i>	dark crimson underwing
Moth	<i>Coleophora tricolor</i>	a case-bearing moth
Moth	<i>Coscinia cribraria bivittata</i>	speckled footman
Moth	<i>Cosmia diffinis</i>	white-spotted pinion
Moth	<i>Cucullia lychnitis</i>	striped lychnis
Moth	<i>Cyclophora pendularia</i>	dingy mocha
Moth	<i>Dicycla oo</i>	heart
Moth	<i>Epione paralellaria</i>	dark bordered beauty
Moth	<i>*Eustroma reticulata</i>	netted carpet
Moth	<i>Hadena albimacula</i>	white spot
Moth	<i>Heliophobus reticulata</i>	bordered gothic
Moth	<i>*Hemaris tityus</i>	narrow-bordered bee hawk
Moth	<i>*Hydraecia osseola hucherardi</i>	marsh mallow
Moth	<i>Hydrelia sylvata</i>	waved carpet
Moth	<i>Hypena rostralis</i>	buttoned snout
Moth	<i>Idaea dilutaria</i>	silky wave
Moth	<i>Idaea ochrata cantiata</i>	bright wave
Moth	<i>Jodia croceago</i>	orange upperwing
Moth	<i>Lycia zonaria britannica</i>	belted beauty
Moth	<i>Lygephila cracca</i>	scarce blackneck
Moth	<i>Minoa murinata</i>	drab looper
Moth	<i>Moma alpium</i>	scarce Merveille du Jour
Moth	<i>Mythimna turca</i>	double line
Moth	<i>Noctua orbona</i>	lunar yellow underwing
Moth	<i>Oria musculosa</i>	brighton wainscot
Moth	<i>Paracolax derivalis</i>	clay fan-foot
Moth	<i>Paradiarsia sobrina</i>	cousin German
Moth	<i>Pareulype berberata</i>	barberry carpet
Moth	<i>Pechipogon strigilata</i>	common fan-foot

Moth	<i>Phyllodesma ilicifolia</i>	small lappet
Moth	<i>Polia bombycina</i>	pale shining brown
Moth	<i>Polymixis xanthomista</i>	black-banded
Moth	* <i>Rheumaptera hastata</i>	argent and sable
Moth	* <i>Schrankia taenialis</i>	white-line snout
Moth	<i>Semiothisa carbonaria</i>	netted mountain
Moth	<i>Siona lineata</i>	black-veined
Moth	<i>Trichopteryx polycommata</i>	barred toothed stripe
Moth	<i>Trisateles emortualis</i>	olive crescent
Moth	<i>Tyta luctuosa</i>	four-spotted
Moth	<i>Xestia alpicola alpina</i>	northern dart
Moth	<i>Xestia ashworthii</i>	Ashworth's rustic
Moth	<i>Xestia rhomboidea</i>	square-spotted clay
Moth	<i>Xylena exsoleta</i>	sword grass
Moth	<i>Zygaena loti scotica</i>	slender Scotch burnet
Moth	<i>Zygaena viciae argyllensis</i>	New Forest burnet moth
Sea anemone group	<i>Amphianthus dohrnii</i>	sea fan anemone
Sea anemone group	* <i>Edwardsia ivelli</i>	Ivell's sea anemone
Sea anemone group	<i>Eunicella verrucosa</i>	broad sea fan
Sea anemone group	* <i>Nematostella vectensis</i>	starlet sea anemone
Sea mat	* <i>Lophopus crystallinus</i>	a freshwater bryozoan
Spider	* <i>Clubiona rosserae</i>	a spider
Spider	<i>Clubiona subsultans</i>	a spider
Spider	* <i>Dolomedes plantarius</i>	fen raft spider
Spider	<i>Eresus cinnaberinus</i>	ladybird spider
Spider	<i>Uloborus walckenaerius</i>	a spider
Stone fly	<i>Brachyptera putata</i>	a stonefly
True bug	<i>Cicadetta montana</i>	New Forest cicada
True bug	* <i>Hydrometra gracilentia</i>	the lesser water measurer
Wasp	<i>Cerceris quadricincta</i>	a solitary wasp
Wasp	<i>Cerceris quinquefasciata</i>	a solitary wasp
Wasp	<i>Chrysis fulgida</i>	a ruby-tailed wasp
Wasp	<i>Chrysura hirsuta</i>	a ruby-tailed wasp
Wasp	<i>Evagetes pectinipes</i>	a spider wasp
Wasp	* <i>Homonotus sanguinolentus</i>	a spider wasp
Wasp	<i>Pseudepipona herrichii</i>	a mason wasp
Worm	* <i>Hirudo medicinalis</i>	medicinal leech
Worm	* <i>Prostoma jenningsi</i>	a nemertean
Alga	* <i>Anotrichium barbatum</i>	red alga
Fungus	* <i>Armillaria ectypa</i>	an agaric
Fungus	<i>Battarraea phalloides</i>	a phalloid
Fungus	<i>Boletus regius</i>	the royal bolete
Fungus	<i>Boletus satanas</i>	devil's bolete
Fungus	<i>Buglossoporus pulvinus</i>	oak polypore
Fungus	<i>Hericium erinaceum</i>	hedgehog fungus
Fungus	<i>Hygrocybe calyptraeformis</i>	waxcap
Fungus	<i>Hygrocybe spadicea</i>	a wax cap
Fungus	<i>Hypocreopsis rhododendri</i>	an ascomycete
Fungus	<i>Microglossum olivaceum</i>	an earth tongue
Fungus	<i>Poronia punctata</i>	nail fungus
Fungus	Single grouped plan for <i>Bankera fuligineoalba</i> , <i>Hydnellum aurantiacum</i> , <i>Hydnellum caeruleum</i> , <i>Hydnellum concrescens</i> , <i>Hydnellum ferrugineum</i> , <i>Hydnellum mirabile</i> , <i>Hydnellum peckii</i> , <i>Hydnellum</i> <i>scrobiculatum</i> , <i>Hydnellum spongiosipes</i> , <i>Phellodon</i> <i>confluens</i> , <i>Phellodon melaleucus</i> , <i>Phellodon</i> <i>tomentosus</i> , <i>Sarcodon fuligineo-violaceus</i> , <i>Sarcodon</i> <i>imbricatus</i> & <i>Sarcodon scabrosus</i>	fungi
Fungus	<i>Tulostoma niveum</i>	a stalked puffball
Lichen	<i>Alectoria ochroleuca</i>	alpine sulphur-tresses

Lichen	<i>Arthothelium dictyosporum</i>	a lichen
Lichen	<i>Arthothelium macounii</i>	a lichen
Lichen	<i>Bacidia incompta</i>	a lichen
Lichen	<i>Bellemerea alpina</i>	a lichen
Lichen	<i>Belonia calcicola</i>	a lichen
Lichen	<i>Biatoridium monasteriense</i>	a lichen
Lichen	<i>Bryoria smithii</i>	a lichen
Lichen	<i>Buellia asterella</i>	starry Breck-lichen
Lichen	<i>Calicium corynellum</i>	a lichen
Lichen	<i>Caloplaca aractina</i>	a lichen
Lichen	<i>Caloplaca luteoalba</i>	orange-fruited elm-lichen
Lichen	<i>Caloplaca nivalis</i>	snow caloplaca
Lichen	<i>Catapyrenium psoromoides</i>	tree catapyrenium
Lichen	<i>Catillaria aphanata</i>	a lichen
Lichen	<i>Catillaria subviridis</i>	a lichen
Lichen	<i>Cladonia botrytes</i>	a lichen
Lichen	<i>Cladonia mediterranea</i>	a lichen
Lichen	<i>Cladonia peziziformis</i>	a lichen
Lichen	<i>*Collema dichotomum</i>	river jelly lichen
Lichen	<i>Enterographa elaborata</i>	a lichen
Lichen	<i>Enterographa sorediata</i>	a lichen
Lichen	<i>Graphina pauciloculata</i>	a lichen
Lichen	<i>Gyalecta ulmi</i>	Elm gyalecta
Lichen	<i>Gyalideopsis scotica</i>	a lichen
Lichen	<i>Halecania rhypodiza</i>	a lichen
Lichen	<i>Heterodermia leucomelos</i>	ciliate strap-lichen
Lichen	<i>Lecanactis hemisphaerica</i>	churchyard lecanactis
Lichen	<i>Opegrapha fumosa</i>	a lichen
Lichen	<i>Opegrapha paraxanthodes</i>	a lichen
Lichen	<i>Peltigera lepidophora</i>	ear-lobed dog-lichen
Lichen	<i>Pertusaria bryontha</i>	alpine moss pertusaria
Lichen	<i>Pseudocyphellaria aurata</i>	a lichen
Lichen	<i>Pseudocyphellaria norvegica</i>	a lichen
Lichen	<i>Schismatomma graphidioides</i>	a lichen
Lichen	<i>Squammarina lentigera</i>	scaly breck-lichen
Lichen	<i>Teloschistes chrysophthalmus</i>	a lichen
Lichen	<i>Thelenella modesta</i>	a lichen
Lichen	<i>Zamenhofia rosei</i>	Francis' blue-green lichen
Liverwort	<i>Acrobolbus wilsonii</i>	a liverwort
Liverwort	<i>Adelanthus lindenbergianus</i>	Lindenberg's leafy liverwort
Liverwort	<i>Cephaloziella nicholsonii</i>	a liverwort
Liverwort	<i>Herbertus borealis</i>	a liverwort
Liverwort	<i>*Jamesoniella undulifolia</i>	marsh earwort
Liverwort	<i>Lejeunea mandonii</i>	a liverwort
Liverwort	<i>*Leiocolea rutheana</i>	Norfolk flapwort
Liverwort	<i>Marsupella profunda</i>	western rustwort
Liverwort	<i>*Pallavicinia lyellii</i>	veilwort
Liverwort	<i>*Petalophyllum ralfsii</i>	petalwort
Liverwort	<i>*Riccia huebeneriana</i>	violet crystalwort
Moss	<i>Acaulon triquetrum</i>	triangular pigmy moss
Moss	<i>Andreaea frigida</i>	a moss
Moss	<i>Barbula glauca</i>	glaucous beard-moss
Moss	<i>Barbula mamillosa</i>	a moss
Moss	<i>Barbula tomaculosa</i>	a moss
Moss	<i>Bartramia stricta</i>	rigid apple moss
Moss	<i>Brachythecium appleyardiae</i>	a moss
Moss	<i>Bryoerythrophyllum caledonicum</i>	a moss
Moss	<i>*Bryum mamillatum</i>	dune thread moss
Moss	<i>*Bryum neodamense</i>	a moss

Moss	<i>*Bryum warneum</i>	a moss
Moss	<i>Buxbaumia viridis</i>	green shield moss
Moss	<i>Campylopus setifolius</i>	a moss
Moss	<i>*Cryphaea lamyana</i>	multi-fruited river moss
Moss	<i>Desmatodon cernuus</i>	a moss
Moss	<i>Ditrichum cornubicum</i>	Cornish path moss
Moss	<i>Ditrichum plumbicola</i>	a moss
Moss	<i>*Drepanocladus vernicosus</i>	slender green feather-moss
Moss	<i>Ephemerum stellatum</i>	a moss
Moss	<i>*Fissidens exiguus</i>	a moss
Moss	<i>Leptodontium gemmascens</i>	thatch moss
Moss	<i>Orthodontium gracile</i>	a moss
Moss	<i>Orthotrichum obtusifolium</i>	blunt-leaved bristle-moss
Moss	<i>Orthotrichum pallens</i>	a moss
Moss	<i>Pohlia scotica</i>	a moss
Moss	<i>Rhynchostegium rotundifolium</i>	round-leaved feather-moss
Moss	<i>*Seligeria carniolica</i>	a moss
Moss	<i>Seligeria paucifolia</i>	a moss
Moss	<i>Sematophyllum demissum</i>	a moss
Moss	<i>*Sphagnum balticum</i>	baltic bog moss
Moss	<i>*Thamnobryum angustifolium</i>	derbyshire feather-moss
Moss	<i>*Thamnobryum cataractarum</i>	a feather-moss
Moss	<i>Tortula freibergii</i>	a moss
Moss	<i>Weissia multicapsularis</i>	a moss
Moss	<i>Weissia rostellata</i>	a moss
Moss	<i>Zygodon forsteri</i>	knothole moss
Moss	<i>Zygodon gracilis</i>	Nowell's limestone moss
Stonewort	<i>*Chara connivens</i>	convergent stonewort
Stonewort	<i>*Chara curta</i>	lesser bearded stonewort
Stonewort	<i>*Chara muscosa</i>	mossy stonewort
Stonewort	<i>*Nitella gracilis</i>	slender stonewort
Stonewort	<i>*Nitella tenuissima</i>	dwarf stonewort
Stonewort	<i>*Nitellopsis obtusa</i>	starry stonewort
Stonewort	<i>*Tolypella intricata</i>	tassel stonewort
Stonewort	<i>*Tolypella prolifera</i>	great tassel stonewort
Vascular plant	<i>Alchemilla minima</i>	an alchemilla
Vascular plant	<i>*Alisma gramineum</i>	ribbon-leaved water-plantain
Vascular plant	<i>Alyssum alyssoides</i>	small alison
Vascular plant	<i>*Apium repens</i>	creeping marshwort
Vascular plant	<i>Arabis glabra</i>	tower mustard
Vascular plant	<i>Artemisia norvegica</i>	Norwegian mugwort
Vascular plant	<i>Asparagus officinalis</i>	wild asparagus
Vascular plant	<i>Athyrium flexile</i>	Newman's lady-fern
Vascular plant	<i>Bromus interruptus</i>	interrupted brome
Vascular plant	<i>*Calamagrostis scotica</i>	scottish small-reed
Vascular plant	<i>Carex muricata muricata</i>	prickly sedge
Vascular plant	<i>Carex vulpina</i>	true fox-sedge
Vascular plant	<i>Centaurea cyanus</i>	cornflower
Vascular plant	<i>Cerastium nigrescens</i>	shetland mouse-ear
Vascular plant	<i>Cochlearia micacea</i>	mountain scurvy-grass
Vascular plant	<i>Coincya wrightii</i>	lundy cabbage
Vascular plant	<i>Cotoneaster cambricus</i>	wild cotoneaster
Vascular plant	<i>Crepis foetida</i>	stinking hawk's-beard
Vascular plant	<i>Cypripedium calceolus</i>	lady's-slipper orchid
Vascular plant	<i>*Damasonium alisma</i>	starfruit
Vascular plant	<i>Dianthus armeria</i>	deptford pink
Vascular plant	<i>Epipactis youngiana</i>	Young's helleborine

Vascular plant	<i>Filago lutescens</i>	red-tipped cudweed
Vascular plant	<i>Filago pyramidata</i>	broad-leaved cudweed
Vascular plant	<i>Fumaria occidentalis</i>	western ramping-fumitory
Vascular plant	<i>Fumaria purpurea</i>	purple ramping-fumitory
Vascular plant	<i>Galeopsis angustifolia</i>	red hemp-nettle
Vascular plant	<i>Galium tricornutum</i>	corn cleavers
Vascular plant	<i>Gentianella anglica</i>	early gentian
Vascular plant	* <i>Gentianella uliginosa</i>	dune gentian
Vascular plant	* <i>Juncus pygmaeus</i>	pygmy rush
Vascular plant	<i>Juniperus communis</i>	juniper
Vascular plant	* <i>Leersia oryzoides</i>	cut-grass
Vascular plant	<i>Linnaea borealis</i>	twinflower
Vascular plant	* <i>Liparis loeselii</i>	fen orchid
Vascular plant	* <i>Luronium natans</i>	floating water plantain
Vascular plant	* <i>Lycopodiella inundata</i>	marsh clubmoss
Vascular plant	<i>Melampyrum sylvaticum</i>	small cow-wheat
Vascular plant	* <i>Mentha pulegium</i>	pennyroyal
Vascular plant	* <i>Najas flexilis</i>	slender naiad
Vascular plant	* <i>Najas marina</i>	holly-leaved naiad
Vascular plant	* <i>Pilularia globulifera</i>	pillwort
Vascular plant	* <i>Potamogeton compressus</i>	grass-wrack pondweed
Vascular plant	* <i>Potamogeton rutilus</i>	shetland pondweed
Vascular plant	* <i>Ranunculus tripartitus</i>	three-lobed water-crowfoot
Vascular plant	* <i>Rumex rupestris</i>	shore dock
Vascular plant	<i>Salix lanata</i>	woolly willow
Vascular plant	* <i>Saxifraga hirculus</i>	yellow marsh saxifrage
Vascular plant	<i>Scandix pecten-veneris</i>	shepherd's needle
Vascular plant	* <i>Scirpus triqueter</i>	triangular club-rush
Vascular plant	<i>Scleranthus perennis prostratus</i>	prostrate perennial knawel
Vascular plant	<i>Silene gallica</i>	small-flowered catchfly
Vascular plant	*Single grouped plan for <i>Euphrasia cambrica</i> , <i>Euphrasia campbelliae</i> , <i>Euphrasia heslop-harrisonii</i> , <i>Euphrasia rivularis</i> , <i>Euphrasia rotundifolia</i> & <i>Euphrasia vigursii</i>	eyebrights
Vascular plant	Single grouped plan for <i>Hieracium Sect. Alpestris</i> (13 Shetland species only)	hawkweeds
Vascular plant	*Single grouped plan for <i>Limonium</i> (endemic taxa)	sea lavender
Vascular plant	* <i>Sium latifolium</i>	greater water-parsnip
Vascular plant	<i>Sorbus leyana</i>	a whitebeam
Vascular plant	* <i>Spiranthes romanzoffiana</i>	Irish lady's tresses
Vascular plant	<i>Thlaspi perfoliatum</i>	perfoliate pennycress
Vascular plant	<i>Torilis arvensis</i>	spreading hedge-parsley
Vascular plant	* <i>Trichomanes speciosum</i>	killarney fern
Vascular plant	<i>Valerianella rimosa</i>	broad-fruited corn salad
Vascular plant	<i>Woodsia ilvensis</i>	oblong woodsia

**Table 10** Priority species which may be addressed through a habitat or existing species action plan

Ant	<i>Formica lugubris</i>	northern wood ant
Beetle	* <i>Amara strenua</i>	a ground beetle
Beetle	<i>Anisodactylus nemorivagus</i>	a ground beetle
Beetle	* <i>Bembidion humerale</i>	a ground beetle
Beetle	<i>Bembidion nigropiceum</i>	a ground beetle
Beetle	<i>Cicindela maritima</i>	a dune tiger beetle
Beetle	* <i>Cryptocephalus decemmaculatus</i>	leaf beetle
Beetle	* <i>Dromius sigma</i>	a ground beetle
Beetle	<i>Harpalus punctatulus</i>	a ground beetle

Beetle	<i>Octhebius poweri</i>	a water beetle
Beetle	<i>Psylliodes luridipennis</i>	a flea beetle
Beetle	<i>Tachys micros</i>	a ground beetle
Crustacean	* <i>Gammarus insensibilis</i>	lagoon sand shrimp
Crustacean	<i>Palinurus elephas</i>	crawfish
Moth	<i>Scotopteryx bipunctaria</i>	chalk carpet
Sea anemone group	* <i>Clavopsella navis</i>	a brackish water hydroid
Sea anemone group	<i>Funiculina quadrangularis</i>	sea pen
Sea slug	* <i>Tenellia adpersa</i>	lagoonal sea slug
Sea squirt	<i>Styela gelatinosa</i>	sea squirt
Spider	<i>Euophrys browningi</i>	a spider
True bug	<i>Aphrodes duffieldi</i>	a leaf hopper
True bug	* <i>Orthotylus rubidus</i>	a capsid bug
Worm	* <i>Armandia cirrhosa</i>	lagoon sand worm
Lichen	<i>Chaenotheca phaeocephala</i>	a lichen
Liverwort	<i>Marsupella stableri</i>	a liverwort
Moss	* <i>Micromitrium tenerum</i>	millimetre moss
Moss	* <i>Orthotrichum sprucei</i>	a moss
Moss	<i>Plagiothecium piliferum</i>	hair silk moss
Moss	<i>Weissia sterilis</i>	a moss
Stonewort	* <i>Chara baltica</i>	Baltic stonewort
Stonewort	* <i>Chara canescens</i>	bearded stonewort
Stonewort	* <i>Lamprothamnium papulosum</i>	foxtail stonewort
Stonewort	* <i>Tolypella nidifica</i>	bird's nest stonewort

**Table 11** Priority species not recorded in the last 10 years

Fish	<i>*Acipenser sturio</i>	sturgeon
Fish	<i>*Coregonus oxyrhynchus</i>	houting
Beetle	<i>Badister peltatus</i>	a ground beetle
Beetle	<i>Ceutorhynchus insularis</i>	a weevil
Beetle	<i>Dromius quadrisignatus</i>	a ground beetle
Beetle	<i>Protapion ryei</i>	a weevil
Mayfly	<i>Heptagenia longicauda</i>	a mayfly
Moth	<i>Thetidia smaragdaria maritima</i>	Essex emerald
Fungus	<i>Boletopsis leucomelaena</i>	a bracket fungus
Lichen	<i>Hypogymnia intestiniformis</i>	a lichen
Liverwort	<i>Fossombronia crozalsii</i>	a liverwort
Moss	<i>Atrichum angustatum</i>	lesser smoothcap
Moss	<i>Bryum calophyllum</i>	a moss
Moss	<i>Bryum turbinatum</i>	a moss
Moss	<i>Bryum uliginosum</i>	a moss
Moss	<i>Ephemerum cohaerens</i>	a moss
Moss	<i>Orthotrichum gymnostomum</i>	a moss
Moss	<i>Pictus scoticus</i>	a moss
Moss	<i>Sphagnum skyense</i>	a bog moss
Moss	<i>Tetrodontium repandum</i>	a moss
Moss	<i>Weissia squarrosa</i>	a moss
Vascular plant	<i>Cochlearia scotica</i>	Scottish scurvy-grass

Source: UK Biodiversity Group Tranche 2 Action Plans, volume 1 - vertebrates and vascular plants

## Appendix 2: WWW addresses

Since the last UK Ramsar National Report a number of organisations have developed WWW sites to improve the access and availability of nature conservation information. The WWW sites for the organisations listed below each contain information relevant to the implementation of the Ramsar Convention nationally and internationally.

CCW	Countryside Council for Wales	ccw.gov.uk
CoCo	Countryside Commission	countryside.gov.uk
DANI	Department of Agriculture (Northern Ireland)	nics.gov.uk/dani
DETR	Department of Environment, Transport and the Regions	detr.gov.uk
DFID	Department for International Development	dfid.gov.uk
DoENI	Department of Environment in Northern Ireland	doeni.gov.uk
EA	Environment Agency	Environment-agency.gov.uk
EHS	Environment and Heritage Service	nics.gov.uk/ehs
EN	English Nature	english-nature.org.uk
FC	Forestry Commission	forestry.gov.uk
FCO	Foreign and Commonwealth Office	fco.gov.uk
FoE	Friends of the Earth	foe.co.uk
ITE	Institute of Terrestrial Ecology	Nmw.ac.uk/ite
JNCC	Joint Nature Conservation Committee	jncc.gov.uk
MAFF	Ministry of Agriculture, Fisheries and Food	maff.gov.uk
NBN	National Biodiversity Network	nbn.org.uk
NERC	Natural Environment Research Council	nerc.ac.uk
RSPB	Royal Society for the Protection of Birds	Awaiting implementation
SEPA	Scottish Environment Protection Agency	sepa.org.uk
SNH	Scottish Natural Heritage	uhi.ac.uk/snh
TWT	The Wildlife Trusts	Wildlifetrust.org.uk
WCL	Wildlife and Countryside Link	greenchannel.com/wcl
WWF	World Wide Fund for Nature-UK	wwf.org.uk
WWT	Wildfowl & Wetlands Trust	greenchannel.com/wwt

Note: WWW prefix for all sites is <http://www>



### Appendix 3: Status of management documents for listed Ramsar sites

Site name <sup>1</sup>	Country	Management Document <sup>2</sup> : <i>Status</i>	<i>Coverage</i>
Abberton Reservoir	England	Proposed	Partial
Alde-Ore Estuary	England	Being implemented	Partial
Alt Estuary	England	Being implemented	Partial
Avon Valley	England	In draft	Partial
Benfleet and Southend Marshes	England	In draft	Whole
Blackwater Estuary (Mid-Essex Coast Phase 4)	England	Being implemented	Whole
Breydon Water	England	In draft	Partial
Bridgwater Bay (part of Severn Estuary)	England	Being implemented	Whole
Broadland	England	Being implemented	Whole
Bure Marshes (part of Broadland)	England	Being implemented	Whole
Chesil Beach and The Fleet	England	Being implemented	Partial
Chichester and Langstone Harbours	England	Being implemented	Whole
Chippenham Fen	England	Being implemented	Whole
Colne Estuary (Mid-Essex Coast Phase 2)	England	In draft	Whole
Deben Estuary	England	Being implemented	Partial
Dengie (Mid-Essex Coast Phase 1)	England	Proposed	Whole
Dersingham Bog	England	Being implemented	Whole
Derwent Ings (part of Lower Derwent Valley)	England	Being implemented	Partial
Duddon Estuary	England	Being implemented	Partial
Esthwaite Water	England	Proposed	Partial
Exe Estuary	England	Being implemented	Partial
Foulness (Mid-Essex Coast Phase 5)	England	Being implemented	Partial
Gibraltar Point	England	Being implemented	Whole
Hamford Water	England	Being implemented	Whole
Hickling Broad and Horsey Mere (part of Broadland)	England	Being implemented	Whole
Holburn Lake and Moss	England	Being implemented	Partial
Humber Flats, Marshes and Coast (Phase 1)	England	Being implemented	Partial
Irthinghead Mires	England	Being implemented	Partial
Leighton Moss	England	Being implemented	Partial
Lindisfarne	England	Being implemented	Whole
Lower Derwent Valley	England	Being implemented	Whole
Malham Tarn	England	Being implemented	Whole
Martin Mere	England	Being implemented	Partial
Medway Estuary and Marshes	England	Being implemented	Partial
Mersey Estuary	England	Being implemented	Partial
Midland Meres and Mosses Phase 1	England	Being implemented	Whole
Minsmere-Walberswick	England	Being implemented	Whole
Morecambe Bay	England	Being implemented	Partial
Nene Washes	England	Being implemented	Partial
New Forest	England	In draft	Whole
North Norfolk Coast	England	Implemented	Whole
Old Hall Marshes (part of Blackwater Estuary)	England	Being implemented	Partial
Ouse Washes	England	Being implemented	Partial
Pagham Harbour	England	Being implemented	Partial
Portsmouth Harbour	England	Being implemented	Partial
Redgrave and South Lopham Fens	England	Being implemented	Whole
Ribble and Alt Estuaries Phase 2	England	Being implemented	Whole
River Crouch Marshes (Mid-Essex Coast Phase 3)	England	Being implemented	
Rockcliffe Marsh (part of Upper Solway Flats and Marshes)	England	Being implemented	

Rostherne Mere	England	Being implemented	Whole
Roydon Common	England	Being implemented	Whole
Rutland Water	England	Being implemented	Whole
Somerset Levels and Moors	England	In draft	Whole
Stodmarsh	England	Being implemented	Whole
Stour and Orwell Estuaries	England	Being implemented	
Teesmouth and Cleveland Coast	England	Being implemented	
Thanet Coast and Sandwich Bay	England	Being implemented	
The Swale	England	Being implemented	Whole
The Wash	England	Being implemented	Whole
Thursley and Ockley Bog	England	Being implemented	Whole
Upper Severn Estuary (part of Severn Estuary)	England	Being implemented	
Walmore Common	England	In draft	
Wicken Fen	England	Being implemented	Whole
Woodwalton Fen	England	Being implemented	Whole
Upper Solway Flats and Marshes	EnglandScot land	Part implemented/part in draft	Whole
Midland Meres and Mosses Phase 2	EnglandWal es	Implemented (awaits revision to incorporate SAC element)	Whole
Severn Estuary	EnglandWal es	Being implemented	Whole
The Dee Estuary	EnglandWal es	Being implemented	Whole
Carlingford Lough	Northern Ireland	Preliminary Conservation Plan produced (and discussed with the Lough Neagh Advisory Committee)	Whole
Larne Lough	Northern Ireland	Preliminary Conservation Plan produced	Whole
Lough Neagh and Lough Beg	Northern Ireland	Preliminary Conservation Plan produced	Whole
Pettigoe Plateau	Northern Ireland	Preliminary Conservation Plan produced	Whole
Strangford Lough	Northern Ireland	Preliminary Conservation Plan produced	Whole
Upper Lough Erne	Northern Ireland	In draft (will be revised in 1998 and form the basis of a management scheme for the site)	Whole
Bridgend Flats, Islay	Scotland	Proposed	Whole
Cairngorm Lochs	Scotland	In draft	Whole
Caithness Lochs	Scotland	In draft	Whole
Cameron Reservoir	Scotland	Being implemented	Whole
Castle Loch, Lochmaben	Scotland	Being implemented	Whole
Clash Moss	Scotland	Proposed	Whole
Coll	Scotland	In draft	Whole
Din Moss - Hoselaw Loch	Scotland	Being implemented	Partial
Dornoch Firth and Loch Fleet	Scotland	In draft	Whole
East Sanday Coast	Scotland	Being implemented	Whole
Eilean na Muice Duibhe (Duich Moss), Islay	Scotland	Being implemented	Whole
Fala Flow	Scotland	In draft	Whole
Feur Lochain (part of Rinns of Islay)	Scotland	In draft	Whole
Glac na Criche (part of Rinns of Islay)	Scotland	In draft	Whole
Gladhouse Reservoir	Scotland	Being implemented	Whole
Greenlaw Moor	Scotland	In draft	Whole
Gruinart Flats, Islay	Scotland	In draft	Whole
Loch an Duin	Scotland	In draft	Whole

Loch Druidibeg, Loch a'Machair and Loch Stilligarry	Scotland	Being implemented	Whole
Loch Eye	Scotland	Being implemented	Whole
Loch Ken and River Dee Marshes	Scotland	In draft	Whole
Loch Leven	Scotland	In draft	Whole
Loch Lomond	Scotland	In draft	Whole
Loch Maree	Scotland	Being implemented	Whole
Loch of Kinnordy	Scotland	Being implemented	Whole
Loch of Lintrathen	Scotland	Being implemented	Whole
Loch of Skene	Scotland	Being implemented	Whole
Loch of Strathbeg	Scotland	In draft	Whole
Loch Ruthven	Scotland	In draft	Whole
Loch Spynie	Scotland	Being implemented	Whole
Montrose Basin	Scotland	Part implemented/Part in draft	Whole
Moray and Nairn Coast	Scotland	Being implemented	Whole
Rannoch Moor	Scotland	Being implemented	Whole
Rinns of Islay	Scotland	In draft	Whole
River Spey-Insh Marshes	Scotland	Part implemented/part in draft	Whole
Ronas Hill - North Roe and Tingon	Scotland	Being implemented	Whole
Silver Flowe	Scotland	Proposed	Whole
South Tayside Goose Roosts	Scotland	Being implemented	Whole
South Uist Machair and Lochs	Scotland	In draft	Whole
Westwater	Scotland	In draft	Whole
Ythan Estuary and Meikle Loch	Scotland	Being implemented	Partial
Burry Inlet	Wales	New revised plan in draft	Whole
Cors Caron	Wales	Being implemented	Whole
Cors Fochno and Dyfi	Wales	Being implemented	Whole
Corsydd Mon a Llyn/Anglesey and Llyn Fens	Wales	Being implemented	Whole
Crymlyn Bog	Wales	New revised plan in draft	Whole
Llyn Idwal	Wales	Being implemented	Whole
Llyn Tegid	Wales	Prepared and awaits implementation	Whole

Note: <sup>1</sup>Listed Ramsar sites in the UK as at 31 March 1998. <sup>2</sup>Within the UK a number of different management plan formats are adopted (see section 5.1).

