

NATURE CONSERVANCY COUNCIL

WILDLIFE AND COUNTRYSIDE ACT, 1981

FIRST QUINQUENNIAL REVIEW OF SCHEDULES 5 AND 8

BACKGROUND PAPER  
AND  
SUBMISSION OF RECOMMENDATIONS

29 October 1986

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**BACKGROUND PAPER**

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### QUINQUENNIAL REVIEW OF SCHEDULES 5 AND 8 WILDLIFE AND COUNTRYSIDE ACT, 1981

#### BACKGROUND PAPER

#### 1. Introduction

- 1.1 The Conservation of Wild Creatures and Wild Plants Act 1975, protected six species of wild animals from killing, injuring, taking or sale and 21 species of wild plants from picking, uprooting, destroying or sale. Restrictions on ringing and marking were applied to all species of bat.
- 1.2 This special protection was extended under the Wildlife and Countryside Act 1981, by increasing the number of species given this protection on the Schedules, and by introducing a number of new provisions related to these species.
- 1.3 The number of plants given special protection rose to 62, and the number of animals rose to 52, although eight of these (the common reptiles and amphibians) were only given protection in respect of sale. These animals are listed on Schedule 5 of the Act (birds are precluded from this Schedule) and the plants on Schedule 8.
- 1.4 Additionally, the Act made it an offence to damage, destroy or obstruct access to any structure or place used by a specially protected animal for shelter or protection, or to disturb any such animal in such a place.
- 1.5 The Wildlife and Countryside Act included a provision for the review every five years and, where necessary, amendment of Schedules 5 and 8. This paper summarises experience gained in implementing the provisions of the Act in relation to specially protected wild animals and plants, explains the statutory provision for the review of the schedules and describes how the review was conducted. The **Submission of Recommendations** makes recommendations for amending the schedules and comprises the formal submission from NCC to the Secretary of State which has to be published in NCC's Annual Report.

#### 2. The effectiveness of the Act in protecting animals and plants on Schedules 5 and 8

- 2.1 The listing of wild animals and plants on the schedules has a number of conservation benefits. When accompanied by an effective publicity campaign it draws the public's attention to the plight of threatened species and enlists public support for their protection, as has happened to a substantial degree in the case of bats. Listing a species can also stimulate an enhanced effort by conservation bodies and lead to an intensification of research, survey, site safeguard and site management. These benefits can add very significantly to those afforded by direct legal protection.
- 2.2 Action has been taken to enforce the provisions of the Act, as they affect animals and plants listed in Schedules 5 and 8, and to undertake prosecutions where these provisions have been breached. Successful prosecutions have been taken in cases where bats have been killed or where their roosts have been damaged, where sand lizard breeding and nesting sites have been damaged, and where protected species of amphibians have

been sold or offered for sale. A determined effort has been made to publicise the outcome of these cases so that the general public is made aware of the protected status of the species concerned and also that the Act is being enforced.

- 2.3 All species of bats were included on Schedule 5 and a special provision was introduced to cover bats roosting in dwelling houses. Where the roost was outside the living area of the dwelling house a person was required to notify NCC of any proposed action or operation that would damage, destroy or obstruct access to the roost or disturb bats in the roost and allow a reasonable time for NCC to advise whether the operation should be carried out and, if so, the method to be used. It is estimated that in the first two seasons after the new legislative provisions came into force, and as a direct result, approximately 15,000 bats were left permanently undisturbed in their roosts, while another 13,000 were allowed to disperse naturally before their roost access was obstructed. In addition, many more bats were saved from the toxic effects of remedial timber treatment or from disturbance due to badly timed building or repair operations. The provisions of the Act in relation to bats can be considered an important legislative success.
- 2.4 The success of the protection afforded to places of shelter of other protected wild animals is less easily quantified because there is no requirement to consult NCC before carrying out an operation which may damage such a site. Those carrying out operations may be unaware of the legislation, or, may rely upon the defence that the damage was an incidental result of a lawful operation and could not reasonably have been avoided. This is also a factor which could limit the effectiveness of the protection afforded to wild plants listed on Schedule 8.
- 2.5 However, a very important factor is the effect which listing animals and plants on Schedules 5 and 8 has had and will continue to have on the actions of public authorities. These authorities, both through their administrative decisions, for example the granting of planning consents, and through their direct actions can influence the survival of populations of protected animals and plants. Such authorities are obliged by law to avoid the unnecessary destruction of protected fauna and flora and many populations of protected species have been safeguarded as a consequence of public authorities taking a serious view of these responsibilities.
- 2.6 Listing species on Schedules 5 and 8 has a very significant effect in drawing attention to the plight of threatened species and in stimulating research and an enhanced conservation effort. The great majority of such initiatives take place at a local level and these can be crucial for the effective safeguard of the species concerned. Action taken on behalf of some species obtain a wider attention; examples are the efforts being made aimed at securing the successful reintroduction of the large blue butterfly, safeguarding and perpetuating the breeding colonies of heath fritillary butterfly, conserving the otter population of East Anglia, refining reintroduction and conservation techniques for the red squirrel, formulating timber treatment preservatives of low toxicity to bats, and measures taken to strengthen the colony of the tufted saxifrage in North Wales.
- 2.7 In conclusion while the major step forward in the protection afforded to animals and plants by the 1981 Act has still to be fully realised for some species, the potential benefits of listing threatened species on Schedules 5 and 8, as a consequence of direct protection and enhanced conservation effort, are very considerable.

### 3. Statutory Basis of the Review

- 3.1 The Secretary of State may, by order and following a representation from the Nature Conservancy Council, add any animal to Schedule 5 or any plant to Schedule 8 of the Act where one of the following circumstances applies:
- a. if in his opinion, the animal or plant is in danger of extinction in Great Britain or likely to become so endangered unless conservation measures are taken,
  - b. for the purpose of complying with an international obligation.
- 3.2 Conversely, the Secretary of State may remove any animal from Schedule 5 or plant from Schedule 8 if, in his opinion, it is no longer endangered nor likely to become so.
- 3.3 The protection afforded by the Act to animals and plants listed on Schedules 5 and 8 extends throughout Great Britain, unless otherwise specified, and to adjacent territorial waters, which currently extend three miles out to sea. The Secretary of State may apply all or only some of the relevant provisions of the Act to animals and plants listed on the schedule and he may limit the protection afforded to certain times of the year or to particular areas of Great Britain.
- 3.4 The Act defines a wild animal as an animal (other than a bird) which is or was (before it was killed or taken) living wild; a wild plant is defined as a plant which is or was (before it was picked, uprooted or destroyed) growing wild and is of a kind which ordinarily grows in Great Britain in a wild state.
- 3.5 The Nature Conservancy Council is required, five years after the passing of the Act, and every five years thereafter to review Schedules 5 and 8 and to advise the Secretary of State whether in the Council's opinion any animal or plant should be added to or removed from the schedules. Advice given shall be accompanied by a statement of the reasons which led the NCC to give that advice.
- 3.6 The first Quinquennial Review of Schedules 5 and 8 is due in 1986.

### 4. The conduct of the Review

- 4.1 The preparatory work on the Quinquennial Review of Schedules 5 and 8 was carried out by specialist staff of the Chief Scientist Directorate under the direction of the Assistant Chief Scientist.
- 4.2 A small working group began the work of the review in November 1984 when it met to consider criteria for proposing additions to or deletions from the schedules, and what survey work and liaison with outside bodies was needed. During 1985 work was carried out under contract and informal discussions were held with outside bodies. The group met five times to consider proposals to change Schedules 5 and 8, and to discuss how the legislation was working for the various groups of protected species.
- 4.3 Firstly, the review considered those species already listed on the schedules for the purpose of recommending whether any species should be removed. The present status of listed species was considered and account taken of recent population trends and other relevant changes in circumstances which have occurred since 1981.

4.4 Secondly, the review considered which animals and plants should be recommended for adding to the schedules. In particular species in the following categories were considered:

- a. species which are of rare or very restricted distribution in Great Britain and which are also at risk. Account was taken of the threat to such species internationally.
- b. endemic species.
- c. species which have shown serious population declines in recent years.
- d. rare species which are confined to particularly threatened habitats.
- e. species listed on the Appendices of the Council of Europe Convention on the Conservation of European Wildlife and Natural Habitats which require protection under the articles of that convention. The Convention requires that full protection be afforded to plants listed on Appendix I and to animals listed on Appendix II. It requires that any exploitation of animals listed on Appendix III should be regulated to keep the populations out of danger and that the use of all means capable of causing local disappearance of, or serious disturbance to, such animals shall be prohibited. The British plants named on Appendix I are already listed on Schedule 8.

4.5 Considerable effort has been made to determine the current population status of those species of animals and plants being considered for removal from or addition to the schedules. Where appropriate special surveys have been carried out under contract to establish the present status of populations and those surveys have been supplemented by the reports of NCC specialist and regional staff and of outside experts.

A summary of the special surveys undertaken under contract as part of the review, and of related research on which the review has drawn, is given at Annex 1.

4.6 The views of a range of outside experts and organisations have been sought in connection with the review and these are listed at Annex 2. Consultation with scientific institutions and learned societies has been undertaken mainly with a view to supplementing information on poorly known species but their more general response was also invited. The views of the voluntary conservation organisations have been sought, both directly and via Wildlife Link. Informal discussions have been held with Department of Environment officials on the form of the submission.

4.7 While the review of mammals, reptiles, amphibians and vascular plants has been comprehensive it has not been possible to undertake the same intensity of investigation with respect to marine fish, some invertebrate groups and non-vascular plants. Work to improve the data-base on many of these under-researched groups is planned and will greatly benefit the conduct of the second Quinquennial Review in 1991.

4.8 NCC's Advisory Committee on Science considered papers on the Quinquennial Review at their meetings on 25 February 1986 and 8 May 1986. The views of the Committee were incorporated into the formal submission which was endorsed by Council at its meeting on 1 July 1986.

## ANNEX 1

### SUMMARY OF NCC SUPPORTED RESEARCH USED IN THE QUINQUENNIAL REVIEW

#### Vertebrates

Otter Survey of England - ongoing, NCC funded.

Pine Marten Survey of Scotland, England and Wales 1980-82. A Survey for the Vincent Wildlife Trust by K A Velandar, published 1983.

Wildcat Survey - ongoing, Scottish Field Unit.

Mammal Society dormouse survey; Jan 1975-April 1979. Published in Mammal Review 1984, Vol 14, (1) 1-18. Part funded by NCC.

Analysis of cetacean sightings in British waters during 1979-85 - undertaken by the Mammal Society and funded by NCC.

Analysis of sightings and strandings of the rarer British cetaceans during 1965-1985 - ongoing, undertaken by the Mammal Society and funded by NCC.

Vertebrate Red Data Book (draft) - NCC funded; texts prepared by Dr P Maitland and Dr A Wheeler.

Status of cetaceans and marine turtles in the UK - internal report prepared by D Morgan, NCC.

Status of the commoner species of amphibians and reptiles in Britain. No 3, Focus on nature conservation; A S Cooke & H R A Scorgie, 1983.

Impact of collecting on frog populations in Cornwall - report prepared by A S Cooke, NCC.

The ecology and conservation of amphibian and reptile species endangered in Britain. NCC publication 1983.

Status and ecology of the Warty Newt - ongoing, NCC funded.

#### Invertebrates

Insect Red Data Book (draft) - edited by Dr D B Shirt on contract to NCC.

National review of beetles and flies - ongoing, NCC funded.

Review of butterfly conservation priorities in southern England - ongoing, Dr M S Warren, funded by NCC.

The ecology and conservation of the heath fritillary butterfly - report prepared by Dr M S Warren, joint project NCC, ITE and JCCBI.

The conservation of the chequered skipper in Britain. No 16, Focus in Nature Conservation; R Collier, 1986.

Review of British molluscs - work undertaken by Dr M Kerney, Imperial College of Science and Technology, London, preparatory to the production of the Invertebrate (non-insect) Red Data Book.

Advice on spiders provided by Dr P Merrett, ITE, Furzebrook, preparatory to the production of the Invertebrate (non-insect) Red Data Book.

Monitoring the populations of Essex Emerald moth - project undertaken by East Anglia Region.

Synoptical survey of saline coastal lagoons - NCC funded.

The distribution and ecology of the fairy shrimp Chirocephalus diaphanus and its status in Britain; Dr G Fryer, Freshwater Biological Association. NCC funded.

#### Vascular plants

British Red Data Book 1. Vascular Plants. F H Perring and L Farrell, published 1983 by RSNC in collaboration with NCC. Funded by WWF.

Survey of Primula scotica sites in Caithness and Sutherland. NCC funded.

Data collection and survey of Scheduled species. NCC funded.

Review of rare arable weeds with rapidly changing populations. NCC funded.

Rare plant survey of Cumbria. NCC funded.

Devon rare species survey. Part funded by NCC.

Cyperus fuscus survey. Part funded by NCC.

Rare vascular plant survey of SE England. NCC funded.

Rare vascular plant survey of S England. NCC funded.



ANNEX 2

ORGANISATIONS AND INDIVIDUALS CONSULTED OVER THE QUINQUENNIAL REVIEW

Botanical Society of the British Isles

British Arachnological Society

British Association of Nature Conservationists

British Butterfly Conservation Society

British Herpetological Society

British Museum (Natural History)

British Natural History and Entomological Society

Conchological Society of Great Britain and Ireland

Conservation Association of Botanical Societies

Department of Agriculture and Fisheries for Scotland, Torry Marine Laboratory

Department of the Environment, Wildlife Division

Fauna and Flora Preservation Society

Field Studies Council, Orielton Field Centre

Friends of the Earth

Mr G Foster

Dr J F D Frazer

Freshwater Biological Association

Institute of Terrestrial Ecology

IUCN, Threatened Plants Unit, Royal Botanic Gardens, Kew

Joint Committee for the Conservation of British Insects

Mr G King

Mammal Society

Marine Biological Association, Plymouth Laboratory

Marine Conservation Society

Peoples Trust for Endangered Species

Portsmouth Polytechnic

Royal Society for Nature Conservation

Royal Society for the Prevention of Cruelty to Animals

Royal Society for the Protection of Birds

Sea Mammals Research Unit

Mr B Skinner

Dr F C Stott

Universities Federation for Animal Welfare

University Marine Biological Station, Millport

University of Aberdeen, Department of Zoology

University of Cambridge, Research Group in Mammalian Ecology and Reproduction

University College of North Wales, Department of Marine Biology

University College of Swansea, Department of Zoology

University of Liverpool, Department of Marine Biology

University of Newcastle, Dove Marine Laboratory

University of Nottingham, School of Biological Sciences

University of Oxford, Department of Zoology

University of Southampton, Department of Oceanography

Vincent Wildlife Trust

Wildlife Link

World Wildlife Fund - UK

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QUINQUENNIAL REVIEW OF SCHEDULES 5 AND 8 WILDLIFE AND COUNTRYSIDE  
ACT, 1981

SUBMISSION OF RECOMMENDATIONS

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QUINQUENNIAL REVIEW

SCHEDULE 5

Summary of Recommendations for Changes to the Schedule

Species recommended for removal from the Schedule

Butterfly, chequered skipper	<u>Carterocephalus palaemon</u>	Application retained in respect of Section 9(5) only
Snail, carthusian	<u>Monacha cartusiana</u>	
Snail, sandbowl	<u>Catinella arenaria</u>	

Species recommended for addition to the Schedule

MAMMALS

Cat, wild	<u>Felis silvestris</u>
Dormouse	<u>Muscardinus avellanarius</u>
Marten, pine	<u>Martes martes</u>
Walrus	<u>Odobenus rosmarus</u>
Whales, Dolphins and Porpoises	Cetacea, all species

REPTILES

Adder	<u>Viperus berus</u>	) Extend application of Schedule
Lizard, viviparous	<u>Lacerta vivipara</u>	) 5 listing to include "killing and
Slow-worm	<u>Anguis fragilis</u>	) injuring" (but not taking) under
Snake, grass	<u>Natrix natrix</u>	) Section 9 (1)
Turtles, marine	Dermochelyidae and Cheloniidae, all species	

FISH

Shad, allis	<u>Alosa alosa</u>
Shark, basking	<u>Cetorhinus maximus</u>
Vendace	<u>Coregonus albula</u>
Whitefish	<u>Coregonus lavaretus</u>

INVERTEBRATES

Anemone, Ivell's sea	<u>Edwardsia ivelli</u>	
Anemone, startlet sea	<u>Nematosella vectensis</u>	
Apus	<u>Triops cancriformis</u>	
Beetle, violet click	<u>Limoniscus violaceus</u>	
Cicada, New Forest	<u>Cicadetta montana</u>	
Crayfish, Atlantic stream	<u>Austropotamobius pallipes</u>	Application confined to "taking" under Section 9(1) and to Section 9(5)

Leech, medicinal  
Mat, trembling sea  
Moth, viper's bugloss  
Mussel, freshwater pearl  
Sandworm, lagoon  
Shrimp, fairy  
Shrimp, lagoon sand  
Butterflies

Hirudo medicinalis  
Victorella pvida  
Hadena irregularis  
Margaritifera margaritifera  
Armandia cirrhosa  
Chirocephalus diaphanus  
Gammarus insensibilis  
Rhopalocera, all rare and declining British  
species. Application confined to Section 9(5)  
only.

## SCHEDULE 8

### Summary of Recommendations for Changes to the Schedule

#### Species recommended for removal from the Schedule

None

#### Species recommended for addition to the Schedule

Adder's-tongue, least	<u>Ophioglossum lusitanicum</u>
Cabbage, Lundy	<u>Rhynchosinapis wrightii</u>
Colt's-foot, purple	<u>Homogyne alpina</u>
Cottongrass, slender	<u>Eriophorum gracile</u>
Crocus, sand	<u>Romulea columnae</u>
Cudweed, red-tipped	<u>Filago lutescens</u>
Fleabane, alpine	<u>Erigeron borealis</u>
Fleabane, small	<u>Pulicaria vulgaris</u>
Gentian, fringed	<u>Gentiana ciliata</u>
Germander, cut-leaved	<u>Teucrium botrys</u>
Goosefoot, stinking	<u>Chenopodium vulvaria</u>
Grass-poly	<u>Lythrum hyssopifolia</u>
Hawk's-beard, stinking	<u>Crepis foetida</u>
Helleborine, Young's	<u>Epipactis youngiana</u>
Horsetail, branched	<u>Equisetum ramosissimum</u>
Hound's-tongue, green	<u>Cynoglossum germanicum</u>
Marshwort, creeping	<u>Apium repens</u>
Milk-parsley, Cambridge	<u>Selinum carvifolia</u>
Naiad, holly-leaved	<u>Najas marina</u>
Pennyroyal	<u>Mentha pulegium</u>
Pigmyweed	<u>Crassula aquatica</u>
Ragwort, fen	<u>Senecio paludosus</u>
Ramping-fumitory, Martin's	<u>Fumaria martinii</u>
Restharrow, small	<u>Ononis reclinata</u>
Rock-cress, alpine	<u>Arabis alpina</u>
Rock-cress, Bristol	<u>Arabis stricta</u>
Speedwell, fingered	<u>Veronica triphyllos</u>
Star-of-Bethlehem, early	<u>Gagea bohemica</u>
Stonewort, foxtail	<u>Lamprothamnium papulosum</u>
Strapwort	<u>Corrigiola litoralis</u>
Viper's-grass	<u>Scorzonera humilis</u>

## QUINQUENNIAL REVIEW OF SCHEDULE 5

### RECOMMENDATIONS FOR CHANGES TO THE SCHEDULE AND STATEMENT OF REASONS

#### 1. Species recommended for removal from the Schedule

##### 1.1 Butterfly, chequered skipper (*Carterocephalus palaemon*)

Recent survey has indicated that this species is moderately well distributed in central west Scotland where it is present in a number of strong local populations. It is now considered to be out of danger as a breeding insect in Britain and its present full listing on Schedule 5 is not necessary. However, for the reasons set out under 2.25 below for other scarce butterfly species the NCC recommend it be retained on the Schedule with respect to Section 9(5) only.

##### 1.2 Snail, carthusian (*Monacha cartusiana*)

This species has now been recorded from a range of ruderal, artificial and other habitats and is no longer considered to be endangered. Its present listing on Schedule 5 is inhibiting survey and the consequent taking of additional conservation measures.

##### 1.3 Snail, sandbowl (*Catinella arenaria*)

This species has its main known locality in a National Nature Reserve where it is effectively conserved. The species can only be identified with certainty by dissection and hence its present listing on Schedule 5 is inhibiting survey and the consequent taking of additional conservation measures at other sites.

#### 2. Species recommended for addition to the Schedule

##### MAMMALS

##### 2.1 Cat, wild (*Felis silvestris*)

- a. In Britain and throughout much of Europe the wild cat is a rare animal. Its survival in Britain is threatened by hybridisation with the domestic cat and by the continuation of persecution (being treated as vermin in some areas). The safeguard of all local populations is considered to be crucial for the survival of this species in Britain and the maintenance of its genetic integrity.
- b. The wild cat is listed on Appendix III of the Council of Europe Convention.

##### 2.2 Dormouse (*Muscardinus avellanarius*)

- a. This is a rare species occurring mainly in southern Britain. The remaining population is fragmented and is vulnerable to the threats of habitat loss and inappropriate land management. As a result local extinctions are occurring and the safeguard of the remaining populations is considered to be crucial for the species in Britain.



- b. The dormouse is listed on Appendix III of the Council of Europe Convention.

### 2.3 Marten, pine (Martes martes)

- a. This is a rare species which has its largest population in the Scottish Highlands but which maintains small populations in north Wales, the Lake District and Yorkshire. Local extinctions are occurring in Scotland, for example in some areas of western Sutherland, a former stronghold. Declines have been noted in the English populations; the former population in Northumberland appears now to have been lost. The species is still subject to persecution (the most likely cause of local extinctions) and poisoning may also be a problem. Further protection is required.
- b. The pine marten is listed on Appendix III of the Council of Europe Convention.

### 2.4 Walrus (Odobenus rosmarus)

The walrus is listed on Appendix II of the Council of Europe Convention. This species breeds on the Arctic coast but is, to some extent, migratory and there have been many records of walrus using British territorial waters, coasts and estuaries. The species may be regarded as an occasional vagrant to Britain. In order to comply with the Council of Europe Convention, NCC recommend it be listed on Schedule 5.

### 2.5 Whales, Dolphins and Porpoises (Cetacea), all species

A total of 25 species of cetaceans are known from British waters. The common porpoise Phocoena phocoena, common dolphin Delphinus delphis and bottle-nosed dolphin Tursiops truncatus are already listed on Schedule 5. However, cetaceans as a group are threatened by or vulnerable to the following detrimental factors:

- a. malicious killing and injuring, whether from shore or ship, and harassment by pleasure craft;
- b. death or injury through entanglement with fishing nets and tackle;
- c. disturbance and injury caused by shipping, particularly in the English Channel, southern North Sea and northern Irish Sea;
- d. marine pollution, including the presence in seawater of oil and chlorinated hydrocarbons;
- e. human exploitation of their food supply, especially depletion of fish stocks.

The recovery of stocks of the endangered whales after the cessation of whaling operations affecting them in the north Atlantic has been slow. Moreover, there are strong indications that the populations of most if not all of the remaining cetaceans are showing declines in population levels and reductions in range due to one or more of the adverse factors noted above.

An important additional point is the difficulty of distinguishing between related cetacean species in the wild and it is unrealistic to expect people to distinguish protected from unprotected species. All these factors combined have led the NCC to recommend that all cetaceans should be listed on Schedule 5. A statement is given below for each species. Unless otherwise stated the species are listed on Appendix III of the Council of Europe Convention.

2.5.1 Dolphin, Risso's (*Grampus griseus*)

This inshore species is very scarce in the North Sea south of Aberdeen probably as a result of disturbance and pollution. It is present along west and south-west coasts.

2.5.2 Dolphin, Striped or Euphrosyne (*Stenella coeruleoalba*)

This scarce species is present along south and west coasts but is virtually absent from the North Sea. It is susceptible to disturbance.

2.5.3 Dolphin, White-beaked (*Lagenorhynchus albirostris*)

This species is present along western and northern coasts but is rare in the eastern Channel, southern North Sea and Irish Sea probably due to disturbance and pollution. Threats are as for *L. acutus*.

2.5.4 Dolphin, White-sided (*Lagenorhynchus acutus*)

This species is present along western, northern and north-east coasts. It is rare or absent from the eastern Channel and southern North Sea probably due to disturbance and pollution. Threats include the growth of industrial activity in the northern North Sea, incidental take by fishing vessels, and human competition for food supply.

2.5.5 Narwhal (*Monodon monoceros*)

The narwhal is a very rare vagrant to British waters. It is primarily a high arctic species which has experienced a contraction in range almost certainly as a result of hunting.

2.5.6 Whale, Atlantic right (*Balaena glacilis*)

a. This species is listed as endangered by the IUCN. The north-east Atlantic population may be at a critical level. It is rare or very rare in British waters.

b. Listed on Appendix II of the Council of Europe Convention.

2.5.7 Whale, blue (*Balaenoptera musculus*)

a. This species is listed as endangered by the IUCN. The north-east Atlantic population may be at a critical level. It is rare or very rare in British waters.

b. Listed on Appendix II of the Council of Europe Convention.

2.5.8 Whale, Cuvier's (*Ziphius cavirostris*)

This species is nowhere common and is rare in British waters.

2.5.9 Whale, false killer (*Pseudorca crassidens*)

This is a somewhat uncommon species of tropical and warm temperate waters. It is rare in British waters but may occasionally occur in large groups.

2.5.10 Whale, fin (*Balaenoptera physalus*)

Although scarce in British waters this species is regularly recorded off north-west Scotland. It is probably vulnerable to injury by shipping.

2.5.11 Whale, Gervais's beaked (*Mesoplodon europaeus*)

This species is probably uncommon everywhere and all losses are potentially serious. It has only been recorded once in British waters and must be considered a very rare vagrant.

2.5.12 Whale, humpback (*Megaptera novaeangliae*)

a. This species is listed as endangered by the IUCN. The north-east Atlantic population may be at or near the critical level. It is rare in British waters.

b. It is listed on Appendix II of the Council of Europe Convention.

2.5.13 Whale, killer (*Orcinus orca*)

Present along all British coasts but sightings are concentrated on the western seaboard. Main threats are probably injury by shipping and human competition for food supply.

2.5.14 Whale, long-finned pilot (*Globicephala melaena*)

Present along north, west and south coasts of Britain but rare in the North Sea. Population levels fluctuate and the main threats are probably incidental take by fishing vessels and the effect of continued whaling in the Faroes on population levels in the north-east Atlantic.

2.5.15 Whale, minke (*Balaenoptera acutorostrata*)

A somewhat scarce species in British waters the population appears concentrated along the north coast of Scotland where the main threat is probably human competition for the food source and the development of industrial fishing.

2.5.16 Whale, bottlenose (*Hyperoodon ampullatus*)

This species is listed as vulnerable by the IUCN. North Atlantic populations were heavily depleted by whaling. Bottlenose whales are present along north and west coasts of Britain but there are indications of a marked decline in numbers in recent years. It is rare in the southern North Sea and Channel.

2.5.17 Whale, pygmy sperm (*Kogia breviceps*)

This is mainly a species of tropical and warm temperate waters but is probably uncommon even in warm seas. It is rare or very rare in British waters.

2.5.18 Whale, sei (*Balaenoptera borealis*)

The Atlantic population of this species was heavily reduced by whaling in the past and is now at a low level. It is rare in British waters.

2.5.19 Whale, sperm (*Physeter catodon*)

Although male sperm whales are regularly recorded along west coasts this species is rather scarce in British waters. The main threats are probably injury by shipping and fishing gear.

2.5.20 Whale, Sowerby's (*Mesoplodon bidens*)

The world distribution of this species is probably centred on the North Sea; it is nevertheless somewhat scarce in British waters. It is vulnerable to shipping, injury from fishing tackle, pollution and disturbance.

2.5.21 Whale, True's beaked (*Mesoplodon minus*)

This species is probably scarce everywhere and is rare or very rare in British waters.

2.5.22 Whale, white (*Delphinapterus leucas*)

This is a circumpolar arctic and subarctic species and the main threat worldwide is hunting. It is a rare vagrant to British coasts.

## REPTILES

- 2.6 Adder (*Vipera berus*)  
Lizard, viviparous (*Lacerta vivipara*)  
Slow-worm (*Anguis fragilis*)  
Snake, grass (*Natrix natrix*)

The NCC recommend that additional protection be afforded to these species by extending the application of their Schedule 5 listing to "killing and injuring" (but not taking) under Section 9(1).

- a. The above four species of reptiles are presently listed on Schedule 5 of the Act in respect of Section 9(5) of the Act only. This prohibits sale (and sale related activities) for these species except under licence. Recent survey has indicated that all four species are declining in numbers and range and that persecution is a significant factor, particularly with regard to the adder but also with regard to grass snake and slow-worm which are often killed in mistake for the adder. Smooth snakes (Coronella austriaca), an endangered species already listed on Schedule 5, have been similarly killed by mistake. Additional protection is necessary.
- b. These species are listed on Appendix III of the Council of Europe Convention.

The British grass snake is normally regarded as being a subspecies, Natrix natrix helvetica. NCC recommend that the name Natrix helvetica, that presently used on Schedule 5, be replaced by Natrix natrix. This would have the benefit of bringing wild-taken continental grass snakes, with which the British form can be confused, within the sale provisions of the Act.

## 2.7 Turtles, marine (Dermochelyidae and Cheloniidae), all species

A total of five species of marine turtles are known from British waters. They are, as a group, threatened by the following detrimental factors:

- a. capture at sea, especially when found entangled in fishing nets, and removal to shore for exhibition in zoos and aquaria or as curios;
- b. death or injury through entanglement with lobster, crab and fishing tackle and fishing nets;
- c. death or injury caused by shipping;
- d. death caused by the injection of polythene waste.

All five species are listed on Appendix II of the Council of Europe Convention. Because all these turtles are subject to the deleterious effects listed above and in order to comply with the Council of Europe Convention, the NCC recommend that all turtles (Dermochelyidae and Cheloniidae) be listed on Schedule 5 of the 1981 Act. A statement is given below for each species.

### 2.7.1 Turtle, green (*Chelonia mydas*)

This species is listed as endangered by the IUCN. It is a rare or very rare vagrant in British waters.

### 2.7.2 Turtle, hawksbill (*Eretmochelys imbricata*)

This species is listed as endangered by the IUCN. It is a rare vagrant in British waters.

2.7.3 Turtle, Kemp's Ridley (*Lepidochelys kemp*)

This species is listed as endangered by the IUCN; its status is considered to be critical. It is an occasional vagrant in British waters.

2.7.4 Turtle, leatherback (*Dermochelys coriacea*)

This species is listed as endangered by the IUCN. It is regularly recorded in British territorial waters, migrating northwards into these waters during summer, feeding on jellyfish, and returning to warmer waters at the end of autumn. There are frequent losses of individuals to injuries caused by entanglement with fishing gear.

2.7.5 Turtle, loggerhead (*Caretta caretta*)

This species is listed as vulnerable by the IUCN. Although rare it is fairly regularly recorded from British waters.

FISH

2.8 Shad, allis (*Alosa alosa*)

This anadromous species was probably formerly common in many of the larger British rivers but the erection of navigation weirs without fish passes has barred the passage to spawning grounds. This together with pollution and river engineering projects which affect spawning success have caused a decline to the extent that the species is now endangered.

2.9 Shark, basking (*Cetorhinus maximus*)

It is generally considered that a discrete stock of basking sharks is present in British waters along western coasts. This stock has from time to time been heavily exploited for its liver oil. The species has low fecundity and a slow rate of juvenile recruitment. It appears unable to absorb exploitation and is endangered by it. Populations within territorial waters (at least) should be fully protected.

2.10 Vendace (*Coregonus albula*)

In Britain this species was formerly known from two sites in Scotland and two sites in England. It is now believed to have been lost from Scotland, probably as a result of water eutrophication and the introduction of competitor and predator fish species. These threats also apply to the English populations.

2.11 Whitefish or Gwyniad, Schelly, Powan (*Coregonus lavaretus*)

This species is known from only six lakes in north western Britain. Isolation in these lakes has led to populations becoming distinguishable, perhaps at the subspecies level. The main threats are eutrophication of lakes by organic discharge, the introduction of competitor and predator fish species, and drawdown of water levels which may leave spawning and nursery grounds dry.

## INVERTEBRATES

### 2.12 Anemone, Ivell's sea (*Edwardsia ivelli*)

This species, which burrows in soft mud in saline lagoons, is known in Britain from only one site in Sussex. It is threatened primarily by habitat destruction and pollution.

### 2.13 Anemone, startlet sea (*Nematosella vectensis*)

This species is listed as endangered by the IUCN. It is restricted to brackish lagoons where it burrows in soft mud although it also occurs on weed. It has been recorded from several localities on the south and east coasts of England but has not, as yet, been recorded elsewhere in Europe. It is threatened by habitat destruction and pollution.

### 2.14 Apus (*Triops cancriformis*)

This species is known from only one site, in Hampshire. It is dependent on the maintenance of shallow, eutrophic water conditions and is very vulnerable to habitat modification and to some forms of water pollution.

### 2.15 Beetle, violet click (*Limoniscus violaceus*)

This species is known only from one site, in Berkshire. It is dependent on dead wood and the remaining population appears to be confined to just one tree. The tree itself is vulnerable to removal and to damage caused by collectors through the breaking open of dead wood in search of the beetle.

### 2.16 Cicada, New Forest (*Cicadetta montana*)

This species is only known from one colony in Hampshire. It is vulnerable to habitat modification and probably also collecting.

### 2.17 Crayfish, Atlantic stream (*Austropotamobius pallipes*)

This species is listed as rare by the IUCN. It has, since 1981, undergone a catastrophic decline in southern British rivers through infection by the fungal disease "crayfish plague". Crayfish plague has resulted in the species becoming rare over much of Europe and it is likely to become endangered in Great Britain unless conservation measures are taken. NCC recommend that, to reduce the pressure on remaining crayfish populations and to help reduce the likelihood of the plague being spread, crayfish be listed in Schedule 5, the listing being confined to "taking" under Section 9(1) and to "sale etc" under Section 9(5).

### 2.18 Leech, medicinal (*Hirudo medicinalis*)

This species is listed as indeterminate by the IUCN. It is of rare occurrence in Britain, feeding on the blood of amphibians as well as mammals. It is threatened by habitat loss, the decline in amphibian populations, changes in methods of watering livestock and collection for medicine and research.

2.19 Mat, trembling sea (*Victorella pavid*)

This species is known from only one site, in Cornwall. Although it occurs in Europe in a variety of freshwater, brackish and saline habitats, in Britain it is confined to a saline lagoon environment. The species is vulnerable to habitat modification and pollution.

2.20 Moth, viper's bugloss (*Hadena irregularis*)

This species is confined in Britain to the Breckland area of East Anglia where only a very small population survives. The larvae feed on the seed heads of a rare plant and the species is very vulnerable to collecting.

2.21 Mussel, freshwater pearl (*Margaritifera margaritifera*)

This species is listed as vulnerable by the IUCN. British populations have shown severe declines in recent years and this has been attributed to pollution, habitat modification and over-fishing by amateur pearl hunters. The mussel takes about 12 years to mature and the wholesale and indiscriminate take of mature specimens in the search for pearls is threatening the species.

2.22 Sandworm, lagoon (*Armandia cirrhosa*)

This species is found in brackish water in shingle-sand sediments. In Britain it is only known to occur in a single lagoon site in Hampshire and this locality is the most northerly record for this species. The primary threats are habitat destruction and pollution.

2.23 Shrimp, fairy (*Chirocephalus diaphanus*)

The British population of this species has undergone a sustained decline and is very vulnerable to habitat modification and water pollution.

2.24 Shrimp, lagoon sand (*Gammarus insensibilis*)

This species is confined to a small number of brackish, sheltered lagoon sites in Hampshire and Dorset, where it is threatened primarily by habitat destruction and pollution.

2.25 Butterflies (*Rhopalocera*), rare and declining species

The NCC recommend that the butterfly species named below be listed on Schedule 5 in respect of Section 9(5) only.

There has recently been a marked increase in the extent of trade in butterflies in Britain and there is every indication that this trade will develop considerably over the next few years. Concurrently, there have been increases in the numbers of wild-taken specimens being imported from abroad. In the main this trade is unregulated and the NCC consider that it poses a threat to populations of native butterflies in two ways:

- a. the increase in trade and consequent stimulation of interest in the possession of butterflies is likely to lead to an increase in the collection of British butterflies from the wild that will put pressure on the populations of less common species;



- b. the import of foreign stock of butterflies native to Britain could affect the genetic integrity of resident butterfly populations if the foreign stock, or its progeny, were subsequently released to the wild.

NCC consider that the trade in rare and declining native butterfly species should be regulated by licences issued by the Department of the Environment. This would permit:

- a. regulation of the exploitation for trade purposes of British wild populations of the named species;
- b. the imposition of licence conditions requiring that, with respect to the named species, wild-taken butterflies of foreign origin should not be released to the wild.

NCC consider that the following species of British butterflies are rare or declining.

2.25.1 Argus, northern brown (*Aricia artaxerxes*)

A scarce northern species with most colonies being small.

2.25.2 Blue, Adonis (*Lysandra bellargus*)

A very scarce and declining species of southern calcareous grassland.

2.25.3 Blue, chalkhill (*Lysandra coridon*)

Although fairly widespread on southern calcareous grassland the species has declined due to habitat loss and lack of appropriate management.

2.25.4 Blue, silver-studded (*Plebejus argus*)

A very restricted species which has declined this century due to loss of its heathland and grassland habitat.

2.25.5 Blue, small (*Cupido minimus*)

Although still widespread this species has declined during this century and many of its colonies are small.

2.25.6 Copper, large (*Lycaena dispar*)

Reintroduced into Woodwalton Fen NNR after the native race became extinct. Maintained by caging larvae and reintroduction from reserve stock in some years.

2.25.7 Emperor, purple (*Apatura iris*)

A scarce species of southern woods.

- 2.25.8 Fritillary, Duke of Burgundy (*Hamearis lucina*)  
 The species is scarce and has suffered a considerable recent decline. Colonies are small.
- 2.25.9 Fritillary, Glanville (*Melitaea cinxia*)  
 Very restricted range in Great Britain being confined to the south coast of the Isle of Wight.
- 2.25.10 Fritillary, high brown (*Argynnis adippe*)  
 A scarce species which has undergone a considerable decline.
- 2.25.11 Fritillary, marsh (*Eurodryas aurinia*)  
 This species has suffered a considerable decline as a result of the drainage and improvement of its wet (and calcareous) grassland habitats.
- 2.25.12 Fritillary, pearl-bordered (*Boloria euphrosyne*)  
 This species has undergone a considerable decline, probably mainly as the result of the loss of its coppice woodland habitat.
- 2.25.13 Hairstreak, black (*Strymonidia pruni*)  
 This species has a very restricted range in Great Britain, with relatively few colonies.
- 2.25.14 Hairstreak, brown (*Thecla betulae*)  
 This is a scarce species which has shown evidence of decline due to intensive hedge management.
- 2.25.15 Hairstreak, white letter (*Strymonidia w-album*)  
 This species has undergone a massive recent decline due to the loss of its elm food plant as a consequence of Dutch Elm disease.
- 2.25.16 Heath, large (*Coenonympha tullia*)  
 Although still well established in Wales and Scotland this species has declined in England. It shows considerable variation within and between colonies and is vulnerable to collection.
- 2.25.17 Ringlet, mountain (*Erebia epiphron*)  
 This is an upland species which has a very restricted distribution in Great Britain.
- 2.25.18 Skipper, Lulworth (*Thymelicus acteon*)  
 This species has a very restricted range in Great Britain although there are signs that the population is strengthening.

2.25.19 Skipper, silver spotted (Hesperia comma)

This species requires a short-turf, calcareous grassland habitat. It is very scarce and is declining.

2.25.20 Tortoiseshell, large (Nymphalis polychloros)

This is a very scarce species nationally.

2.25.21 White, wood (Leptidea sinapis)

This is a locally distributed species which is likely to decline in future as a consequence of habitat change in young conifer plantations.

## QUINQUENNIAL REVIEW OF SCHEDULE 8

### RECOMMENDATIONS FOR CHANGES TO THE SCHEDULE AND STATEMENT OF REASONS

#### 3. Species recommended for addition to the Schedule

##### 3.1 Adder's-tongue, least (*Ophioglossum lusitanicum*)

This species is confined to one very small colony, on one of the Isles of Scilly. It is threatened by inappropriate land management and turf cutting.

##### 3.2 Cabbage, Lundy (*Rhynchosinapis wrightii*)

This endemic species is restricted to the island of Lundy, where the total number of plants varies from year to year. It suffers from grazing by sheep, goats and deer, and from tourist pressure.

##### 3.3 Colt's-foot, purple (*Homogyne alpina*)

This species is now known from only one confidential site, which is now threatened by trampling, collecting and grazing.

##### 3.4 Cottongrass, slender (*Eriophorum gracile*)

This is a declining species in Britain and only five sites are known, in Glamorgan, Caernarfon, Surrey and Hampshire; it is also threatened in Europe. The main threat is drainage.

##### 3.5 Crocus, sand (*Romulea columnae*)

This species is confined to only one site, in Devon, where it is subject to recreational pressures.

##### 3.6 Cudweed, red-tipped (*Filago lutescens*)

This is an annual, arable species which is declining in Britain and Europe, and is now reduced to three sites, in Suffolk. The main threat is inappropriate management.

##### 3.7 Fleabane, alpine (*Erigeron borealis*)

This species is known from six sites, in Aberdeen, Angus and Perth, but there are now very few individuals at those sites, and it is threatened by collecting, grazing and trampling.

##### 3.8 Fleabane, small (*Pulicaria vulgaris*)

After a rapid decline, this species is believed to be restricted to the New Forest and three other sites, in Hampshire, Surrey and Wiltshire. Inappropriate land management is the main threat.

3.9 Gentian, fringed (*Gentiana ciliata*)

This species is known from only one site, recently rediscovered, in a threatened confidential locality. Trampling and collecting are the main threats.

3.10 Germander, cut-leaved (*Teucrium botrys*)

This species is known from six sites but it is abundant at only one. It has declined rapidly; threats include development and motorcycle erosion.

3.11 Goosefoot, stinking (*Chenopodium vulvaria*)

This species is now known from only one native site, in Suffolk, on a disturbed shingle strand.

3.12 Grass-poly (*Lythrum hyssopifolia*)

This species is restricted to one main area, in Cambridgeshire. It is a casual elsewhere. The main threat is a change in agricultural practice.

3.13 Hawk's-beard, stinking (*Crepis foetida*)

This declining annual or biennial species is now known from only one site, in Kent, and its status is critical.

3.14 Hellborine, Young's (*Epipactis youngiana*)

This is a recently identified species known to be present at two sites only, in Northumberland. It is threatened by the secondary effects of commercial woodland management.

3.15 Horsetail, branched (*Equisetum ramosissimum*)

This species is known from one site, in Lincolnshire. It is threatened by river realignment.

3.16 Hound's-tongue, green (*Cynoglossum germanicum*)

This species has declined to seven known sites, in Surrey, Oxfordshire and Gloucestershire. It is threatened by public pressure and lack of management.

3.17 Marshwort, creeping (*Apium repens*)

One site only, in Oxfordshire, has been recently confirmed for this species, which is threatened by drainage and the cessation of grazing.

3.18 Milk-parsley, Cambridge (*Selinum carvifolia*)

This species is now known from only three sites, in Cambridgeshire. It is threatened by drainage.

- 3.19 Naiad, holly-leaved (*Najas marina*)  
This species is now known from only three sites, in Norfolk, and is declining. It is threatened by water pollution and recreational pressures.
- 3.20 Pennyroyal (*Mentha pulegium*)  
This species has undergone a rapid recent decline and is now known from only a few sites. It is threatened by habitat destruction and recreational pressures.
- 3.21 Pigmyweed (*Crassula aquatica*)  
This species is now known from one site only, in Inverness.
- 3.22 Ragwort, fen (*Senecio paludosus*)  
This species is now known from only one site, in Cambridgeshire. Threats include ditch clearance and pollution.
- 3.23 Ramping-fumitory, Martin's (*Fumaria martinii*)  
This annual arable species is now known from only one site, in the Isle of Wight, which is threatened by building.
- 3.24 Rest-harrow, small (*Ononis reclinata*)  
This species is now known from six sites. It has suffered from declining habitat, erosion and trampling.
- 3.25 Rock-cress, alpine (*Arabis alpina*)  
Only two small colonies of this species remain, on wet mountain ledges in Skye.
- 3.26 Rock-cress, Bristol (*Arabis scabra*)  
This species is confined to Avon Gorge, and is declining.
- 3.27 Speedwell, fingered (*Veronica triphyllos*)  
This is an annual arable species with two native sites, in Breckland. It is threatened by herbicides and changes in agricultural practice.
- 3.28 Star-of-Bethlehem, early (*Gagea bohemica*)  
This species is now known from only one restricted site, in the Welsh borders. It is threatened by public pressure and collecting.
- 3.29 Stonewort (*Lamprothamnium papulosum*)  
This species occurs in brackish lagoons, ponds and saltings in a total of four localities, in Dorset, Hampshire and the Isle of Wight. It is threatened by habitat destruction and pollution.

3.30 Strapwort (*Corrigiola litoralis*)

This species is restricted to one native site, in Devon, where it is threatened by encroachment of marginal vegetation.

3.31 Viper's-grass (*Scorzonera humilis*)

This species is now known from one site only, in Dorset.