

Guidance for UK BAP Priority Species and Habitats Review

Stage 1

MARINE HABITATS AND SPECIES

APRIL 2005



**Guidance for UK BAP Priority Species and Habitats Review – Stage 1
MARINE HABITATS AND SPECIES**

CONTENTS	Page no.
1. Introduction	3
2. Overview of Review Process	5
3. Assessment of Marine Habitats and Species - Stage 1	9
4. Links and further information	15
5. Contacts	15

1. INTRODUCTION

1.1 Introduction

This information note explains the purpose and process of the Review of UK Biodiversity Action Plan Priority species and habitats. The principal aim of the review is to ensure that the UK BAP remains focussed on the correct priorities for action, and that all specialists and interested parties are invited to contribute. This note explains how you can get involved, what is required and sets out the review timetable. The review is being coordinated by the Biodiversity Reporting and Information Group (BRIG), in association with the Review of Marine Nature Conservation and JNCC's Species Status Assessment programme, on behalf of the UK Biodiversity Partnership's Standing Committee.

This review of UK BAP priority marine, terrestrial and freshwater species and habitats is divided into three general stages. This note introduces the entire review but only gives full details for Stages 1 for marine habitats and species. Subsequent stages will investigate what can be done to conserve these species and habitats and examine the best ways to achieve results. Equivalent guidance notes exist that give full details of the review processes for terrestrial and freshwater habitats and for terrestrial and freshwater species. To obtain these other guidance notes, please refer to section 4 "Links and further information".

1.2 Why are the priority species and habitats being reviewed?

The original UK BAP lists of priority species and habitats are 10 years old. Given the importance of the UK BAP in stimulating action and mobilising resources, it is important that these lists are periodically reviewed to ensure that they continue to focus on the right priorities. This is the first full review of the UK BAP list and it is an opportunity to take into account emerging priorities, conservation successes, and the large amount of new information that has been gathered over the past decade.

1.3 Scope and guiding principles of the Review

These are summarised below and elaborated for marine habitats and species in Section 3.

1.3.1 Scope of terrestrial, freshwater and marine species

All species occurring in the UK, including current UK BAP priority species, are eligible for consideration. The criteria developed in the Review of Marine Nature Conservation (RMNC) will be used in the assessments for marine species.

1.3.2 Scope of terrestrial, freshwater and marine habitats

For terrestrial and freshwater habitats, the main focus of the habitat review is in establishing if there are gaps in the existing HAP series. The review also provides an opportunity to consider whether any habitat types need to be merged or re-defined to achieve better clarity and aid delivery. For marine habitats, a more comprehensive review will be carried out, using the Marine Habitat Classification for Britain and Ireland.

1.3.3 Audit trail of decisions

A strict audit of the process and all decisions will be kept to ensure transparency and facilitate any re-assessment or revisions, if required.

- 1.3.4 Any revision of the priority species list must be based on best available information. There will be a presumption against adding data-deficient species to the priority list but it is important to record those species that are considered to have a data deficiency.
- 1.3.5 The Review will be inclusive. The priority lists Review will invite full participation from species and habitat specialists, BAP practitioners at national and local levels, Country Groups¹, Agencies and Lead Partners.
- 1.3.6 Links to Targets Review and BAP reporting. Consultees who are Lead Partners and individual BAP steering group members will also be involved in the 2005 BAP Reporting round and the BAP Targets Review. The UK Standing Committee and BRIG are acutely aware that these three reviews will contribute significantly to work loads, and have therefore sought to achieve synergy across all three. As set out in the Targets Guidance note, Lead Partners who will be recommending the removal of species from the current list of BAP priorities need not set new targets for these species. The information on species status required for the 2005 BAP reporting round is largely compatible with the information requested for current BAP species in this Review. For further information on the Target Review and BAP reporting go to the UK BAP website (<http://www.ukbap.org.uk/>) and follow the links.
- 1.3.7 First of three stages in priority listing. Stage 1 simply recommends potential species and habitats for priority listing, based on scientific criteria. There will be two further stages in the review process before the priority list is finalised.

¹ Throughout this Guidance document, the terms “Country Groups” and “Country Biodiversity Groups” refer to the biodiversity decision-making mechanisms or authorities in each country.

2. OVERVIEW OF THE REVIEW PROCESS

The Review of species and habitats comprises three stages. Stage 1 looks at the scientific evidence for selecting candidate priority species and habitats while Stage 2 examines our ecological knowledge-base to identify the feasibility and appropriateness of taking conservation action. Stage 3 considers the means of implementing conservation action for both species and habitat priorities. Stages in this process are likely to be iterative. The process is summarised in Figure 1.

Stage 1 of this Review for marine habitats and species is addressed further in Section 3 of this guidance note and relevant specialists are being asked to contribute towards this important process. Details of Stages 2 and 3 will be sent out in late 2005.

2.1 Stage 1: Scientific Assessment of Conservation Status

The priority species and habitats should be those most in need of conservation action and it is important that this assessment is based on good scientific practice. Thus an emphasis is made here on gathering as much quantitative data as possible. In general, this should be the best available information that could pass an accepted level of scientific scrutiny.

2.1.1 Terrestrial and Freshwater species

The first stage of the *Terrestrial and Freshwater species* Review involves taxonomic specialist groups using the best available data to assess each species against objective criteria and specific thresholds. The four scientific criteria are:

- international threat
- international responsibility + moderate decline in the UK
- marked decline in the UK
- other important factor(s)

Applying these criteria will produce a candidate list of potential priority species. All birds and diadromous fish are included in the Terrestrial and Freshwater species review.

To obtain full information about the Terrestrial and Freshwater Species review see section 4 (“Links and further information”).

2.1.2 Terrestrial and Freshwater habitats

The aim for *Terrestrial and Freshwater habitats* is to review how the existing habitat series (covered by existing HAPs) complies with the principles established by the last review in 1999. This allows a reconsideration of issues surrounding definition and classification. Although there is broad consensus that the habitat types covered by our existing priority HAPs remain priorities for conservation action, some confusion exists over the habitat definitions and how they relate to other habitat classification systems and certain lists such as Annex I of the Habitats Directive. Some problems also arise because the current priority HAP types overlap, or lack a consistent hierarchical level (for example, reedbeds have their own HAP despite being a sub-type of fen which is itself another priority habitat). The UK BAP list review is an opportunity to re-assess our existing HAPs to improve clarity and delivery.

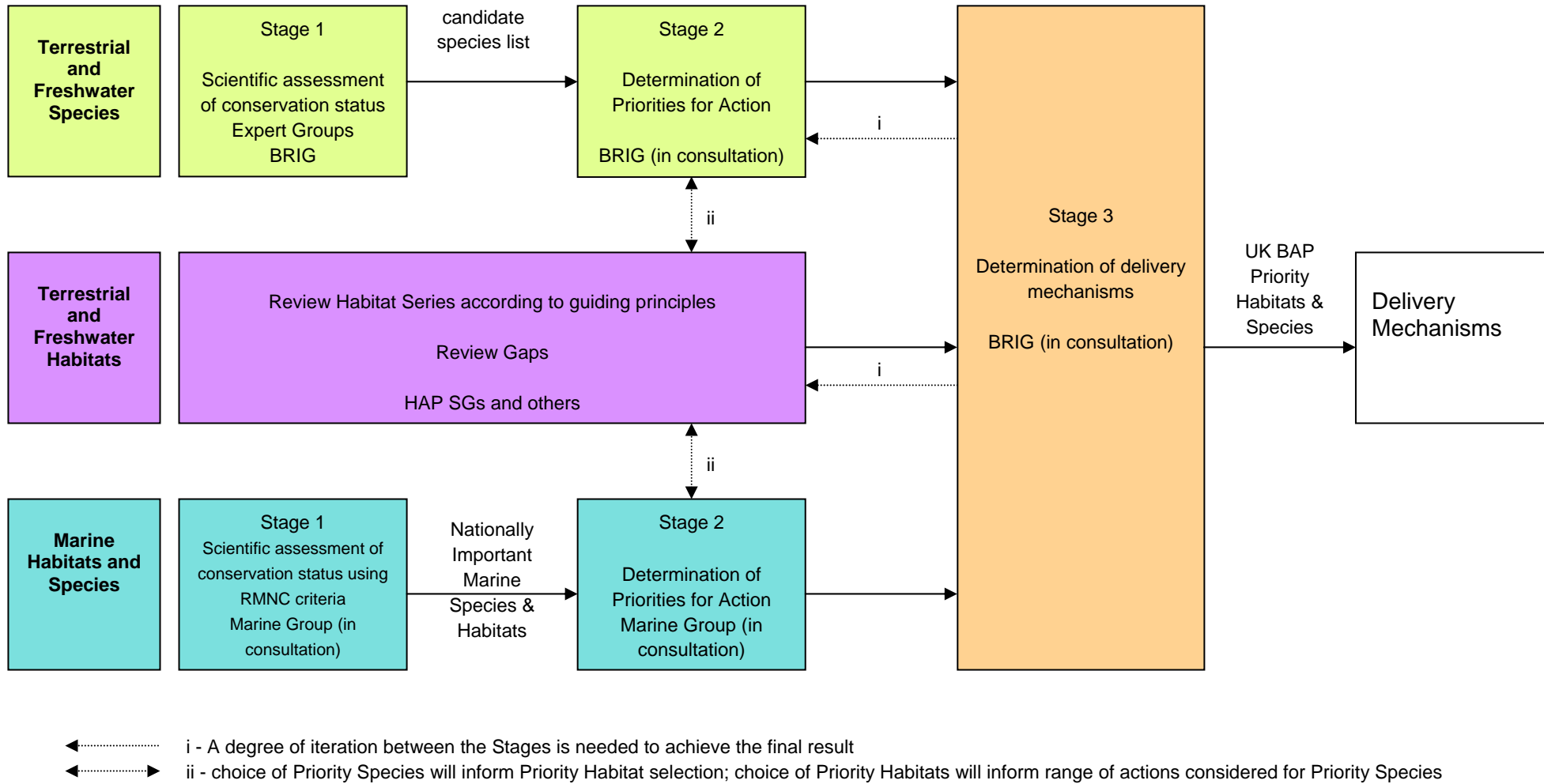


Figure 1. Overview of the elements of the Species and Habitat Priority Review

The Review will also look for any remaining gaps in terrestrial and freshwater priority habitats, building on the work done for the 1999 review: validating its conclusions and taking account of new data. Since the original HAPs were published, new information has emerged regarding the biodiversity importance and rate of decline of other semi-natural habitats. Proposals for new habitats will be assessed against the criteria set out in Section 4, these are:

- International obligation
- Risk
- Importance for key species

Proposals and supporting data will be sought from HAP steering groups and habitat specialists and analysed by broad habitats working groups in conjunction with BRIG. This is broadly equivalent to Stages 1 and 2 for Terrestrial and Freshwater species.

To obtain full information about the Terrestrial and Freshwater Habitat review see section 4 (“Links and further information”).

2.1.3 Marine species and habitats

For *marine species*, the RMNC criteria of rarity, proportional importance, decline and threat of decline will be used. For *marine habitats* a comprehensive review of the conservation priority status of marine habitats is to be undertaken by applying the RMNC criteria, and making use of the recently revised Marine Habitat Classification for Britain and Ireland. The marine species and habitat criteria and process are detailed in Section 5. Note that all birds, including seabirds, and diadromous fish are included in the Terrestrial and Freshwater species review.

- 2.1.4 The output from Stage 1 is a critical product for the Review process, and this candidate list of species and habitats will be published on the JNCC website. It may then be used to update the SoCC list.

2.2 Stage 2: Determining the need for action

- 2.2.1 Supported by further guidance, Stage 2 will involve a further consultation to identify the practical considerations which apply to the candidate list of terrestrial and freshwater species, and marine species and habitats. These will be assessed to select priorities for conservation action by examining how feasible or appropriate it is to conserve them. Examples of practical issues to be considered include: limitations in knowledge of the species’ ecology and causes of decline, our ability to control the threats, and the feasibility of taking action. This stage will involve consultation with the Country Groups and other BAP stakeholders. At the same time consultees will be asked to complete a pro-forma of questions relating to implementation issues and options to inform Stage 3. For candidate Terrestrial and Freshwater Habitats, Stage 1 and Stage 2 issues will be considered jointly.

2.3 Stage 3: Determination of Species and Habitat Delivery Mechanisms

- 2.3.1 This stage is primarily concerned with identifying a suite of implementation mechanisms that will facilitate effective and efficient delivery of conservation objectives for the suite of priority species and habitats considered collectively. A key purpose of this stage is to seek an improved series of implementation mechanisms through a collective approach to all species and habitats. Delivery mechanisms could include species plans, cross-cutting plans, mechanisms that focus on ecological function or similarity, and direct links to policies, strategies or existing biodiversity action plans.

- 2.3.2 The delivery of the conservation actions has a significant Country dimension, hence the involvement of the Country Groups is essential in developing Stage 3. It is also important to learn from recent experience and deliver the UK BAP through the most effective means of implementation.

2.4 What happens next?

- 2.4.1 This Stage 1 Guidance Note (and proforma for data collation) is being sent out to specialists and individual contributors via the co-ordinating network (identified by the contacts). Each of the specialist groups should follow the process set out in Sections 3. Completed proformas should be returned to the relevant contacts, via the coordinators for each taxonomic or habitat group by 30 September 2005. The contacts should then complete the summary table that they have been sent and return it, together with relevant proformas, to BRIG by 15 November 2005. It will be up to BRIG and the contacts to quality assure the data. Any proposals for new priority habitats should also be sent to BRIG by 30 September 2005. Contact details for each of the groups are given at the end of this note (section 5). It will be up to the contacts to identify and get in touch with the coordinators.
- 2.4.2 Up to 30 September 2005, (the end-date for submissions), there may well be queries and issues that need further discussion between species/habitat groups and BRIG. Please get in touch with any of the relevant contacts (details in Section 7) if you need to resolve any difficulties. From November 2005 BRIG will collate and review submissions, and publish a provisional list of priorities by March 2006 for wider consultation. Any contentious proposals will be discussed further with the relevant species or habitat specialist groups.
- 2.4.3 This list, together with the information received through Stages 2 and 3 will be forwarded to BRIG and the Country Biodiversity Groups to consider the proposals and assess the recommended actions. Results from the 2005 BAP reporting round will also be helpful in assessing the degree to which BAPs have been successful compared to other conservation mechanisms (such as sectoral strategies and policies e.g. agri-environment). BRIG will provide further assistance to Country Groups if required. It is possible at this stage that the Countries may additionally consider their own (non UK) priorities.
- 2.4.4 The aim is to complete this process by end 2006.

3. ASSESSMENT OF MARINE HABITATS AND SPECIES: STAGE 1

3.1 Marine Species and Habitats

- 3.1.1 The Review of Marine Nature Conservation (RMNC) and the Irish Sea Pilot (ISP), both of which finished in 2004, developed an ecosystem-based framework for marine nature conservation. This framework included the development of criteria to create a list of species, habitats and marine landscapes of conservation priority (termed “nationally important marine features” under the RMNC). This process aimed to identify features of conservation priority, and to determine appropriate actions (including specific action plans) to take for those features.
- 3.1.2 To avoid duplication of effort, the RMNC process will be integrated with the BAP review. This means that during the BAP review, marine species and habitats should be assessed using the RMNC criteria, following the process outlined below. The RMNC criteria are similar, but not identical, to the BAP criteria. The main difference is that the BAP criteria contain more stringent quantitative thresholds, especially for assessing rarity. In the marine environment it is difficult to work with quantitative thresholds because of a widespread lack of quantitative data. The marine landscape element of the RMNC is not covered in this review, but is still being extended beyond the Irish Sea as a separate project
- 3.1.3. Some species, e.g. estuarine species and anadromous fish species, may be difficult to classify as marine or freshwater / terrestrial. The list on the marine assessment spreadsheet, included in Appendix B, should help identify those that should be considered as marine. Where there is doubt, please contact the relevant marine and BAP taxon contacts to clarify and avoid duplicating assessments for individual species and habitats. Contacts are given in Section 5. Note that seabirds will be assessed using the terrestrial and freshwater species criteria (and they will be assessed by that review process), not the marine species criteria.
- 3.1.4. The RMNC criteria are applicable to habitats as well as marine species. For marine habitats, a comprehensive review will be carried out, using the marine habitat classification for Britain and Ireland (Connor et al., 2004) as a starting point. This differs from the approach taken for terrestrial and freshwater habitats, where no comprehensive review is planned at this stage. Note that existing marine BAP habitats do not all fit into the marine habitat classification system as entities in their own right – nevertheless, for the purpose of the BAP review they will continue to be treated as habitats, and assessed against the RMNC criteria.

3.2 Developing a list of nationally important marine features

- 3.2.1 During the RMNC and ISP, criteria for the identification of priority features (species, habitats and marine landscapes) were developed, and a provisional list of priority features was created (Lieberknecht *et al.*, 2004; Vincent *et al.*, 2004). There was insufficient time available to finalise the list within the timeframe of the RMNC.
- 3.2.2 The provisional list has been extended by adding all biotope complexes from the revised biotope classification (Connor et al., 2004), and is to be used as a checklist for the purpose of the current assessment. Expert judgement is needed to assess whether the species and habitats on the list meet or fail the RMNC criteria, or whether there is insufficient information to make an assessment. There also has to be judgement whether there are any additional species and habitats (particularly in

relation to the intertidal zone) that need to be considered, which have been missed off the provisional list. A spreadsheet has been created to record expert judgements, and guidance on filling in the spreadsheet is given below, after the RMNC criteria.

3.3 RMNC criteria for nationally important marine habitats and species

3.3.1 Criterion 1: Proportional importance

A high proportion of the marine habitat, or population of a species (at any time of its life cycle) occurs within the UK. This may be related to either the global or regional extent of the feature.

Habitats and species are categorised as follows:

Globally important: a high proportion of the global extent of a marine habitat or a high proportion of the global population of a species (at some stage in its life cycle) occurs within the UK. 'High proportion' is considered to be more than 20%.

Regionally important: a high proportion of the regional extent of a marine habitat, or a high proportion of the regional population of a species (at some stage in its life cycle) occurs within the UK. 'Regional' refers to the north-east Atlantic (OSPAR) area. 'High proportion' is considered to be more than 30%.

3.3.2 Criterion 2: Rarity

Marine habitats and species that are sessile or of restricted mobility (at any time in their life cycle) are considered nationally rare if their distribution is restricted to a limited number of locations.

Rarity is assessed as follows:

The feature occurs in less than 0.5% of the total number of 10 km x 10 km squares in UK waters.

A mobile species qualifies as nationally rare if the total population size is known, inferred or suspected to be fewer than 250 mature individuals. Vagrant species should not be considered under this criterion.

3.3.3 Criterion 3: Decline

An observed, estimated, inferred or suspected significant decline (exceeding expected or known natural fluctuations) in numbers, extent or quality of a marine habitat or a species in the UK (for species, quality refers to life history parameters). The decline may be historic, recent or current. Alternatively, a decline at a global or regional level, where there is cause for concern that the proportional importance criterion will be met within the foreseeable future. Decline in extent and quality of features at different scales should be assessed as shown in the following table:

	Extent	Quality
Marine habitats	A marine habitat that has declined in extent to 90% or less of its former natural extent in the UK [i.e. there has been a decline of 10% or more], or its distribution within the UK has become significantly reduced (e.g. lost from several sub-regions).	A marine habitat for which quality, based on change from natural conditions caused by human activities, is negatively affected by: (1) a change of its typical or natural components over a significant part of its UK distribution, or (2) the loss of its typical or natural components in several sub-regions. Such judgement is likely to include

		aspects of biodiversity, species or habitat composition, age composition, productivity, biomass per area, reproductive ability, non-native species and the abiotic character of the habitat.
Species	Within the UK population of the species: there has been a recent significant decline in numbers of individuals / geographical range, or numbers of individuals / geographical range are presently in marked decline, or the present population is at significantly lower levels than in the past as a result of human activity (evidence for past significant decline)	The species has suffered a significant decline in one or more of the following: Loss of genetic diversity Loss of fecundity Reduction in the number of mature individuals Fragmentation of the population

3.3.4 Criterion 4: Threat of significant decline

It is estimated, inferred or suspected that a species or habitat will suffer significant decline (as defined under the “decline” criterion) in the foreseeable future as a result of human activity. This assessment will need to take into account inherent sensitivity, and expected degree of exposure to the effects of human activity. A species or habitat may also qualify under this criterion if there is real cause for concern that it would fulfil the proportional importance criterion in the near future due to the threat of global or regional decline.

3.3 Guidance on applying the RMNC criteria

3.3.1 Terminology:

Within the text of the RMNC criteria, “feature” refers to species, habitats and marine landscapes (Golding *et al.* 2004). Marine landscapes are not part of the current assessment, as they fall outside the remit of BAP, and the marine landscape classification has not yet been completed for all of the UK. Marine landscapes will be reviewed at a later stage.

“Habitat”, in the context of nationally important marine features, does not refer to one fixed level of scale. The provisional list includes the biotope complexes from the marine habitat classification (Connor *et al.*, 2004), which should be used as a “checklist” for starting the assessment. If a biotope complex doesn’t meet any of the criteria, but more narrowly defined biotopes within the complex do, then those biotopes should be listed as nationally important. By treating an entire hierarchical “tier” of the classification system (biotope complexes) as a “checklist”, a comprehensive review of marine habitats is ensured, using best available information.

“National” refers to the boundary of UK jurisdiction, i.e. the assessment of whether a feature meets any of the criteria is carried out using a political boundary, and features which qualify are deemed “nationally important” at the UK level. However, existing datasets will usually cover a range of different local, regional or biogeographical

areas, and judgements will often have to be carried out using datasets that cover only part of the UK seas, or which include waters outside UK jurisdiction.

- 3.3.2 The ideal dataset (comprehensive, evenly distributed, covering the right geographical area, including historic and recent data) is unlikely to exist for any feature. This means that some degree of expert judgement will be required to reach a conclusion. Care has been taken in the wording of the criteria to allow for this. Even where exact threshold figures are mentioned, e.g. in the criterion for nationally rare features, it is not necessary to have the exact scientific data to “prove” that these figures are reached in order for a feature to qualify as nationally rare – existing data as well as expert knowledge need to be evaluated, applying the precautionary approach where there is a degree of uncertainty. Where quantitative data exist, however, these should be supplied.

3.4 Guidance for filling in the spreadsheet

- 3.4.1 Experts are requested to make their submission using the Excel file that accompanies this Guidance Note. The top worksheet (“1. Species & habitat assessments”) contains the main table to fill in. It has four sections, colour-coded to make navigation around the sheet easier.

Top worksheet, Section 1: Information on the species or habitat. This section contains the species and habitats on the provisional priority list developed during the RMNC, expanded to include all biotope complexes from the revised marine habitat classification system.

Top worksheet, Section 2: Information on the assessor. Please fill in your name, affiliation and contact details.

Top worksheet, Section 3: Assessment against criteria for national importance. This is the most important section of the table, where expert judgements against each of the criteria are recorded. It is subdivided into four subsections, one for each criterion. A species or habitat which meets one or more of the criteria qualifies as nationally important. For each criterion, there are the following fields to fill in:

- **Verdict:** This is where to record a verdict against the criterion, using the drop-down options provided. “Yes” indicates that, based on your judgment, the criterion is met for that species or habitat. “No” means that the criterion is not met.

- **Confidence in verdict:** Using the drop-down list, indicate the degree of confidence you have in the verdict. If it is low, this may be because of a lack of information or conflicting information.

- **Justification for verdict:** Provide details of the information on which the verdict is based. For the “decline” and “threat” criteria, this field is separated into “evidence for decline in quality” and “evidence for decline in quantity”. If a species or habitat doesn’t meet one of these criteria, this may include evidence of a population increase. For all four criteria, please provide as much detail as possible, e.g. degree of decline in numbers, nature of decline in quality, etc. Where quantitative data is available, this should also be captured in the second worksheet (see below).

- **Sources of information:** Indicate whether the verdict is based on personal expertise, survey data, or published information. If published references are known, please refer to them in here. The full reference should not be included in this cell, but on the third worksheet (“3. References”).

- *Quality and quantity of information:* Please indicate the quality and quantity of the information on which the verdict is based, using the drop-down list of options.

- *Additional comments on information used:* This may include comments on whether there is quantitative information available, whether it is sufficient to reach a verdict, or whether it is insufficient.

Top worksheet, Section 4: Additional information. There are two cells to fill in under this final section. The “Ecological needs of the species or habitat” field extends the assessment beyond the application of the criteria, and should only be filled in for those species and habitats that meet one or more of the criteria. It is intended to aid later stages of work, when practical considerations need to be made in terms of what type of conservation actions are suitable. Please indicate, to the best of your knowledge, the most important conservation needs of the relevant species or habitat. Please focus on ecological needs (e.g. “undisturbed sediments”) rather than management needs (e.g. “ban dredging”).

- 3.4.2. For a limited number of marine species, quantitative information on population sizes and declines over defined periods may be available. This will apply especially to commercial fish species. Where these data are available, they should be entered into the second worksheet (2. “Quantitative data for species”), after the top worksheet (“1. Species & habitat assessments”) has been filled in. The “Quantitative data” worksheet is based on the format of the worksheet for the BAP terrestrial and freshwater species review. For marine species, its purpose is simply to gather existing quantitative data in a consistent format, not to reach a verdict on whether the species meets the criteria or not. If you have questions about this worksheet, please contact the marine species and habitats Contact (see Section 5).
- 3.4.3. The third worksheet (“3. References”) should be used to supply the full references for sources of information, where these references have been cited in the main worksheet. Please use a separate row for each reference, and indicate which species or habitat the reference was used for in the second column. Where the same reference has been used for more than one species or habitat, please fill in a separate row for each one (i.e. cells in the second column should only contain a single species or habitat name).
- 3.4.4. When filling in the table, please focus on those features or groups of features for which you have specialist knowledge. Some examples have been filled in,, for those features where detailed assessments were completed during the ISP (Lieberknecht *et al.*, 2004). These assessments did not cover conservation considerations, therefore the “needs” field is not completed in the examples. If you disagree with any statements in the examples, or you have additional information on species or habitats where the table is already filled in, please add in an extra row and fill that in, rather than adding to already completed fields. It would help if you could highlight these additional rows in a different colour, or provide a list of species and habitats for which you have created extra rows.
- 3.4.5. The list of species and habitats on the spreadsheet is to be treated as a “checklist”, not as an exhaustive list of everything that should be assessed for this review. There will be additional species and habitats which meet the criteria. One significant gap is for intertidal species – these were not covered during the RMNC, and therefore not included on the provisional list. Please consider whether there are any additional species and habitats which you know of that may meet the criteria, and add them to the spreadsheet by creating additional rows for them. The cells should be filled in the same way as for the features already listed (again, it would help to highlight these

added rows, or to provide a list of the added species and habitats). Note that JNCC hold a spreadsheet containing a track record of which features were originally considered for the provisional list, the reasons why they were considered, and the outcomes of the rapid assessments carried out during the ISP. In the same way, a track record of all of the information gathered and species/habitats put forward in this review will be kept.

4. LINKS AND FURTHER INFORMATION

UKBAP website supporting the implementation of the UK Biodiversity Action Plan (UK BAP) on behalf of the UK Biodiversity Partnership and the UK Government

<http://www.ukbap.org.uk/>

For the full guidance note for the review of Priority Terrestrial and Freshwater Habitats go to WEBLINK

For the full guidance note for the review of Priority Terrestrial and Freshwater Species go to WEBLINK

Species Status Assessment programme (internet link) <http://www.jncc.gov.uk/page-1743> JNCC.

Buglife – The Invertebrate Conservation Trust (internet link) non-marine invertebrates review 2004/5 <http://www.buglife.org.uk> (scroll to bottom of home page)

References

Connor, D. W.; Allen, J. H.; Golding, N.; Lieberknecht, L. M.; Northen, K. O. and Reker, J. B. *The National Marine Habitat Classification for Britain and Ireland Version 03.02* © 2003 Copyright JNCC, Peterborough ISBN 1 86107 546 4 (internet version)

Golding, N, Vincent, M A and Connor, D W (2004) *Irish Sea Pilot - Report on the development of a Marine Landscape classification for the Irish Sea*. JNCC and Available at www.jncc.gov.uk/irishseapilot.

Lieberknecht, L M, Vincent, M A and Connor, D W (2004). *The Irish Sea Pilot - Report on the identification of nationally important marine features in the Irish Sea*. JNCC report no. 348. Available at www.jncc.gov.uk/irishseapilot.

RMNC Working Group (2004) *Review of Marine Nature Conservation Working Group Report to Government* Defra, London. Available to download on www.defra.gov.uk/wildlife-countryside/ewd/rmnc/

Vincent, M A, Atkins, S, Lumb, C, Golding, N, Lieberknecht, L M and Webster, M (2004) *Marine Nature Conservation and Sustainable Development: the Irish Sea Pilot*. JNCC and online at www.jncc.gov.uk/irishseapilot.

5. CONTACTS

Contacts have agreed to co-ordinate the review, including providing guidance and collating returns from co-ordinators and contributors across the individual taxonomic groups. However, not all taxonomic sectors (dependent on size) will necessarily require having the co-ordinators role.

Terrestrial and freshwater habitats

Ian Strachan, Joint Nature Conservation Committee
01397 704716 or 01733 562626

ian.strachan@jncc.gov.uk

Marine species and habitats

Nikki Chapman, Joint Nature Conservation Committee
01733 866875

Nikki.Chapman@jncc.gov.uk

Vascular plants

Lynne Farrell, Scottish Natural Heritage
Tel: 01738 444177

lynne.farrell@snh.gov.uk

All other plants & fungi

Chris Cheffings, Joint Nature Conservation Committee
Tel: 01733 866805

chris.cheffings@jncc.gov.uk

Mammals

Melanie Hardie, Joint Nature Conservation Committee
01733 866912

melanie.hardie@jncc.gov.uk

Herptiles

Liz Howe, Countryside Council for Wales
Tel: 01248 385669

l.howe@ccw.gov.uk

Freshwater fish

Colin Bean, Scottish Natural Heritage
Tel; 0141 9514488 (x2208)

colin.bean@snh.gov.uk

Birds

David Gibbons, RSPB
01767 680551

David.gibbons@rspb.org.uk

Terrestrial and freshwater invertebrates

Nigel Bourn, Butterfly Conservation
01929 400209

nbourn@butterfly-conservation.org

or

Deb Procter, Joint Nature Conservation Committee
01733 866809

Deborah.Procter@jncc.gov.uk

Technical Contact

Ant Maddock, Joint Nature Conservation Committee
01733 866827

ant.maddock@jncc.gov.uk

END