The status of UK SPAs in the 2000s: the Third Network Review (Phase 2) summary of advice and options

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The status of UK SPAs in the 2000s: the Third Network Review (Phase 2) summary of advice and options

Editors:

Grady, S.*, Anthony, S.**, Cohen, S.#, Douse, A.#, Lindley, P.^, Mountford, E.* & Owens, R.§ – on behalf of the UK SPA & Ramsar Scientific Working Group

Summary report to the Habitats Regulations and International Sites Management Group (HaRIS Management Group) and the UK SPA & Ramsar Scientific Working Group (SPAR SWG)

This report is based on an initial version drafted by D.A. Stroud* in 2017 for the UK SPA & Ramsar Scientific Working Group, and is underpinned by detailed species/population assessments produced for the SPA & Ramsar Scientific Working Group by:

Stroud, D.A.*, Buxton, N.#, Chambers, D.*, Drewitt, A.**, Jennings, K.~, Lindley, P.^, McCulloch, N.§, Owens, R.§ & Whitehead, S.^, all on behalf of the UK SPA & Ramsar Scientific Working Group

Version 1.0: 1 May 2025

* Joint Nature Conservation Committee (JNCC), ** Natural England (NE), # NatureScot, ^ Natural Resources Wales (NRW), § Department of Agriculture, Environment and Rural Affairs - Northern Ireland Environment Agency (DAERA-NIEA), ~ Royal Society for the Protection of Birds (RSPB)

Joint Nature Conservation Committee
Quay House
2 East Station Road
Fletton Quays
Peterborough
PE2 8YY

ISBN 978-1-86107-648-9

Suggested citation:

Grady, S., Anthony, S., Cohen, S., Douse, A., Lindley, P., Mountford, E. and Owens, R. (eds) – on behalf of the UK SPA & Ramsar Scientific Working Group. 2025. The status of UK SPAs in the 2000s: the Third Network Review (Phase 2) summary of advice and options. Version 1.0. JNCC, Peterborough. 133 pp.

Front cover images:

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Contents

Preface

Special Protection Areas (SPAs) form a vital component of the suite of protected areas in the United Kingdom. These sites are focussed on the protection of rare and vulnerable birds (as listed on Annex I of the Wild Birds Directive) and other regularly occurring migratory birds (not listed on Annex I). Periodic reviews of the UK's SPA network have proved an effective means of identifying priorities for site-based conservation, as well as identifying other associated and complementary conservation measures that may be needed beyond site boundaries.

Responsibility for the scientific assessment and advice in relation to the review of the UK SPA network has been given to the UK SPA & Ramsar Scientific Working Group (SPAR SWG). It was agreed that this Third (and latest) Review of the network would be structured in three phases:

- Phase 1 advised the four governments of the UK on the sufficiency of the UK SPA network in terrestrial and inshore coastal environments based on 151 species/ population assessments, noting that in some cases the breeding, non-breeding and/or passage populations of specific species were assessed separately. This work was published in Stroud *et al*. (2016) The status of UK SPAs in the 2000s: the Third Network Review;
- Phase 2 (covered by this report) addresses the identified insufficiencies for each species/population in terms of their population numbers, range coverage and ecological requirements, and sets out the required work on changes to the UK SPA network through the provision of advice and options; and
- Phase 3 will encompass the implementation of Phase 2 of the Third Review, comprising of a range of responses: the classification of new sites; the extension of the boundaries of existing sites; and/or the revision of SPA site Citations.

The publication of the Phase 2 Report has been delayed and therefore needs to be read and understood in the context of the following considerations.

Underpinning ecological data

It is recognised that some of the underpinning ecological data has changed since the completion of Phase 1 (in 2016) and during the time taken to complete Phase 2. However, this still provides an important source of information to help address the issues of insufficiency within the UK SPA network. Based on this data, the Phase 2 Report provides advice and options required to meet sufficiency. Updated data will, nevertheless, be needed to support implementation during Phase 3 to either verify that the advice and options are still justified or to make any necessary adjustments. This work will be carried out by the four countries to meet their own national requirements and will also require collaborative working where particular bird species/populations are common to two or more countries.

New strategic and policy contexts

The strategic and policy contexts in which the UK Government, the Devolved Governments of Scotland and Wales and the Northern Ireland Executive are working within has changed substantially since 2016. The commitment to deliver against the global 30x30 area-based target[1] is of specific relevance. Governments will need to consider how the UK network of

[1] 30x30 is a commitment to protect at least 30% of land and sea (terrestrial and inland water areas, and of marine and coastal areas) for nature by 2030, under Target 3 of the Convention on Biological Diversity's Kunming-Montreal Global Biodiversity Framework.

SPAs and the advice and options presented in Phase 2 will contribute to this, and to wider species conservation efforts. The approach taken to deliver against the 30x30 target may vary across the four countries and will also need to consider the principles set out in the 'Joint Statement on Improving the Approach to Protected Areas in the UK'[2].

Additionally, the UK's exit from the European Union (EU) may have implications for the UK SPA network, its management and the role it plays in species conservation across the UK, given that the legal and associated policy decisions are devolved to the four country-level governments and not now directed through EU-wide agreed action. As a result, there is the potential for a divergence of approaches to species conservation and management between the four countries. The need to understand the importance and contribution of this work for conservation at a UK-wide scale, and in the context of wider international conservation approaches, actions and commitments is also recognised, including at the European-level (e.g. Bern Convention) and at the flyway-scale (e.g. the Agreement on the Conservation of African-Eurasian Migratory Waterbirds under the UN Convention on Migratory Species).

The SPA & Ramsar Scientific Working Group (SPAR SWG) SNCB Working Group

[2] JNCC, Natural England, Natural Resources Wales, NatureScot & Northern Ireland Environment Agency. 2024. A Joint Statement on Improving the Approach to Protected Areas in the UK. JNCC, Peterborough. https://hub.jncc.gov.uk/assets/2f79ed3b-a46c-4084-9df1-ef03c91f6a87.

Executive Summary

1. Phase 1 of the Third Network Review of the UK's Special Protection Areas (SPAs) (hereafter the 'Third Review') provided a gap analysis of the sufficiency of the UK SPA network, adding to the previous assessments published by the Nature Conservancy Council (NCC) in 1990 (the 'First Review') (Stroud *et al.* 1990) and by the Joint Nature Conservation Committee (JNCC) in 2001 (the 'Second Review') (Stroud *et al.* 2001). The Phase 1 Report advised governments on the sufficiency of the network for 151 species/populations[3] (Stroud *et al*. 2016). It concluded that 87 UK SPA species suites[4] were insufficient to meet the requirements[5] of Article 4 of the Wild Birds Directive for reasons of either population numbers, range coverage and/or ecological provision. These relate to 38 breeding species/populations, 46 non-breeding species/populations and three passage species/populations. These totals did not include significant additional unimplemented recommendations that were the subject of formal advice from JNCC to Ministers (and published in the Second Review) in 2001 (Stroud *et al.* 2001).

2. Phase 2 of the Third Review[6] addresses the insufficiencies identified in Phase 1. This Phase 2 Report by the joint Statutory Nature Conservation Body (SNCB) Working Group ('the SNCB Working Group')[7] to the Habitats Regulations and International Sites Management Group' ('HaRIS Management Group')[8] and the UK SPA & Ramsar Scientific Working Group ('SPAR SWG')[9] is an update to the version originally drafted by D.A. Stroud (via the Phase 2 Working Group)[10] to the SPAR SWG and the SPA Review Executive Steering Group ('ESG')[8] in 2017. It summarises the detailed (technical) species/population assessments, in particular:

    - whether new SPAs should be considered in the light of recommendations from Phase 1 of the Third Review, and if so, their possible location and extent;
    - whether existing SPAs should be considered to be extended either in spatial extent, or through the addition of further qualifying species/populations;
    - determination of situations requiring focussed monitoring and/or management actions; and
    - highlighting the need to establish a prioritised timetable to implement the findings of Phases 1 and 2 of the Third Review.

3. This Phase 2 Report also summarises the outstanding recommendations made by the Second UK SPA Review (Stroud *et al.* 2001). The Phase 1 Report of the Third Review noted that: "*Although many of the relevant classifications have yet to occur, it is envisaged that these will occur in the next stages of this third Review, since their implementation is integral to the sufficiency conclusions reached*." Accordingly, the SNCB Working Group (following a review and quality assurance process of the original version of this Phase 2 report) has collated these Second Review recommendations together with advice and options arising from the work of the Third Review to present as complete a summary of the needs[11] (as the contemporary data allow) to attain species/ population sufficiency within the UK SPA network. As new data become available during the period of Phase 3 implementation, these datasets should also be used to further inform decision making about addressing the insufficiencies across the UK SPA network.

4. Although it has not been possible to resolve all the issues raised by the Phase 1 Report, the SNCB Working Group has been able to provide advice and options in this Third Review relating to 76 species/populations covered by this terrestrial/coastal review and 12 covered by both the terrestrial/coastal and marine reviews (see Table 2)[12], and highlighted, in some cases, the need for contemporary survey, data collation and further

analysis. Some of these advice and options will be resolvable in the short-term, others will need more time (see paragraphs 5 and 6 below). Insufficiencies for any remaining species/populations will need to be addressed through the UK marine SPA sufficiency assessment process.

5. Actions for consideration through the Third Review, whether additions of qualifying species and/or reviews of site boundaries or management, have been identified for 183 existing SPAs across the UK. This includes 74 SPAs in England, 80 in Scotland, one cross-border England-Scotland site, 12 in Wales, three cross-border England-Wales sites, and 13 in Northern Ireland.

6. The Phase 2 Report also identifies 94 sites/locations/search areas as options for the classification of new SPAs. 38 of these are in England, 37 are in Scotland, two span the border between England and Scotland, 15 are in Wales, one spans the border between England and Wales, and one is in Northern Ireland.

7. It additionally lists the remaining unimplemented recommendations (as of the end of May 2016) from the Second Review. These include additions and deletions of specific species/populations as legally protected features at specific SPAs. A number of these recommendations have since been implemented to varying degrees across the four countries[13].

8. Three different types of evidence requirements were concluded to be necessary to aid implementation of the Phase 3 process:

   i. robust, evidence-based options in relation to sites (either currently classified or unclassified) that can be progressed based on existing data and information (i.e. where no further survey data gathering is required to develop proposals). Examples are:

      - assessing site options for non-breeding Greenland White-fronted Goose *Anser albifrons flavirostris* using data collected by the Greenland White-fronted Goose Study Group;
      - assessing site options for breeding Common Crane *Grus grus* using Rare Breeding Birds Panel (RBBP) data; and
      - assessing site options for non-breeding Great Crested Grebe *Podiceps cristatus* using Wetland Bird Survey (WeBS) data.

   ii. options in relation to sites (either already classified or unclassified) where further analysis of existing datasets and/or up-to-date surveys are needed before robust proposals can be made. An example here is breeding Chough *Pyrrhocorax pyrrhocorax*.

   iii. situations where, for example, national surveys or research projects are needed and that are only likely to be realised in the longer term – typically to be undertaken over a period dependent on resource and organisational requirements. An example here is breeding Curlew *Numenius arquata.*

   See section 5 for further details of examples under these three types of conclusions.

9. The SNCB Working Group recommends there would be continued benefit for UK co-ordination of further analyses of existing UK datasets related to those species/ populations in the categories in 8.ii and 8.iii above. It would be cost-effective to commission such work on a shared basis, and co-ordination might continue to be provided by the SNCB Working Group.

10. The SNCB Working Group highlights the need for a prioritised work programme from each of the four country-level devolved governments/administrations (Defra, Northern Ireland Executive, Scottish Government and Welsh Government) and their respective country SNCB (Natural England, the Northern Ireland Environment Agency, NatureScot and Natural Resources Wales), outlining the timescale of their implementation of Phase 3.

11. For some species/populations, implementing the advice and options from the Third Review will require additional research and/or survey (see categories in 8.ii and 8.iii above). These needs are highlighted both in the individual species/population accounts of the Phase 1 Report (Stroud *et al.* 2016) as well as the detailed species/population assessments[14] prepared for Phase 2. This Phase 2 summary report brings together and synthesises these needs.

12. The SNCB Working Group notes that, for a number of species/populations, complementary work is required to assess UK marine SPA provision in both inshore and offshore marine areas. For those species/populations which use both marine areas and terrestrial and inshore coastal environments, the UK marine SPA sufficiency assessment process and this Third Review have joint relevance.

13. In the undertaking of these detailed species/population assessments, the SNCB Working Group notes the considerable and on-going change in numbers and distributions of some species, probably driven by key drivers such as changing climatic conditions and disease transmission (such as Highly Pathogenic Avian Influenza). As noted in the Phase 1 Report (Stroud *et al.* 2016), this implies a need to keep the UK SPA network under review to ensure that it remains fit for purpose in both the policy and conservation contexts for which it has been established.

Footnotes

[3] The term 'species/populations' as used throughout this report includes reference to either i) relevant biogeographical populations subject to separate evaluation and reporting (e.g. non-breeding Greenland White-fronted Goose *Anser albifrons flavirostris*), ii) breeding and non-breeding populations of the same species (e.g. Hen Harrier *Circus cyaneus*), iii) evaluations of different races of a species (e.g. Dark-bellied Brent Goose *Branta bernicla bernicla*) or iv) evaluations of species referred to as passage populations (e.g. Common Tern *Sterna hirundo*). These can be considered as 'units of assessment', which correspond to those used in the Phase 1 Report (Stroud *et al.* 2016).

[4] The term 'suites' refers to the suite of SPAs classified across the four countries of the United Kingdom for each species/population, for example non-breeding Chough *Pyrrhocorax pyrrhocorax* and breeding Chough represent two UK SPA species/population suites.

[5] Legal requirements are now set out under amended 'Habitats Regulations' across the four countries.

[6] This Phase 2 Report essentially covers terrestrial species/populations, a small number of which use both terrestrial and inshore coastal environments for some component(s) of their annual lifecycle, and which therefore will have some reliance on both terrestrial and marine SPA provision. The UK marine SPA sufficiency assessment process was halted in March 2020. No subsequent decisions have been made by Defra and the devolved governments on a UK approach to address marine SPA provision issues, which would be required to complement the advice and options set out in this Phase 2 Report for a number of species/populations.

[7] The SNCB Working Group (also the editors of this Phase 2 Report) involved representatives of the following organisations: Department of Agriculture, Environment and Rural Affairs - Northern Ireland Environment Agency, NatureScot, Natural Resources Wales, Natural England and the Joint Nature Conservation Committee.

[8] The Habitats Regulations and International Sites Management Group (HaRIS Management Group) was established in June 2021, taking on the inter-governmental oversight for the Third Review and thus replacing the former function of the 'SPA Review Executive Steering Group' (ESG). The HaRIS Management Group has not had any role in the delivery of this Phase 2 Report but will have an oversight function during the Phase 3 implementation period.

[9] The UK SPA & Ramsar Scientific Working Group (SPAR SWG) was established by Defra in November 2001 to provide scientific advice on matters relating to the UK Special Protection Area network, including representatives from Government, the Statutory Nature Conservation Bodies and non-government organisations from the conservation, land use and marine sectors.

In Phase 2, core representation and/or key contributions involved: Department of Agriculture, Environment and Rural Affairs - Northern Ireland Environment Agency, NatureScot (formerly Scottish Natural Heritage), Natural England, Natural Resources Wales, Joint Nature Conservation Committee; Forestry Commission, Royal Society for the Protection of Birds, Wildfowl & Wetlands Trust, Water UK; and other individuals providing advice on particular species. See section 6 'Acknowledgements' for further details.

[10] The Phase 2 Working Group included those representatives from the Statutory Nature Conservation Bodies and non-government organisations who undertook the Phase 2 detailed species/populations assessments up to 2017. See section 6 'Acknowledgements' for further details.

[11] This reflects the status of the UK SPA network as at the end of May 2016 (i.e. including all updates to the UK SPA Standard Data Forms up to and within UK 'SPA Tranche 51' see https://jncc.gov.uk/our-work/uk-spa-changes/). Note: the original assessment of the remaining unimplemented Second Review recommendations was based primarily on details recorded in the Standard Data Forms, which did not always align with the information on the SPA Citation documents.

[12] This includes advice and options for 79 species/populations assessed with insufficient SPA suites (see Table 1) and an additional 9 species/populations assessed as sufficient, but where additional considerations are required related to boundary review (to include additional areas used for feeding or other functional needs), management review, and/or survey/monitoring needs (see Table 2).

[13] For example, of the remaining unimplemented Second Review recommendations, in Scotland these have been reviewed and most have been implemented as agreed between NatureScot and Scottish Government, and in Northern Ireland over two-thirds have been implemented by DAERA-NIEA.

[14] The Phase 2 detailed species/population assessments were produced as papers by the SPAR SWG (see section 6 'Acknowledgements'). These are unpublished.

1. Introduction

The Third Review of the United Kingdom's network of Special Protection Areas (SPAs) classified under the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (Codified version) (hereafter 'the Wild Birds Directive')[15] comprises three parts or phases.

The report "The status of UK SPAs in the 2000s: the Third Network Review", which summarised the outcomes of **Phase 1**, was submitted to Ministers in October 2016 and published on the JNCC website at https://hub.jncc.gov.uk/assets/d1b21876-d5a4-42b9-9505-4c399fe47d7e (Stroud *et al.* 2016). This report is built on the previous network assessments published by the Nature Conservancy Council (NCC) in 1990 (the First Review) (Stroud *et al.* 1990) and by the Joint Nature Conservation Committee (JNCC) in 2001 (the Second Review) (Stroud *et al.* 2001) and placed its findings in the wider context of supporting policies and activity to deliver the objectives of Article 4 of the Wild Birds Directive).

The work to deliver the **Phase 2** detailed species/population assessments was carried out by the Phase 2 Working Group comprising: Natural England, Natural Resources Wales (NRW), the Northern Ireland Environment Agency (NIEA) (an Executive Agency within the Department of Agriculture, Environment and Rural Affairs) and Scottish Natural Heritage (now NatureScot) and facilitated by the Joint Nature Conservation Committee (JNCC). The Working Group drew on additional technical support, as required, from members of the UK SPA & Ramsar Scientific Working Group (SPAR SWG), including the Royal Society for the Protection of Birds, the British Trust for Ornithology and the Wildfowl & Wetlands Trust, and other experts on specific species/populations (see section 6 'Acknowledgements' for further details).

This report by the SNCB Working Group to the HaRIS Management Group and the SPAR SWG, summarises the detailed species/population assessments made as part of Phase 2 of the Third Review, in particular:

- whether new SPAs should be considered in the light of recommendations from Phase 1 of the Third Review, and if so, their possible location and extent;
- whether existing SPAs should be considered to be extended either in spatial extent, or through the addition of further qualifying species;
- determination of situations requiring focussed monitoring and/or management actions; and
- highlighting the need to establish a prioritised timetable to implement the findings of Phases 1 and 2 of this Third Review.

As noted by the Phase 1 Report, **Phase 3** will comprise:

- for existing SPAs (and following consultation and other statutory processes), revision of the legal Citations (as appropriate and necessary) by the individual country SNCBs, for those sites where qualifying species/populations have been changed;

[15] The Phase 2 Report was originally written during the period when the United Kingdom of Great Britain and Northern Ireland was a Member State of the European Union. From the 1 January 2021, although the EU Wild Birds Directive no longer applies across the UK, the same provisions for the protection of birds across the UK (including the further development of its SPA network) are retained through the Habitats Regulations (as amended in each country of the UK). All references to the Wild Birds Directive within the report should be considered and understood in this context.

- consultation to re-classify existing SPAs with boundary amendments;
- consultation for the classification of new SPAs; and
- revision by JNCC of relevant documentation summarising the extent of SPA suites for those species/populations where further additions to species/population suites have occurred, consequent upon decisions implemented from the Phase 2 advice and options.

This document summarises the advice and options which the SNCB Working Group considers may address the SPA insufficiencies identified by Stroud *et al.* (2016). During Phase 3, it will contribute to future decision making by the four country-level devolved governments/administrations (Defra, Northern Ireland Executive, Scottish Government and Welsh Government) in liaison with their respective country SNCBs (Natural England, the Northern Ireland Environment Agency, NatureScot and Natural Resources Wales).

When the relevant Secretary of State and other relevant ministers in the devolved governments/administrations have decided which site options should be determined for implementation, they will be the subject to public consultation on the scientific case for classification as a SPA. At this point they will become 'potential' (as referred to in England and Wales) or 'proposed' (as referred to in Scotland and Northern Ireland) Special Protection Areas (pSPAs), and as a matter of government policy will be treated as if legally classified.

Phases 1 and 2 of this Third Review were originally predominantly carried out applying data derived from the UK's SPA Standard Data Forms (SDFs) (as submitted to the European Commission as part of the UK's Natura 2000 network, up to the period as at the end of May 2016)[11]. In some cases, there are historic discrepancies between the SPA Standard Data Form and the SPA site Citation[16]. Further checking was undertaken by the SNCBs against the legal SPA site Citation documents. This was undertaken to ensure improved accuracy in the assessment of species/populations currently protected (or not protected) in the UK SPA network, as presented in this Phase 2 Report. Any remaining discrepancies will further be taken into account during the Phase 3 implementation stage.

In the intervening period (between June 2016 and the date of publication of this Phase 2 Report) a number of the remaining Second Review recommendations[17] and Third Review options have already been implemented across the UK. However, this report documents those original unimplemented Second Review recommendations and Third Review Phase 2 options required for consideration together to achieve sufficiency (see section 4.5), as of the end of May 2016[11].

1.1 Reasons for insufficiency and inclusion in Phase 2 of the Third UK SPA Review

The justification for the inclusion of individual species/populations in Phase 2 is contained in the Phase 1 Report (Stroud *et al.* 2016). The three grounds for insufficiency, drawn from chapter 5 of that report are summarised:

[16] It is important to note that the SPA site Citations (held by the relevant country SNCB (or range of SNCBs for cross-border sites)) should always be considered as the legal site documents, which list the species and relevant population protected in each SPA along with the underpinning qualification information.

[17] For example, of the remaining unimplemented Second Review recommendations, in Scotland these have been reviewed and most have been implemented as agreed between NatureScot and Scottish Government, and in Northern Ireland over two-thirds have been implemented by DAERA-NIEA.

- **population numbers** – where it is considered that there is too small a proportion of the species' population within the SPA suite, informed by the Site Provision Index (Williams *et al.* 2016);
- **range coverage** – irrespective of population coverage within SPAs, where significant parts of the distributional range of the species are not covered by the SPA suite – thus limiting the scope of the suite to conserve species "*in their area of distribution*"; and
- **ecological provision** – irrespective of population and range coverage, ecological provision is judged as insufficient where it is known that the boundaries of existing SPAs currently exclude areas important for key ecological needs (for example, farmland areas used for feeding adjacent to the breeding areas of upland waders).

The different types of insufficiency (as relevant) are listed in Appendix 10 and in the species/ population accounts (Appendix 9) in Stroud *et al.* (2016).

The Phase 2 Working Group prepared a discussion paper for the November 2015 meeting of the SPAR SWG, summarising issues related to the assessment of range sufficiency (see Appendix 1).

2. Assessments made in Phase 2 of the Third UK SPA Review

The three assessed components of insufficiency (population numbers, range coverage and ecological provision) are summarised in Table 1 for each species/population assessed during Phase 1 of the Third Review to be insufficient[18] across the UK SPA network, in terms of either population numbers, range coverage and/or ecological provision. Summaries of the detailed species/population assessments (which provide an overview of advice and options to address the insufficiencies) are given in Appendix 2.

Table 2 distils and summarises the broad conclusions reached in each of the Third Review Phase 2 detailed species/population assessments. It sets out advice and options to address the insufficiencies across the UK SPA network as of the end of May 2016[11], in relation to the addition of further qualifying species/populations to existing SPAs, the classification of new SPAs and/or boundary review/extensions to existing SPAs. It also includes information on management, site monitoring, research and/or wider survey/monitoring needs. A small number of species/populations not formally included within the Phase 2 assessment process are included in Table 2 on the basis that even though sufficiency is met, there are specific management review and/or survey, monitoring or site review recommendations set out in the Phase 1 Report (Stroud *et al*. 2016). These are included for completeness, so all of the Third Review advice and options are collated in one place.

Table 2 does not include details of the remaining unimplemented Second Review recommendations. These are listed in Appendices 8 (features recommended for addition (i.e. classification) to SPAs by the Second Review, but still to be implemented) and 9 (features recommended for deletion from SPAs agreed by the Second Review, but still unimplemented) (see section 4.5 for further details on issues related to recommended species/population feature deletions from, and additions to, SPAs).

[18] The Phase 1 report also provides details on the species/populations assessed to be sufficient in terms of population numbers, range coverage and ecological provision across the UK SPA network.

Table 1. List of species/populations and the outcomes of insufficiency determined during Phase 1 of the Third UK SPA Review.

Cells populated with an 'x' indicate where there are insufficiencies in the UK SPA network. Advice and options for each species/population are provided in Table 2 and in the species/population summaries provided in Appendix 2.

Species assessed	Population (non-breeding, breeding, or passage)	**Population numbers sufficiency issues** to be addressed across the network	**Range coverage sufficiency issues** to be addressed across the network	**Ecological provision sufficiency issues** to be addressed across the network
Black-throated Diver *Gavia arctica*	breeding	**x**	**x**	**x**
Little Grebe *Tachybaptus ruficollis*	non-breeding	**x**	**x**	**x**
Great Crested Grebe *Podiceps cristatus*	non-breeding	**x**	**x**	
Slavonian Grebe *Podiceps auritus*	breeding	**x**	**x**	
Cormorant *Phalacrocorax carbo carbo*	breeding	**x**	**x**	
Cormorant *Phalacrocorax carbo carbo*	non-breeding	**x**	**x**	
Bittern *Botaurus stellaris*	breeding	**x**	**x**	
Bittern *Botaurus stellaris*	non-breeding	**x**	**x**	**x**
Little Egret *Egretta garzetta*	breeding	**x**	**x**	**x**
Little Egret *Egretta garzetta*	non-breeding	**x**	**x**	**x**
Spoonbill *Platalea falcinellus*	breeding	**x**	**x**	**x**
Spoonbill *Platalea falcinellus*	non-breeding	**x**	**x**	**x**
Whooper Swan *Cygnus cygnus*	non-breeding	**x**		**x**

Species assessed	Population (non-breeding, breeding, or passage)	**Population numbers sufficiency issues** to be addressed across the network	**Range coverage sufficiency issues** to be addressed across the network	**Ecological provision sufficiency issues** to be addressed across the network
Greenland White-fronted Goose *Anser albifrons flavirostris*	non-breeding	**x**	**x**	**x**
Icelandic Greylag Goose *Anser anser*	non-breeding	**x**	**x**	**x**
Svalbard Barnacle Goose *Branta leucopsis*	non-breeding[19]			**x**
Dark-bellied Brent Goose *Branta bernicla bernicla*	non-breeding[19]			**x**
Pochard *Aythya ferina*	non-breeding	**x**	**x**	
Goldeneye *Bucephala clangula*	non-breeding	**x**	**x**	
Smew *Mergellus albellus*	non-breeding	**x**	**x**	**x**
Goosander *Mergus merganser*	non-breeding	**x**	**x**	
Red Kite *Milvus milvus*	breeding	**x**	**x**	
Red Kite *Milvus milvus*	non-breeding	**x**	**x**	**x**
White-tailed Eagle *Haliaeetus albicilla*	breeding	**x**	**x**	**x**

[19] This species/population was not covered by a detailed species/population assessment in Phase 2. The species/population summary provided in Appendix 2 is based on details within the Phase 1 Report (Stroud *et al.* 2016) and additional knowledge of this species/population across the UK SPA network (see also footnote 41).

Species assessed	Population (non-breeding, breeding, or passage)	**Population numbers sufficiency issues** to be addressed across the network	**Range coverage sufficiency issues** to be addressed across the network	**Ecological provision sufficiency issues** to be addressed across the network
Hen Harrier *Circus cyaneus*	breeding[20]	**x**	**x**	
Hen Harrier *Circus cyaneus*	non-breeding	**x**	**x**	
Montagu's Harrier *Circus pygargus*	breeding	**x**	**x**	**x**
Osprey *Pandion haliaetus*	breeding	**x**	**x**	**x**
Merlin *Falco columbarius*	breeding	**x**	**x**	**x**
Merlin *Falco columbarius*	non-breeding	**x**	**x**	**x**
Peregrine *Falco peregrinus*	breeding	**x**	**x**	
Spotted Crake *Porzana porzana*	breeding	**x**	**x**	
Common Crane *Grus grus*	breeding	**x**	**x**	**x**
Common Crane *Grus grus*	non-breeding	**x**	**x**	**x**
Avocet *Recurvirostra avosetta*	breeding	**x**	**x**	
Ringed Plover *Charadrius hiaticula*	non-breeding	**x**	**x**	
Dotterel *Charadrius morinellus*	breeding	**x**	**x**	
Golden Plover *Pluvialis apricaria*	breeding		**x**	**x**

[20] The Phase 1 Report (Stroud *et al.* 2016) species/population account for breeding Hen Harrier notes population (i.e. numbers) and range insufficiencies. However, Appendix 10 (Summary table of key information drawn from species accounts) of the same Phase 1 Report also notes ecological insufficiency for breeding Hen Harrier. The SNCB Working Group considers that this is a transcription error within Appendix 10 of the Phase 1 Report and that there are only population and range insufficiencies for breeding Hen Harrier (now as reflected in this Table 1).

Species assessed	Population (non-breeding, breeding, or passage)	**Population numbers sufficiency issues** to be addressed across the network	**Range coverage sufficiency issues** to be addressed across the network	**Ecological provision sufficiency issues** to be addressed across the network
Golden Plover *Pluvialis apricaria*	non-breeding[19]			**x**
Lapwing *Vanellus vanellus*	non-breeding[19]			**x**
Sanderling *Calidris alba*	non-breeding		**x**	
Purple Sandpiper *Calidris maritima*	non-breeding	**x**	**x**	
Dunlin *Calidris alpina schinzii*	breeding[19]			**x**
Ruff *Calidris pugnax*	non-breeding	**x**	**x**	
Common Snipe *Gallinago gallinago*	non-breeding	**x**	**x**	
Whimbrel *Numenius phaeopus*	breeding	**x**	**x**	**x**
Curlew *Numenius arquata*	breeding	**x**	**x**	**x**
Curlew *Numenius arquata*	non-breeding[19]	**x**		**x**
Redshank *Tringa totanus*	breeding	**x**	**x**	
Greenshank *Tringa nebularia*	non-breeding	**x**	**x**	
Turnstone *Arenaria interpres*	non-breeding	**x**	**x**	
Red-necked Phalarope *Phalaropus lobatus*	breeding	**x**	**x**	
Arctic Skua *Stercorarius parasiticus*	breeding	**x**		

Species assessed	Population (non-breeding, breeding, or passage)	**Population numbers sufficiency issues** to be addressed across the network	**Range coverage sufficiency issues** to be addressed across the network	**Ecological provision sufficiency issues** to be addressed across the network
Mediterranean Gull *Ichthyaetus melanocephalus*	breeding	**x**	**x**	
Mediterranean Gull *Ichthyaetus melanocephalus*	non-breeding	**x**	**x**	**x**
Little Gull *Hydrocoloeus minutus*	non-breeding	**x**	**x**	
Black-headed Gull *Chroicocephalus ridibundus*	non-breeding	**x**	**x**	**x**
Common Gull *Larus canus*	breeding	**x**		
Common Gull *Larus canus*	non-breeding	**x**	**x**	**x**
Lesser Black-backed Gull *Larus fuscus*	non-breeding	**x**	**x**	**x**
Herring Gull *Larus argentatus*	non-breeding	**x**	**x**	**x**
Great Black-backed Gull *Larus marinus*	breeding	**x**		
Great Black-backed Gull *Larus marinus*	non-breeding	**x**	**x**	**x**
Sandwich Tern *Thalasseus sandvicensis*	passage	**x**	**x**	**x**
Common Tern *Sterna hirundo*	passage	**x**	**x**	
Arctic Tern *Sterna paradisaea*	breeding		**x**	

Species assessed	Population (non-breeding, breeding, or passage)	**Population numbers sufficiency issues** to be addressed across the network	**Range coverage sufficiency issues** to be addressed across the network	**Ecological provision sufficiency issues** to be addressed across the network
Nightjar *Caprimulgus europaeus*	breeding		**x**	
Kingfisher *Alcedo atthis*	breeding	**x**	**x**	**x**
Kingfisher *Alcedo atthis*	non-breeding	**x**	**x**	**x**
Woodlark *Lullula arborea*	breeding		**x**	**x**
Ring Ouzel *Turdus torquatus*	breeding	**x**	**x**	**x**
Aquatic Warbler *Acrocephalus paludicola*	passage	**x**		
Dartford Warbler *Curruca undata*	breeding		**x**	
Red-backed Shrike *Lanius collurio*	breeding	**x**	**x**	**x**
Chough *Pyrrhocorax pyrrhocorax*	breeding		**x**	**x**
Chough *Pyrrhocorax pyrrhocorax*	non-breeding		**x**	**x**
Twite *Carduelis flavirostris*	breeding	**x**	**x**	**x**
Twite *Carduelis flavirostris*	non-breeding	**x**	**x**	**x**
Scottish Crossbill *Loxia scotica*	breeding	**x**	**x**	**x**

3. Species/populations covered by Phase 2 of the Third UK SPA Review

Table 2. Summary of advice and options for species/populations covered in Phase 2 of the Third UK SPA Review.

Note: Table 2 includes some species/populations not listed in Table 1, including some covered by the marine sufficiency review process only, and others which have no insufficiencies but may require boundary review for other reasons, site management review, and/or survey/monitoring needs.

[a] Species/population to be assessed under the marine sufficiency review process only (note: although these species/populations use the terrestrial/coastal environment for some component(s) of their annual life cycle, they are not addressed in this terrestrial Third Review)

[b] Species/population to be assessed under both the marine sufficiency review process and this terrestrial Third Review

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Red-throated Diver *Gavia stellata* (breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Red-throated Diver *Gavia stellata* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Black-throated Diver *Gavia arctica* (breeding)	No action required, though further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	Management review needed at six existing SPAs (Assynt Lochs; Inverpolly, Loch Urigill and nearby Lochs; Lairg and Strath Brora Lochs; Loch Maree; Loch Shiel; Wester Ross Lochs)	Continued monitoring through periodic national surveys (last national survey was 2006) Collate contemporary data since last national survey
Black-throated Diver *Gavia arctica* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Great Northern Diver *Gavia immer* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Little Grebe *Tachybaptus ruficollis* (non-breeding)	Consider adding to eight existing SPAs (Blackwater Estuary (Mid-Essex Coast Phase 4); Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Dungeness, Romney Marsh and Rye Bay; Hamford Water; Humber Estuary; Lee Valley; Portsmouth Harbour; Upper Lough Erne)	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) data
Great Crested Grebe *Podiceps cristatus* (breeding)	No action required	No action required	No action required	Management review needed at Lough Neagh and Lough Beg SPA	Enhance monitoring at Lough Neagh and Lough Beg SPA

[21] Full column heading is “Recommended site-specific monitoring (see section 4.3), research needs (including analytical needs to existing data), wider survey/monitoring (see section 4.4), and/or other needs”.

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Great Crested Grebe *Podiceps cristatus* (non-breeding) [b]	Consider adding to seven existing SPAs (Carlingford Lough; Chew Valley Lake; Inner Clyde Estuary; Loch Leven; Thames Estuary and Marshes; Thanet Coast and Sandwich Bay; Upper Lough Erne) Habitat provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Collate and analyse contemporary Wetland Bird Survey (WeBS) data
Slavonian Grebe *Podiceps auritus* (breeding)	No action required	Consider two[22] new sites, following further survey and analysis of existing data	Consider boundary extension to one existing SPA (Loch Vaa (extension to include Avielochan))	Management review needed at five existing SPAs (Loch Flemington; Loch Knockie and nearby Lochs; Loch Ruthven; Loch Vaa; North Inverness Lochs)	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel
Slavonian Grebe *Podiceps auritus* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Fulmar *Fulmarus glacialis* (breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	Research should be undertaken to investigate whether the population has moved to other non-SPA sites or been lost to inform possible conservation responses Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)
Storm Petrel *Hydrobates pelagicus* (breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	Determine, on a site-specific basis, monitoring protocols (including correction factors) that will allow comparison with past surveys as well as enhanced understanding of current numbers for future comparisons Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)

[22] Due to the sensitivity of Slavonian Grebe *Podiceps auritus* (breeding) to disturbance and the specific location of new site options, only the number (and not the location) is provided.

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Cormorant *Phalacrocorax carbo carbo* (breeding) [b]	Consider adding to 12 existing SPAs (Craig y Aderyn (Bird's Rock); Dungeness, Romney Marsh and Rye Bay; Isles of Scilly; Lee Valley; Monach Islands; Northumbria Coast; Ouse Washes; Rutland Water; Severn Estuary; Stodmarsh; Stour and Orwell Estuaries; Strangford Lough) Habitat provision also to be covered by the marine SPA sufficiency review process	Consider seven new sites (Afordir Gogledd Y Penmon SSSI; Carreg y Llam SSSI; Great Orme and Little Ormes Head SSSIs; Gwylan Island SSSI; Penclog (Penderi cliffs); St Margaret's Island SSSI; Ynysoedd y Gwylan SSSI)	Ecological sufficiency is met but consider boundary extensions to two existing SPAs (Sheep Island; Ynys Seiriol/Puffin Island)	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Ensure use of standard methods for future counts at Ynys Seiriol/Puffin Island SPA to ensure comparability across the UK SPA suite Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)
Cormorant *Phalacrocorax carbo carbo* (non-breeding) [b]	Consider adding to 12 existing SPAs (Alde-Ore Estuary; Avon Valley; Carlingford Lough; Chew Valley Lake; Hornsea Mere; Inner Clyde Estuary; Northumbria Coast; Outer Ards; Pagham Harbour; Somerset Levels and Moors; South West London Waterbodies; Upper Lough Erne) Habitat provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Ensure complete coverage of Medway Estuary and Marshes SPA and Upper Nene Valley Gravel Pits SPA in future WeBS counts A standardised monitoring protocol is needed, particularly in inland standing water bodies Collation of WeBS count data in estuarine sites and in wider marine environments, using specific aerial digital surveys is required
Shag *Gulosus aristotelis* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Bittern *Botaurus stellaris* (breeding)	Consider adding to five existing SPAs (Dungeness, Romney Marsh and Rye Bay; Nene Washes; Somerset Levels and Moors; Stodmarsh; Sandlings)	Consider 18[23] new sites, giving priority to sites that: - support the most significant numbers - make the most significant contribution to increased range provision	No action required	No action required	Undertake surveys, particularly post EU LIFE sites, to provide contemporary and comprehensive count and distributional data

[23] Due to the sensitivity of Bittern *Botaurus stellaris* (both breeding and non-breeding populations) to disturbance and the specific location of new site options, only the number (and not the location) is provided.

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Bittern *Botaurus stellaris* (non-breeding)	Consider adding to one existing SPA (Somerset Levels and Moors)	Consider six[23] new sites, giving priority to sites that: - support the most significant numbers - make the most significant contribution to increased range provision	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Undertake dedicated surveys to provide contemporary and comprehensive count and distributional data
Little Egret *Egretta garzetta* (breeding)	Consider adding to 22 existing SPAs (Alde-Ore Estuary; Breydon Water; Chichester and Langstone Harbours; Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Dorset Heathlands; Exe Estuary; Foulness (Mid-Essex Coast Phase 5); Humber Estuary; Lee Valley; Minsmere-Walberswick; North Norfolk Coast; Pagham Harbour; Portsmouth Harbour; Severn Estuary; Solent and Southampton Water; Somerset Levels and Moors; Stour and Orwell Estuaries; Thames Estuary and Marshes; The Dee Estuary; The Swale; The Wash; Traeth Lafan/Lavan Sands, Conway Bay)	Consider three new sites (Longford Heronry; Merthen Wood SSSI; Sturminster)	Consider boundary extensions to 17 existing SPAs (Alde-Ore Estuary; Breydon Water; Chichester and Langstone Harbours; Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Dorset Heathlands; Exe Estuary; Foulness (Mid-Essex Coast Phase 5); Humber Estuary; Portsmouth Harbour; Severn Estuary; Somerset Levels and Moors; Stour and Orwell Estuaries; Thames Estuary and Marshes; The Dee Estuary; The Swale; The Wash; Traeth Lafan/Lavan Sands, Conway Bay)	No action required	Collate and analyse existing datasets
Little Egret *Egretta garzetta* (non-breeding)	Consider adding to eight existing SPAs (Blackwater Estuary (Mid-Essex Coast Phase 4); North Norfolk Coast; Solent and Southampton Water; Stour and Orwell Estuaries; Thames Estuary and Marshes; The Dee Estuary; The Wash; Traeth Lafan/Lavan Sands, Conway Bay) It is advised that further review is required to assess whether these SPAs enable sufficient population coverage	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) datasets
Spoonbill *Platalea leucorodia* (breeding)	Consider adding to one existing SPA (North Norfolk Coast)	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Spoonbill *Platalea leucorodia* (non-breeding)	Consider adding to four existing SPAs (North Norfolk Coast; Poole Harbour; Tamar Estuaries Complex; The Wash)	Consider one new site (Taw-Torridge Estuary SSSI)	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) datasets
Bewick's Swan *Cygnus columbianus bewickii* (non-breeding)	No action required	No action required	No action required	Management review needed in 15 existing SPAs (Arun Valley; Avon Valley; Breydon Water; Broadland; Dungeness, Romney Marsh and Rye Bay; Lough Foyle; Lough Neagh and Lough Beg; Lower Derwent Valley; Martin Mere; Nene Washes; Ouse Washes; Ribble and Alt Estuaries; Severn Estuary; Somerset Levels and Moors; Walmore Common)	No action required
Whooper Swan *Cygnus cygnus* (non-breeding)	Consider adding to six existing SPAs (Dornoch Firth and Loch Fleet; Humber Estuary; Lower Derwent Valley; Montrose Basin; Nene Washes; Strangford Lough)	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) datasets
Pink-footed Goose *Anser brachyrhynchus* (non-breeding)	No action required as contemporary SPA coverage of numbers and distribution of roost sites is sufficient	No action required	Ecological sufficiency is met but consider boundary extensions to 22 existing SPAs (Cameron Reservoir; Castle Loch, Lochmaben; Din Moss - Hoselaw Loch; Fala Flow; Firth of Forth; Firth of Tay and Eden Estuary; Gladhouse Reservoir; Greenlaw Moor; Loch Leven; Loch of Kinnordy; Loch of Strathbeg; Martin Mere; Montrose Basin; Moray and Nairn Coast; Morecambe Bay and Duddon Estuary; North Norfolk Coast; Ribble and Alt Estuaries; Solway Firth; South Tayside Goose Roosts; The Wash; Westwater; Ythan Estuary, Sands of Forvie and Meikle Loch) to include additional areas used for feeding or other functional needs	No action required	No action required
European White-fronted Goose *Anser albifrons albifrons* (non-breeding)	No action required	No action required	Ecological sufficiency is met but consider boundary extension to one existing SPA (Severn Estuary) to include additional areas used for feeding or other functional needs	No action required	Ensure complete coverage of Broadland and Severn Estuary SPAs in future WeBS counts Enhance collection and availability of information concerning location and extent of feeding areas and their relationship with roosting sites

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Greenland White-fronted Goose *Anser albifrons flavirostris* (non-breeding)	Consider adding to two existing SPAs (South Uist Machair and Lochs; The Oa)	Consider four new sites (Bute; Danna/Keills/Ulva; Lismore; Lorn (Eriska & Appin))	Consider boundary extensions to ten existing SPAs (Caithness Lochs; Coll; Dyfi Estuary/Aber Dyfi; Kintyre Goose Roosts; Loch Ken and River Dee Marshes; Loch Lomond; Loch of Inch and Torrs Warren; Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); South Uist Machair and Lochs; The Oa) to include additional areas used for feeding or other functional needs	No action required	Ensure future monitoring can assess population numbers at the roost sites at Eilean na Muice Duibhe (Duich Moss), Islay SPA and Rinns of Islay SPA, either directly or through research to demonstrate reliability of assumptions concerning the relationship between roost sites and feeding areas Undertake survey of roost sites to assess whether Coll SPA is still used by roosting geese Site specific survey to provide contemporary data is needed for some sites Survey work is required to identify favoured foraging habitats and support possible boundary changes Enhance collection and availability of information concerning location and extent of feeding areas and their relationship with roosting sites
Icelandic Greylag Goose *Anser anser* (non-breeding)	Consider adding to three existing SPAs (Firth of Forth; Loch Leven; River Spey - Insh Marshes) Addition of the population as a feature to these three existing SPAs would provide a modest increase in numerical and range coverage in Scotland - however, these proposals do not address the major population shift into Orkney	No action required	Consider boundary extensions to 22 existing SPAs (Caithness Lochs; Cromarty Firth; Din Moss - Hoselaw Loch; Dornoch Firth and Loch Fleet; Firth of Forth; Firth of Tay and Eden Estuary; Holburn Lake and Moss; Lindisfarne; Inner Moray Firth; Loch Eye; Loch Ken and River Dee Marshes; Loch Leven; Loch of Kinnordy; Loch of Lintrathen; Loch of Skene; Loch of Strathbeg; Loch Spynie; Montrose Basin; Moray and Nairn Coast; Muir of Dinnet; River Spey - Insh Marshes; South Tayside Goose Roosts)	No action required	Collate data and enhance survey and monitoring to identify further possible SPA provision - in particular, more survey work and analysis is required to clarify the distribution of Icelandic and resident British Greylag geese in Orkney
Greenland Barnacle Goose *Branta leucopsis* (non-breeding)	No action required	No action required	No action required	No action required	Maintain or include standardised monitoring protocol at key roosts and/or key foraging sites (Gruinart Flats, Islay SPA; Bridgend Flats, Islay SPA) Establish standardised monitoring protocol to determine roost location areas and frequency of use, and the location and extent of feeding areas and their relationship with roosting sites

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Svalbard Barnacle Goose *Branta leucopsis* (non-breeding)	No action required	No action required	Consider boundary extension to one existing SPA (Solway Firth)	No action required	Establish standardised monitoring protocol to determine roost location areas and frequency of use, and the location and extent of feeding areas and their relationship with roosting sites
Dark-bellied Brent Goose *Branta bernicla bernicla* (non-breeding)	No action required	No action required	Consider boundary extensions to 19 existing SPAs (Benfleet and Southend Marshes; Blackwater Estuary (Mid-Essex Coast Phase 4); Chichester and Langstone Harbours; Colne Estuary (Mid-Essex Coast Phase 2); Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Deben Estuary; Dengie (Mid-Essex Coast Phase 1); Exe Estuary; Foulness (Mid-Essex Coast Phase 5); Hamford Water; Humber Estuary; Medway Estuary and Marshes; North Norfolk Coast; Pagham Harbour; Portsmouth Harbour; Solent and Southampton Water; Stour and Orwell Estuaries; The Swale; The Wash)	No action required	Survey work is required to support classification and boundary changes
Wigeon *Mareca penelope* (breeding)	No action required	No action required	No action required	No action required	Ensure monitoring protocols are in place to assess status of the species on two SPAs (Caithness and Sutherland Peatlands SPA and River Spey - Insh Marshes SPA)
Pochard *Aythya farina* (non-breeding)	Consider adding to five existing SPAs (Chesil Beach and The Fleet; Chew Valley Lake; Hornsea Mere; South West London Waterbodies; Thames Estuary and Marshes)	No action required	No action required	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) data
Eider *Somateria mollissima mollissima* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Eider *Somateria mollissima faeroeensis* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Long-tailed Duck *Clangula hyemalis* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Common Scoter *Melanitta nigra* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Velvet Scoter *Melanitta fusca* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Goldeneye *Bucephala clangula* (non-breeding) [b]	Consider adding to two existing SPAs (Loch of Strathbeg; Loch of Skene)	Consider three new sites (Inner Firth of Clyde; Loch Ryan; Tweed Estuary SAC/SSSI)	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Collate and analyse contemporary datasets, including Wetland Bird Survey (WeBS) data
Smew *Mergellus albellus* (non-breeding)	Consider adding to three existing SPAs (Dungeness, Romney Marsh and Rye Bay; Rutland Water; South West London Waterbodies)	Consider three new sites (Cotswold Water Park (part SSSI); Little Paxton Gravel Pits SSSI; Ouse Fen and Pits)	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Collate and analyse contemporary datasets, including Wetland Bird Survey (WeBS) data Annual surveys of sites may be required if numbers of non-breeding birds are small
Red-breasted Merganser *Mergus serrator* (non-breeding) [a]	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is solely subject to the marine sufficiency review process
Goosander *Mergus merganser* (non-breeding)	Consider adding to seven existing SPAs (Avon Valley; Firth of Forth; Loch Leven; Loch Lomond; Montrose Basin; Morecambe Bay and Duddon Estuary; Solway Firth)	Consider new sites through the application of SPA Selection Guideline 1.4, following further survey and analysis of existing data	No action required	No action required	Collate and analyse contemporary datasets, including Wetland Bird Survey (WeBS) data
Red Kite *Milvus milvus* (breeding)	Consider possible options (including Migneint-Arenig-Dduallt SPA) following further survey and analysis of existing data	Consider new sites following further survey and analysis of existing data	Ecological sufficiency is met but consider boundary extension to one existing SPA (Migneint-Arenig-Dduallt)	No action required	Collate and analyse contemporary datasets
Red Kite *Milvus milvus* (non-breeding)	Consider possible options (including Migneint-Arenig-Dduallt SPA) following further survey and analysis of existing data	Consider new sites following further survey and analysis of existing data	Consider boundary extension to one existing SPA (Migneint-Arenig-Dduallt)	No action required	Collate and analyse contemporary datasets
White-tailed Eagle *Haliaeetus albicilla* (breeding)	Consider adding to ten existing SPAs (Abernethy Forest; Canna and Sanday; Cnuic agus Cladach Mhuile; Cuillins; Jura, Scarba and the Garvellachs; Lewis Peatlands; Loch Maree; Rum; Shiant Isles; Wester Ross Lochs)	Consider new sites following further survey and analysis of existing data	Consider boundary extensions to two existing SPAs (Loch Maree; Wester Ross Lochs)	No action required	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel Extensive contemporary data is required to support boundary changes

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Hen Harrier *Circus cyaneus* (breeding)	Further work needed to map existing data to existing SPAs and consider possible options (including Cnuic agus Cladach Mhuile; Gruinart Flats, Islay; Mointeach Scadabhaigh; South Uist Machair and Lochs; The Oa) following further survey and analysis of existing data	Consider new sites (including Ben Risary - Committee Road, North Uist; East Benbecula (east and south of Rueval); Mid South Uist (Kildonan - Mingarry area); Mull (Aros area); Mull (Ross of Mull area); Skye; West of Lochmaddy, North Uist) following further survey and analysis of existing data	Ecological sufficiency is met but consider boundary extensions to four existing SPAs (Cnuic agus Cladach Mhuile; Gruinart Flats, Islay; Mointeach Scadabhaigh; The Oa)	No action required	Continue monitoring through periodic national surveys Collate contemporary data including the last national census (2023) and undertake a full analysis in mapped format Annual surveys of sites may be required if number of breeding pairs are small
Hen Harrier *Circus cyaneus* (non-breeding)	Further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	Consider new sites following further survey and analysis of existing data	Ecological sufficiency is met but consider boundary extensions to 17 existing SPAs (Blackwater Estuary (Mid-Essex Coast Phase 4); Broadland; Colne Estuary (Mid-Essex Coast Phase 2); Dengie (Mid-Essex Coast Phase 1); Dorset Heathlands; Foulness (Mid-Essex Coast Phase 5); Humber Estuary; Loch of Inch and Torrs Warren; Minsmere-Walberswick; Muirkirk and North Lowther Uplands; New Forest; Orkney Mainland Moors; Ouse Washes; River Spey - Insh Marshes; Salisbury Plain; Stodmarsh; Stour and Orwell Estuaries)	No action required	Use of Bird Atlas (Balmer *et al.* 2013) and other data sources to identify any new aggregations for follow-up dedicated surveys, including both hunting and roosting habitats to ensure suitable boundaries of existing and new SPAs
Montagu's Harrier *Circus pygargus* (breeding)	Consider adding to one existing SPA (Salisbury Plain) following further survey and analysis of existing data	No action required	Consider boundary extension to one existing SPA (Salisbury Plain)	No action required	Contemporary breeding surveys and collation of Raptor Study Group and Rare Breeding Birds Panel data are required to verify continued use of breeding sites and to identify foraging use to support boundary change
Osprey *Pandion haliaetus* (breeding)	Further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	Further analysis of existing data needed to assess possible new sites	Consider boundary extensions to nine existing SPAs (Abernethy Forest; Cairngorms; Cromarty Firth; Dornoch Firth and Loch Fleet; Forest of Clunie; Glen Tanar; Inner Moray Firth; Moray and Nairn Coast; River Spey - Insh Marshes)	No action required	Full and complete analysis of the annual population datasets across the species current range including Bird Atlas, Raptor Study Group and Rare Breeding Birds Panel data

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Merlin *Falco columbarius* (breeding)	Consider adding to seven existing SPAs (Hoy; Langholm - Newcastleton Hills; Mointeach Scadabhaigh; North Harris Mountains; Orkney Mainland Moors; Rum; Strath Carnaig and Strath Fleet Moors) following further survey and analysis of existing data	Further analysis of existing data needed related to four areas (Angus; Central Shetland; Coigach; Lammemuirs and North Muirfoot Hills)	Consider boundary extensions to 22 existing SPAs (Antrim Hills; Berwyn; Bowland Fells; Cairngorms; Caithness and Sutherland Peatlands; Drumochter Hills; Elenydd-Mallaen; Forest of Clunie; Hoy; Langholm - Newcastleton Hills; Lewis Peatlands; Migneint – Arenig – Dduallt; Mointeach Scadabhaigh; Muirkirk and North Lowther Uplands; North Harris Mountains; North Pennine Moors; North York Moors; Orkney Mainland Moors; Peak District Moors (South Pennine Moors Phase 1); Rum; South Pennine Moors Phase 2; Strath Carnaig and Strath Fleet Moors) to include adjacent marginal farmland used and other habitats for feeding or other functional needs	No action required	Repeat national survey (last UK survey in 2008) to provide contemporary data on occupancy and likely foraging 'hot spots' next to existing SPAs Collate contemporary data since last national census and undertake a full analysis in mapped format Annual surveys of sites may be required if the number of breeding pairs is small Additional survey work is required to support boundary changes
Merlin *Falco columbarius* (non-breeding)	Further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	Further analysis of existing data needed to assess possible new sites	Consider boundary extension to one existing SPA (Dorset Heathlands) to include foraging and roosting areas	No action required	Use of Bird Atlas and other data sources to identify any new aggregations for follow-up dedicated surveys, including both hunting and roosting habitats to ensure suitable boundaries of existing and new SPAs
Peregrine *Falco peregrinus* (breeding)	Further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	Further work needed to map existing data to identify possible new sites	No action required	No action required	Repeat national survey (last UK survey in 2008) to determine occupancy and spatial distribution Collate contemporary data since last national census and undertake a full analysis in mapped format Annual surveys of sites may be required if the number of breeding pairs is small Full and complete analysis of the annual population datasets across the species current range including Bird Atlas data

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Spotted Crake *Porzana porzana* (breeding)	Consider adding to 12 existing SPAs (Coll; Gruinart Flats, Islay; Loch Ken and River Dee Marshes; Loch of Kinnordy; Loch of Strathbeg; Martin Mere; Minsmere-Walberswick; North Uist Machair and Islands; Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); Somerset Levels and Moors; The Dee Estuary; Thorne and Hatfield Moors)	Consider two new sites (Anglesey Fens SAC/SSSI; Wicken Fen SAC/SSSI)	Ecological sufficiency is met but consider boundary extensions to 12 existing SPAs (Coll; Gruinart Flats, Islay; Loch Ken and River Dee Marshes; Loch of Kinnordy; Loch of Strathbeg; Martin Mere; Minsmere-Walberswick; North Uist Machair and Islands; Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); Somerset Levels and Moors; The Dee Estuary; Thorne and Hatfield Moors) to adequately conserve breeding locations located in wetlands adjacent to existing SPAs	No action required	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel
Common Crane *Grus grus* (breeding)	Consider adding to five existing SPAs (Broadland; Nene Washes; Severn Estuary; Somerset Levels and Moors; Thorne and Hatfield Moors)	Consider two new sites (Lakenheath Fen (part SSSI); location in Aberdeenshire)	Consider boundary extensions to five existing SPAs (Broadland; Nene Washes; Severn Estuary; Somerset Levels and Moors; Thorne and Hatfield Moors)	No action required	Survey work required to identify favoured foraging habitats and support possible boundary changes
Common Crane *Grus grus* (non-breeding)	Consider adding to five existing SPAs (Broadland; Nene Washes; Severn Estuary; Somerset Levels and Moors; Thorne and Hatfield Moors)	Consider one new site (Lakenheath Fen (part SSSI))	Consider boundary extensions to five existing SPAs (Broadland; Nene Washes; Severn Estuary; Somerset Levels and Moors; Thorne and Hatfield Moors)	No action required	Survey work required to identify favoured foraging habitats and support possible boundary changes
Avocet *Recurvirostra avosetta* (breeding)	Consider adding to ten existing SPAs (Blackwater Estuary (Mid-Essex Coast Phase 4); Broadland; Gibraltar Point; Martin Mere; Morecambe Bay and Duddon Estuary; Ouse Washes; Ribble and Alt Estuaries; Teesmouth and Cleveland Coast; The Dee Estuary; The Wash)	Consider one new site (Goldcliff Lagoons, Newport Wetlands NNR)	Ecological sufficiency is met but consider boundary extensions to four existing SPAs (Ouse Washes; Ribble and Alt Estuaries; The Dee Estuary; The Wash)	No action required	Site specific survey to provide contemporary data needed for some sites Survey work required to identify favoured foraging habitats and support possible boundary changes
Ringed Plover *Charadrius hiaticula* (non-breeding)	Consider adding to 11 existing SPAs (Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Carlingford Lough; Dengie (Mid-Essex Coast Phase 1); Dornoch Firth and Loch Fleet; Exe Estuary; Firth of Tay and Eden Estuary; Foulness (Mid-Essex Coast Phase 5); Lough Foyle; Northumbria Coast; Thanet Coast and Sandwich Bay; The Dee Estuary)	No action required	No action required	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) and Non-Estuarine Waterbird Survey (NEWS) datasets

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Dotterel *Charadrius morinellus* (breeding)	Further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	Further work needed to consider new sites (including Beinn a'Ghlo - Glas Tulaichean SAC; Central Highlands Hills and Glens; Monadhliath SSSI; Sutherland Montane Plateaux) following further survey and analysis of existing data	No action required	No action required	Repeat national survey (last UK survey in 2011) to determine occupancy and spatial distribution Collate contemporary data since last national census Full and complete analysis of the annual population datasets across the species current range including Bird Atlas and Rare Breeding Birds Panel data May require further survey dependent on results of data collation/analysis
Golden Plover *Pluvialis apricaria* (breeding)	Further work needed to map existing data to existing SPAs and consider possible options following further survey and analysis of existing data	Further work needed to consider new sites (areas to consider include Shetland, Wester Ross, Skye, NW & C Highlands and/or Grampian) following further survey and analysis of existing data	Consider boundary extensions to eight existing SPAs (Caithness and Sutherland Peatlands; Lewis Peatlands; Muirkirk and North Lowther Uplands; North Pennine Moors; North York Moors; Peak District Moors (South Pennine Moors Phase 1); Pettigoe Plateau; South Pennine Moors Phase 2)	No action required	Dedicated survey of foraging Golden Plover (including night surveys) is required to support boundary changes and additional new sites Full and complete analysis of annual population datasets across the species current range including Bird Atlas data
Golden Plover *Pluvialis apricaria* (non-breeding)	No action required	No action required	Consider boundary extensions to 13 existing SPAs (Breydon Water; Dungeness, Romney Marsh and Rye Bay; Firth of Forth; Humber Estuary; Lindisfarne; Lower Derwent Valley; Mersey Estuary; Morecambe Bay and Duddon Estuary; Outer Ards; Ribble and Alt Estuaries; Solway Firth; Somerset Levels and Moors; Upper Nene Valley Gravel Pits)	No action required	Survey work and analysis of datasets is required to support boundary changes Collate and analyse contemporary Wetland Bird Survey (WeBS) datasets
Lapwing *Vanellus vanellus* (non-breeding)	No further action	No further action	Consider boundary extensions to eight existing SPAs (Breydon Water; Firth of Forth; Humber Estuary; Mersey Estuary; Ribble and Alt Estuaries; Somerset Levels and Moors; Stour and Orwell Estuaries; Upper Nene Valley Gravel Pits)	No action required	Collate and analyse contemporary survey data, including Wetland Bird Survey (WeBS) datasets and where required undertake additional surveys to support boundary changes
Sanderling *Calidris alba* (non-breeding)	Consider adding to seven existing SPAs (Dornoch Firth and Loch Fleet; East Sanday Coast; Inner Moray Firth; Lough Foyle; Severn Estuary; Thames Estuary and Marshes; Thanet Coast Sandwich Bay)	Consider four new sites (Aberavon Sands; Carmarthen Bay (part SSSI); North Bay; Swansea Bay)	Ecological sufficiency is met but consider boundary extensions to two existing SPAs (Inner Moray Firth; South Uist Machair and Lochs (extension to include Ardivachar Point))	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) and Non-Estuarine Waterbird Survey (NEWS) datasets

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Purple Sandpiper *Calidris maritima* (non-breeding)	Consider adding to five existing SPAs (Dornoch Firth and Loch Fleet; Farne Islands; Firth of Forth; Outer Ards; South Uist Machair and Lochs)	Consider one new site (Papa Westray)	No action required	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) and Non-Estuarine Waterbird Survey (NEWS) datasets
Dunlin *Calidris alpina schinzii* (breeding)	No action required	No action required	Consider boundary extensions to six existing SPAs (Caithness and Sutherland Peatlands; Fetlar; Lewis Peatlands; North Uist Machair and Islands; Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); South Uist Machair and Lochs)	No action required	Survey work is required to support classification of boundary changes
Ruff *Calidris pugnax* (breeding)	No action required	No action required	No action required	Management review needed at four SPAs (Lower Derwent Valley; Nene Washes; Ouse Washes; Ribble and Alt Estuaries)	No action required
Ruff *Calidris pugnax* (non-breeding)	Consider adding to seven existing SPAs (Abberton Reservoir; Martin Mere; Rutland Water; Somerset Levels and Moors; Teesmouth and Cleveland Coast; The Swale; Ribble and Alt Estuaries)	No action required	No action required	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) datasets
Common Snipe *Gallinago gallinago* (non-breeding)	No action required - even with using a lower threshold of 0.5% of the GB or all-Ireland population under SPA Selection Guideline 1.4, it is not possible to select any sites from within the existing UK SPA network	Consider using other data sources, such as the Bird Atlas or Bird Track, to identify new sites, although it is unlikely any will meet a lower threshold of 0.5% of the GB or all-Ireland population under SPA Selection Guideline 1.4	No action required	No action required	Collate and analyse contemporary datasets including, Wetland Bird Survey (WeBS), Bird Atlas and BirdTrack data
Whimbrel *Numenius phaeopus* (breeding)	No action required	Collate and review existing survey data for one new site (on Shetland) and if necessary, undertake further survey to identify key sites	Consider boundary extension to one existing SPA (Fetlar)	Management review needed	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel Extensive contemporary data is required to support boundary changes Collate contemporary data since last national census (last survey in 2021) and undertake a full analysis in mapped format Full and complete analysis of the annual population datasets across the species current range including Bird Atlas data

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Curlew *Numenius arquata* (breeding)	Consider adding to 13 existing SPAs (Antrim Hills; Berwyn; Bowland Fells; Elenydd - Mallaen; Lough Neagh and Lough Beg; Migneint Arenig-Dduallt; New Forest; North York Moors; Peak District Moors (South Pennine Moors Phase 1); Slieve Beagh - Mullaghfad - Lisnaskea; Somerset Levels and Moors; South Pennine Moors Phase 2; Upper Lough Erne)	Consider three new sites (Bewick and Beanly Moors SSSI; Lower Lough Erne Islands; Mynydd Hiraethog SSSI) subject to further review of data and/or survey	Consider boundary extensions to ten existing SPAs (Antrim Hills; Berwyn; Bowland Fells; Elenydd - Mallaen; Migneint-Arenig-Dduallt; New Forest; North York Moors; Peak District Moors (South Pennine Moors Phase 1); Somerset Levels and Moors; South Pennine Moors Phase 2)	No action required	Dedicated surveys in both upland and lowland habitats are required on existing SPAs, to inform options for new SPAs and to support possible boundary extensions of existing SPAs using hotspot analysis, including night surveys of roosting and foraging adults where relevant
Curlew *Numenius arquata* (non-breeding)	No action required	No action required	Consider boundary extensions to 13 existing SPAs (Burry Inlet; Chichester and Langstone Harbours; Firth of Forth; Humber Estuary; Medway Estuary and Marshes; Mersey Estuary; Morecambe Bay and Duddon Estuary; Ribble and Alt Estuaries; Solway Firth; Stour and Orwell Estuaries; The Dee Estuary; The Swale; The Wash)	No action required	Survey work is required to support classification and boundary changes Collate and analyse contemporary Wetland Bird Survey (WeBS) datasets
Redshank *Tringa tetanus* (breeding)	Consider adding to 12 existing SPAs (Breydon Water; Lough Neagh and Lough Beg; Morecambe Bay and Duddon Estuary; Nene Washes; North Pennine Moors; Ouse Washes; Ribble and Alt Estuaries; Thames Estuary and Marshes; The Dee Estuary; The Swale; The Wash; Upper Lough Erne)	Consider one new site (Lower Lough Erne Islands)	Ecological sufficiency is met but consider boundary extensions to three existing SPAs (Ouse Washes; Ribble and Alt Estuaries; Thames Estuary and Marshes)	No action required	Extensive contemporary surveys are required, in the majority of cases, to support classification and boundary changes Full and complete analysis of the annual population datasets across the species current range including Bird Atlas data Dedicated surveys of breeding Redshank in lowland grassland habitats are required on existing, new SPAs and possible boundary extensions of existing SPAs using hotspot analysis
Greenshank *Tringa nebularia* (non-breeding)	Consider adding to ten existing SPAs (Blackwater Estuary (Mid-Essex Coast Phase 4); Chichester and Langstone Harbours; Foulness (Mid-Essex Coast Phase 5); Hamford Water; North Norfolk Coast; Solent and Southampton Water; Stour and Orwell Estuaries; Strangford Lough; The Dee Estuary; The Wash)	No action required	No action required	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) data

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Turnstone *Arenaria interpres* (non-breeding)	Consider adding to 20 existing SPAs (Benfleet and Southend Marshes; Blackwater Estuary (Mid-Essex Coast Phase 4); Carlingford Lough; Dengie (Mid-Essex Coast Phase 1); Farne Islands; Larne Lough; Medway Estuary and Marshes; Moray and Nairn Coast; North Norfolk Coast; Pagham Harbour; Ribble and Alt Estuaries; Severn Estuary; Solent and Southampton Water; Solway Firth; South Uist, Machair and Lochs (extension to include Ardivachar Point); Teesmouth and Cleveland Coast; Thames Estuary and Marshes; The Dee Estuary; The Swale; Traeth Lafan/Lavan Sands, Conway Bay)	No action required	Ecological sufficiency is met but consider boundary extension to one existing SPA (South Uist Machair and Lochs (extension to include Ardivachar Point))	No action required	Collate and analyse contemporary Wetland Bird Survey (WeBS) and Non-Estuarine Waterbird Survey (NEWS) datasets
Red-necked Phalarope *Phalaropus lobatus* (breeding)	Consider adding to one existing SPA (Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast))	Consider five[24] new sites, following analysis of existing data	No action required	No action required	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel
Arctic Skua *Stercorarius parasiticus* (breeding)[b]	Consider adding to two existing SPAs (Handa; Lewis Peatlands) Habitat provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)
Mediterranean Gull *Ichthyaetus melanocephalus* (breeding)	Consider adding to five existing SPAs (Chichester and Langstone Harbours; Colne Estuary (Mid-Essex Coast Phase 2); Medway Estuary and Marshes; Minsmere-Walberswick; The Wash)	Consider one new site (Belmont Reservoir SSSI)	No action required	No action required	Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022
Mediterranean Gull *Ichthyaetus melanocephalus* (non-breeding)	Consider adding to six existing SPAs (Breydon Water; Chesil Beach and The Fleet; Pagham Harbour; Solent and Southampton Water; Tamar Estuaries Complex; Thames Estuary and Marshes) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS and/or WinGS data may not be sufficient	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Apply the spatial distribution and numerical data from the ongoing repeat UK Winter Gull Survey (WinGS) 2023/24, 2024/25 and where appropriate Wetland Bird Survey (WeBS)

[24] Due to the sensitivity of Red-necked Phalarope *Phalaropus lobatus* (breeding) to disturbance and the specific location of new site options, only the number (and not the location) is provided.

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Little Gull *Hydrocoloeus minutus* (non-breeding) [b]	Consider adding to five existing SPAs (Firth of Tay and Eden Estuary; Hornsea Mere; Humber Estuary; Morecambe Bay and Duddon Estuary; North Norfolk Coast) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS data may not be sufficient Priority could be given to SPAs that support multiple gull species	Consider one new site (Tophill Low SSSI)	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	It is advised further survey and/or data analysis is required of both marine and terrestrial areas supporting known aggregations because WeBS and WinGS data may not be sufficient
Black-headed Gull *Chroicocephalus ridibundus* (non-breeding)	Consider adding to seven existing SPAs (Chew Valley Lake; Firth of Forth; Humber Estuary; Ribble and Alt Estuaries; Severn Estuary; Thames Estuary and Marshes; The Wash) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS and/or WinGS data may not be sufficient Priority should be given to SPAs that support multiple gull species	Consider three new sites (Bewl Water; Chingford Reservoirs (aka King George V Reservoir and William Girling Reservoir) SSSI; Derwent Reservoir) It is advised further survey and/or data analysis is required because WeBS and/or WinGS data may not be sufficient Priority should be given to sites that support multiple gull species	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Apply the spatial distribution and numerical data from the ongoing repeat UK Winter Gull Survey (WinGS) 2023/24, 2024/25 and where appropriate Wetland Bird Survey (WeBS)
Common Gull *Larus canus* (breeding)	Consider adding to six existing SPAs (Cairngorm Massif; Copeland Islands; Hoy; North Uist Machair and Islands; Orkney Mainland Moors; Strangford Lough)	Consider four new sites (Burray; Lower Lough Erne Islands[25]; River Findhorn - Strathdearn; Stronsay)	No action required	No action required	Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)
Common Gull *Larus canus* (non-breeding)	Consider adding to four existing SPAs (Chew Valley Lake; Firth of Forth (as a main component of the assemblage (under SPA Selection Guideline 1.3); Humber Estuary; The Wash) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS and/or WinGS data may not be sufficient Priority should be given to SPAs that support multiple gull species	Consider three new sites (Bewl Water; Chingford Reservoirs (aka King George V Reservoir and William Girling Reservoir) SSSI; Derwent Reservoir) It is advised further survey and/or data analysis is required because WeBS and/or WinGS data may not be sufficient Priority should be given to sites that support multiple gull species	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Apply the spatial distribution and numerical data from the ongoing repeat UK Winter Gull Survey (WinGS) 2023/24, 2024/25 and where appropriate Wetland Bird Survey (WeBS)

[25] Upper Lough Erne SPA was incorrectly referred to in the detailed species/population assessment for breeding Common Gull. This should have been listed as Lower Lough Erne Islands as a possible new site option and is corrected here in Table 2.

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Lesser Black-backed Gull *Larus fuscus* (non-breeding) [b]	Consider adding to six existing SPAs (Chew Valley Lake; Morecambe Bay and Duddon Estuary; Ribble and Alt Estuary; Thames Estuary and Marshes; Severn Estuary; The Wash) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS and/or WinGS data may not be sufficient Priority should be given to SPAs that support multiple gull species Habitat provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency - note that SPA provision is also subject to the marine sufficiency review	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Apply the spatial distribution and numerical data from the ongoing repeat UK Winter Gull Survey (WinGS) 2023/24, 2024/25 and where appropriate Wetland Bird Survey (WeBS)
Herring Gull *Larus argentatus* (non-breeding) [b]	Consider adding to five existing SPAs (Firth of Forth; Morecambe Bay and Duddon Estuary; Ribble and Alt Estuaries; Severn Estuary; The Wash) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS and/or WinGS data may not be sufficient Priority should be given to SPAs that support multiple gull species Habitat provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency - note that SPA provision is also subject to the marine sufficiency review	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Apply the spatial distribution and numerical data from the ongoing repeat UK Winter Gull Survey (WinGS) 2023/24, 2024/25 and where appropriate Wetland Bird Survey (WeBS)
Great Black-backed Gull *Larus marinus* (breeding) [b]	Consider adding to eight existing SPAs (Fetlar; Handa; North Caithness Cliffs; North Sutherland Coastal Islands; Rousay; Shiant Isles; Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro; Sumburgh Head) Further site analysis may be required Foraging provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Great Black-backed Gull *Larus marinus* (non-breeding) [b]	Consider adding as a main component of the assemblage (under SPA Selection Guideline 1.3) to three existing SPAs (Humber Estuary; Thames Estuary and Marshes; The Wash) It is advised further survey and/or data analysis is required for the majority of these SPAs because WeBS and/or WinGS data may not be sufficient Priority should be given to SPAs that support multiple gull species Habitat provision also to be covered by the marine SPA sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency - note that SPA provision is also subject to the marine sufficiency review	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Apply the spatial distribution and numerical data from the ongoing repeat UK Winter Gull Survey (WinGS) 2023/24, 2024/25 and where appropriate Wetland Bird Survey (WeBS)
Sandwich Tern *Thalasseus sandvicensis* (breeding) [b]	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Management review of SPAs with major declines needed	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process
Sandwich Tern *Thalasseus sandvicensis* (passage)	Consider adding to nine existing SPAs (Belfast Lough; Firth of Tay and Eden Estuary; Humber Estuary; Morecambe Bay and Duddon Estuary; North Norfolk Coast; Ribble and Alt Estuaries; Solway Firth; Thanet Coast and Sandwich Bay; Traeth Lafan/Lavan Sands, Conway Bay) It is advised analysis of data is required to understand the source of late summer numbers at SPAs and relationships with local and other breeding colonies Habitat provision also to be covered by the marine SPA sufficiency review process	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Contemporary surveys are required to verify and understand numbers of birds on passage and relationships with breeding colonies

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Common Tern *Sterna hirundo* (passage)	Consider adding to nine existing SPAs (Breydon Water; Firth of Forth; Liverpool Bay/Bae Lerpwl; North Norfolk Coast; Ribble and Alt Estuaries; Teesmouth and Cleveland Coast; Thanet Coast and Sandwich Bay; The Dee Estuary; The Wash) It is advised analysis of data is required to understand the source of late summer numbers at SPAs and relationships with local and other breeding colonies	No action required	No action required	No action required	Analysis of data is required to understand the breeding site of late summer numbers at SPAs and relationships with local and other breeding colonies
Arctic Tern *Sterna paradisaea* (breeding) [b]	Consider adding to two existing SPAs (Monach Isles; North Uist Machair and Islands) subject to data review	Consider one new site (on Lewis)	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	No action required in this terrestrial Third Review – note that SPA provision is also subject to the marine sufficiency review process	Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015–2022)
Short-eared Owl *Asio flammeus* (breeding)	No action required	No action required	No action required	No action required	Establish monitoring regime and standardise protocol across the SPA suite (Caithness and Sutherland; Forest of Clunie; Muirkirk and North Lowther Uplands; Orkney Mainland Moors; Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro; South Pennine Moors)
Nightjar *Caprimulgus europaeus* (breeding)	No action required	Consider two new sites in the North York Moors Forests and Sherwood Forest, which would significantly increase range coverage	Ecological sufficiency is met but consider boundary extensions to 11 existing SPAs (Ashdown Forest; Breckland; Dorset Heathlands; East Devon Heaths; Minsmere-Walberswick; New Forest; Sandlings; Thames Basin Heaths; Thorne and Hatfield Moors; Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1); Wealden Heaths Phase 2)	No action required	Repeat national survey (last UK survey in 2004) to determine occupancy and spatial distribution Collate contemporary data since last national census Annual surveys of sites may be required if number of breeding pairs is small Pilot studies are required to identify possible boundary extensions to improve SPA coverage of foraging habitats
Kingfisher *Alcedo atthis* (breeding)	Consider adding to ten existing SPAs (Breckland; Broadland; Lee Valley; Lough Neagh and Lough Beg; Morecambe Bay and Duddon Estuary; Severn Estuary; Somerset Levels and Moors; South West London Waterbodies; Thames Basin Heaths; Upper Nene Valley Gravel Pits) subject to further data analysis and review	Consider four new sites (River Avon SAC/SSSI; River Eden SAC/SSSI; River Tweed SAC/SSSI; River Wye/Afon Gwy SAC/SSSI)	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Further work is required to refine data and information available

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Kingfisher *Alcedo atthis* (non-breeding)	Consider adding to ten existing SPAs (Avon Valley; Breckland; Broadland; Chichester and Langstone Harbours; Humber Estuary; Morecambe Bay and Duddon Estuary; Severn Estuary; Solent and Southampton Water; Somerset Levels and Moors; Upper Nene Valley Gravel Pits) subject to further data analysis and review	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Further work is required to refine data and information available
Woodlark Lullula *arborea* (breeding)	No action required	Consider one new site (Sherwood Forest) which would significantly increase SPA range coverage	Consider boundary extensions to eight existing SPAs (Breckland; Dorset Heathlands; Minsmere-Walberswick; New Forest; Sandlings; Thames Basin Heaths; Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1); Wealden Heaths Phase 2)	No action required	Repeat national survey (last UK survey in 2006) to determine occupancy and spatial distribution Collate contemporary data since last national census and undertake a full analysis in mapped format Annual surveys of sites may be required if number of breeding pairs is small Pilot studies are required to identify possible boundary extensions to improve SPA coverage of foraging habitats
Ring Ouzel *Turdus torquatus* (breeding)	Consider adding to four existing SPAs (Cairngorms Massif; North Pennine Moors; Peak District Moors (South Pennine Moors Phase 1); South Pennine Moors Phase 2) and a few of the more extensive SPAs in central and NW Scotland subject to further analysis of existing data	Review scope for new sites through analysis of existing data	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Repeat national survey (last UK survey in 2012) to provide contemporary data on occupancy and likely foraging 'hot spots' next to existing SPAs Collate contemporary data since last national census and undertake a full analysis in mapped format Full and complete analysis of the annual population datasets across the species current range including Bird Atlas data Annual surveys of sites may be required if number of breeding pairs is small
Aquatic Warbler *Acrocephalus paludicola* (passage)	Consider adding to one existing SPA (Solent and Southampton Water)	Consider one new site (South Milton Ley SSSI)	No action required	No action required	Dedicated, specialised and coordinated survey data is required to verify continued use and support classification
Dartford Warbler *Curruca undata* (breeding)	Consider adding to one existing SPA (Minsmere-Walberswick)	No action required	No action required	No action required	Repeat national survey (last UK survey in 2006) to determine occupancy and spatial distribution Collate contemporary data since last national census

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Red-backed Shrike *Lanius collurio* (breeding)	Given the likelihood of population growth, it is recommended that the status of this species is reviewed again in 2026, so that any suitable regularly used sites can be considered for SPA classification	Given the likelihood of population growth, it is recommended that the status of this species is reviewed again in 2026, so that any suitable regularly used sites can be considered for SPA classification	Review of SPA boundaries to address ecological insufficiency is dependent on the identification of suitable sites for SPA classification	No action required	Continue annual population monitoring and reporting, including via the Rare Breeding Birds Panel
Chough *Pyrrhocorax pyrrhocorax* (breeding)	No action required	Consider two new sites (Eryri/Snowdonia; West Cornwall)	Consider boundary extensions to seven existing SPAs (Castlemartin Coast; Craig yr Aderyn (Bird's Rock); Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island; Glannau Ynys Gybi/Holy Island Coast; Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal/Mynydd Cilan, Trwyn y Wylfa and the St Tudwal Islands; Ramsey and St David's Penisular Coast; Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro)	No action required	Repeat national survey (last UK survey in 2014) to determine occupancy and spatial distribution Collate contemporary data since last national census Survey work (to gather contemporary data) is required to identify field usage, to provide evidence base for boundary changes
Chough *Pyrrhocorax pyrrhocorax* (non-breeding)	No action required	Consider two new sites (Eryri/Snowdonia; West Cornwall)	Consider boundary extensions to four existing SPAs (Craig yr Aderyn (Bird's Rock); Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island; Glannau Ynys Gybi/ Holy Island Coast; Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal/Mynydd Cilan, Trwyn y Wylfa and the St Tudwal Islands)	No action required	Survey work (to gather contemporary data) is required to identify field usage and to provide robust evidence base for boundary changes
Twite *Linaria flavirostris* (breeding)	Consider adding to the South Pennine Moors Phase 2 SPA (Note: although Twite is currently a component species of the 'breeding bird assemblage' feature of this SPA, this (i.e. the breeding bird assemblage) does not meet any of the SPA Selection Guidelines, and the SPA Citation therefore needs to be updated)	No action required	Consider boundary extension to one existing SPA (South Pennine Moors Phase 2) to increase coverage of breeding and foraging areas, subject to further survey and analysis	No action required	Repeat national survey (last survey in 2013) to determine occupancy and spatial distribution and likely hotspots next to SPAs Collate contemporary data since last national census and undertake a full analysis in mapped format Annual surveys of sites may be required if number of breeding pairs is small Pilot studies are required to identify possible boundary extensions to improve SPA coverage of foraging habitats

Species/population	Advice and options for addition to existing SPAs	Advice and options for new SPAs	Advice and options for review of boundaries of existing SPAs (see section 4.1)	Recommended management review at classified SPAs (see section 4.2)	Recommended site-specific monitoring and/or wider survey/ monitoring needs[21]
Twite *Linaria flavirostris* (non-breeding)	Consider adding to one or more coastal SPAs in eastern England	No action required	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Dedicated and extensive survey work of saltmarshes is likely to be required to support any addition to one or more coastal SPAs Full and complete analysis of the annual population datasets across the species current range including Bird Atlas data
Scottish Crossbill *Loxia scotica* (breeding)	Dependent on conclusions of further analysis	Consideration of any new sites will require new national data and focussed annual survey on known hotspots throughout the contemporary range	Further work required to assess whether review of SPA boundaries is required to address ecological insufficiency	No action required	Repeat Scottish survey (last survey in 2008) to determine occupancy and spatial distribution Further data needed to develop strategy to define site protection needs for the species in the context of habitats used Consideration of any SPA boundary extensions will require new national data and focussed annual survey on known hotspots throughout the contemporary range

4. Issues covered by Phase 2 of the Third UK SPA Review

In addition to issues of SPA insufficiency, the Phase 1 Report identified other issues relating to specific existing SPAs (Stroud *et al.* 2016). These are addressed in sections 4.1-4.5 of this report.

4.1 Site boundary reviews

There is a need to review site boundaries of existing SPAs for various reasons. These include:

i. to ensure the adequacy of ecological provision for existing qualifying species, for example if the site currently excludes important feeding or other areas important to sustain the species for which the site is classified;

ii. in the context of the addition of new qualifying species, to ensure that important areas (possibly adjacent to the existing site) are included within the SPA for new qualifying features; and

iii. where extension of a boundary could include more of a population of an existing qualifying species, thus increasing numbers protected by the site and reducing the degree of UK insufficiency.

Instances of i. – iii. above are listed in Appendix 3a (collated by species/population) and Appendix 3b (collated by site). Details of boundary review needs are also provided in the detailed species/population assessments[14].

4.2 Site management reviews

A review of current management should be undertaken because of non-typical population trends for several sites and species/populations, as listed in Appendix 4. All relevant reviews should be undertaken using the guidance presented in Appendix 5.

4.3 Enhanced site monitoring needs

There is a need for enhanced monitoring of some (or all) of the qualifying species occurring at several sites, as listed in Appendix 6.

4.4 Future survey and monitoring needs

The Phase 2 detailed species/population assessments highlighted several broad-scale survey and monitoring issues (e.g. UK- or GB-wide surveys) which would deliver data and information for multiple species and/or sites, as summarised in Appendix 7.

4.5 Issues arising from incomplete implementation of the Second UK SPA Review

The Phase 1 Report of the Third Review notes:

"The starting point for the audit of the SPA network and assessments of sufficiency under the third Review were, for each species and/or population, the SPA suites agreed and published by JNCC's second SPA network Review. Although many of the relevant classifications have yet to occur, it is envisaged that these will occur in the next stages of

this third Review, since their implementation is integral to the sufficiency conclusions reached."

The principal purpose of the Second Review in 2001 was to ensure that the sites contained within each species/population specific SPA suite were those most 'most suitable' in the context of meeting the requirements under Article 4 of the Wild Birds Directive. This was also necessitated due to the lack of agreed UK SPA Selection Guidelines[26] prior to 1999 (JNCC 1999). These SPA Selection Guidelines were subsequently used to inform the outcomes of the Second Review

In this regard, the Second Review made recommendations related to:

i. the addition of qualifying species/populations to existing and new SPAs. The status of implementation of these recommendations was assessed during Phase 1 of the Third Review. Conclusions from this work, (i.e. the features recommended for addition to SPAs, but which were still unimplemented, as of the end of May 2016, are listed in Appendix 8; and

ii. the deletion of species/populations (which were previously listed as qualifying) from some sites within the existing UK SPA suites that, in the 1990s, did not qualify for various reasons (including wrongly identified qualifying species/populations that are neither migratory nor listed on Annex I of the Wild Birds Directive). These proposed deletions were reviewed during Phase 1 of the Third Review in the light of changes in species/population numbers within SPAs across the UK SPA network and the assessed insufficiencies related to population numbers, range coverage and/or ecological provision. Conclusions from this work, i.e. the features recommended for deletion from SPAs, but which were still unimplemented, as of the end of May 2016, are set out in Appendix 9.

Appendices 8 and 9 collectively summarise the Second Review recommended classification issues (additions and deletions) still remaining as of the end of May 2016. A number of these recommendations have since been implemented[27]. As new data become available during the period of Phase 3 implementation, these datasets should also be used to further inform decision making about addressing the insufficiencies across the UK SPA network.

The four countries are at various stages of implementing the recommendations from the Second Review through formal classification, including the documenting of these changes on the SPA Citation documents. These changes will also need to be reflected on the SPA Standard Data Forms (SDFs) to ensure the Citations and SDFs contain the same information[28].

There are also some issues related to the consistency of information documented on the SPA Citations and the SDFs. Reasons for discrepancies between these include:

- features approved for addition in the Second Review which are not yet on either the relevant SPA Citation or SDF;

[26] UK SPA Selection Guidelines: https://jncc.gov.uk/our-work/special-protection-areas/#spa-classification-selection-guidelines-for-spas.

[27] For example, of the remaining unimplemented Second Review recommendations, in Scotland these have been reviewed and most have been implemented as agreed between NatureScot and Scottish Government, and in Northern Ireland over two-thirds have been implemented by DAERA-NIEA.

[28] The SPA Citation documents are published on the relevant country-level SNCB websites. The corresponding SPA Standard Data Forms are published on the JNCC website: https://jncc.gov.uk/our-work/list-of-spas/.

- features approved for addition in the Second Review, now listed on the relevant SPA Citation, but which are not on the SDF;
- features approved for addition in the Second Review, listed on the SDF, but which are not yet on the Citation document (there are not thought to be any examples, and this would only be due to administrative errors);
- features approved for deletion in the Second Review, but which are still listed on the relevant SPA Citation and/or SDF; and/or
- other administrative errors which have not yet been identified and/or rectified, e.g. a possible scenario could be where the species/population has been incorrectly documented on the Citation and/or the SDF).

5. Conclusions

The SNCB Working Group has been able to provide advice and options, though Phase 2 of the Third Review, relating to 76 species/populations covered by this terrestrial/coastal review and 12 covered by both the terrestrial/coastal and marine reviews[12] (see Table 2 for summary details), and have highlighted, in some cases, the need for contemporary survey, data collation and further analysis. Actions for consideration, whether additions of qualifying species and/or reviews of site boundaries or management, have been identified for 183 existing SPAs across the UK. This includes 74 SPAs in England, 80 in Scotland, one cross-border England-Scotland site, 12 in Wales, three cross-border England-Wales sites, and 13 in Northern Ireland. In addition, 94 sites/locations/search areas have been identified as options for the classification of new SPAs. 38 of these are in England, 37 are in Scotland, two span the border between England and Scotland, 15 are in Wales, one spans the border between England and Wales, and one is in Northern Ireland.

This report additionally lists the remaining unimplemented recommendations (as of the end of May 2016) from the Second Review. These include additions and deletions of particular species/populations at specific SPAs. A number of these recommendations have since been implemented[29].

There are three principal evidence components necessary to aid implementation of Phase 3, these are:

i. robust, evidence-based options in relation to sites (either currently classified or unclassified) that can be progressed based on existing data and information (i.e. where no further survey data gathering is required to develop proposals). Examples are:
    - assessing site options for non-breeding Greenland White-fronted Goose *Anser albifrons flavirostris* using data collected by the Greenland White-fronted Goose Study Group;
    - assessing site options for breeding Common Crane *Grus grus* using Rare Breeding Birds Panel (RBBP) data; and
    - assessing site options for non-breeding Great Crested Grebe *Podiceps cristatus* using Wetland Bird Survey (WeBS) data.

ii. options in relation to sites (either already classified or unclassified) where further analysis of existing datasets and/or up-to-date surveys are needed before robust proposals can be made. An example here is breeding Chough *Pyrrhocorax pyrrhocorax*.

iii. situations where, for example, national surveys or research projects are needed and that are only likely to be realised in the longer term – typically to be undertaken over a period dependent on resource and organisational requirements. An example here is breeding Curlew *Numenius arquata*.

Some of the research and survey needs (see evidence components i. and ii. above) have already been highlighted in the individual species/population accounts of the Phase 1 Report (see Appendix 9 in Stroud *et al.* 2016) and are further developed in the detailed species/ population assessments[14] prepared for Phase 2 (with associated species/population summaries provided in Appendix 2).

[29] For example, of the remaining unimplemented Second Review recommendations, in Scotland these have been reviewed and most have been implemented as agreed between NatureScot and Scottish Government, and in Northern Ireland over two-thirds have been implemented by DAERA-NIEA.

It is recommended that there would be continued benefit for UK co-ordination of further analyses of existing UK datasets related to those populations included in evidence component ii (see above). For example, it would be cost-effective to commission such work on a shared basis, and co-ordination might continue to be provided by the SNCB Working Group whilst not holding-up Phase 3 implementation of the Phase 2 advice and options. In addition, it might be appropriate for the HaRIS Management Group to seek further updates from the SNCB Working Group at relevant times during Phase 3 implementation. This would serve to maintain momentum in resolving issues where conclusions cannot be reached.

For a few species/populations, provision of advice and implementation of options from the Third Review will require additional research and/or survey (e.g. see evidence component iii. above). These needs are highlighted both in the individual species/population accounts in the Phase 1 Report (see Appendix 9 in Stroud *et al.* 2016) and in the detailed species/ population assessments prepared for Phase 2[14] (with associated species/population summaries provided in Appendix 2).

This Phase 2 Report has brought together and summarised these short-term and longer-term needs. More broadly, the SNCB Working Group recommends that coordinated action takes place (during Phase 3 implementation) on those 'shared' species which are widely distributed across two or more of the countries of the UK, especially where the Phase 2 species/population assessments highlight the need for further joint assessment between the countries e.g. breeding and non-breeding Curlew *Numenius arquata*.

This report reinforces the need highlighted by Stroud *et al*. (2016) for a prioritised work programme from each country-level devolved government/administration and their respective SNCB, including the expected timescale of their implementation of Phase 3.

6. Acknowledgements

It is important to acknowledge that the species/population assessments would simply not have been possible without the massive voluntary efforts of the many tens of thousands of volunteers who have given their time (and resources) to participate in systematic surveys and monitoring of UK birds since the 1960s. All those involved in Phase 2 of the Third Review acknowledge their huge input and interest, without which knowledge of the UK's changing bird populations would be immeasurably poorer.

Phase 2 of the Third Review builds upon the Phase 1 Report and the species/population accounts of the UK SPA & Ramsar Scientific Working Group (SPAR SWG), the membership at the time of which is given in Appendix 3 in Stroud *et al.* (2016).

The editors and colleagues involved in the original drafting (in 2017) of this Phase 2 summary report (as part of the then Phase 2 Working Group) would like to particularly thank:

Iain Bainbridge (Scottish Natural Heritage, now NatureScot) and Chris Spray (University of Dundee) who chaired the SPAR SWG between 2014 and 2020, and Dave Chambers (Joint Nature Conservation Committee) who chaired earlier meetings related to Phase 2 from 2014–2016.

We are extremely grateful to all colleagues who have contributed to the Phase 2 work, including the SPAR SWG (main period 2014–2019) and the Executive Steering Group (ESG) (2014–2021) (now replaced by the Habitats Regulations and International Sites Management Group (HaRIS Management Group) (2021–2024) members involved during the process.

For production of the Phase 2 detailed species/population assessments, we particularly thank:

Department of Agriculture, Environment and Rural Affairs - Northern Ireland Environment Agency: Neil McCulloch and Ronan Owens;

Joint Nature Conservation Committee: Dave Chambers and David Stroud;

Natural England: Allan Drewitt;

Natural Resources Wales: Patrick Lindley and Sian Whitehead;

Royal Society for the Protection of Birds: Kate Jennings; and

Scottish Natural Heritage (now NatureScot): Nigel Buxton,

all on behalf of the UK SPA & Ramsar Scientific Working Group

with the assistance of:

Department of Agriculture, Environment and Rural Affairs - Northern Ireland Environment Agency): Ian Enlander and Richard Weyl;

Natural England: Phil Eckersley and Ben Fraser; and

Natural Resources Wales: Matthew Murphy

The following are particularly thanked for their

i. technical input to the Phase 2 detailed species/population assessments, including extraction of relevant data and advice on its interpretation, and/or provision of review comments, noting that some colleagues'* contributions were also as representatives on the SPAR SWG (each on behalf of their respective organisation) during the early stages of Phase 2:

British Trust for Ornithology: Neil Calbrade and Teresa Frost (Wetland Bird Survey) and Simon Gillings (breeding bird data from BTO Bird Atlas);

Forestry Commission: Julia Garritt*;

Greenland White-fronted Goose Study: Tony Fox;

Joint Nature Conservation Committee: Dave Chambers*;

Rare Breeding Birds Panel: Mark Holling;

Royal Society for the Protection of Birds: Mark Eaton, Kate Jennings* and Sarah Saunders;

Scottish Natural Heritage (now NatureScot): Morven Laurie;

Scottish Raptor Monitoring Scheme: Amy Challis;

Water UK: Kim Wallis*;

Wildfowl & Wetlands Trust: Collette Hall, Richard Hearn* and Carl Mitchell; and

individual experts who provided species-specific advice: Peter Ellis, Malcom Pennington and Roger Riddington

We also acknowledge other organisations/colleagues as corresponding members of the SPAR SWG during the early stages of Phase 2:

ABP Research & Consultancy Ltd./ABP Marine Environment Research Ltd.: Steve Hull;

Country Land & Business Association: Tanya Olmeda-Hodge;

Farmers' Union of Wales/Undeb Amaethwyr Cymru: Bernard Griffiths;

National Farmers Union (representing also the Farmers' Union of Wales/Undeb Amaethwyr Cymru) and NFU Scotland: Claire Robinson;

National Federation of Fishermen's Organisations (on behalf also of the Scottish Fishermen's Federation): Barrie Deas and Dale Rodmell;

Scottish Environment Link: Richard Evans and Jeremy Wilson;

UK Offshore Operators Association: Mick Borwell; and

World Wide Fund for Nature-UK: Dave Burges

ii. other contributions during the period of review/editing of the Phase 2 report:

Natural England: Rachel Ashelford, Allan Drewitt, Ben Fraser and John Finnie; and

NatureScot: Greg Mudge

Special thanks to the following colleagues at the Joint Nature Conservation Committee: Dave Chambers, Cathy Gardner, Rachael Howlett and Zena Molson for administrative, technical and other assistance; Stephen Grady, Ant Maddock, Ed Mountford and Matt Parsons for providing Secretariat functions for the SPAR SWG and/or the SNCB Working Group; Gwawr Jones, Ian Mitchell and Clare Whitfield for governance overview; and Ness Amaral-Rogers, Emma Durham, John-Henson Webb and Maddy Long for publication and communication coordination. We are also extremely grateful to multiple other colleagues across our organisations who helped between 2013 and 2024 to complete this report. We apologise for any acknowledgements inadvertently missed.

Grady, S., Anthony, S., Cohen, S., Douse, A., Lindley, P., Mountford, E. and Owens, R. (the editors/SNBC Working Group)

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Appendix 1. Discussion paper on approaches to addressing range insufficiency

Note: this paper guided discussions and thinking by the Phase 2 sub-group. It has helped members of the group to consider the issue of range insufficiency on a more systematic basis than previously.

It is not proposed to formalise this as additional guidance, but it may be useful for the wider SWG to review and comment on the considerations raise here, and for this thinking to be on the record of issues considered.

SPA Review Phase 2 sub-group

20 October 2015, with subsequent minor amendments by the SNCB Working Group. Some aspects of this paper should be read in a historical context.

BACKGROUND

Legal background

Wild Birds Directive (***emphasis added***)

> **Preambular para** (8) The preservation, maintenance or restoration of a sufficient diversity and area of habitats is essential to the conservation of all species of birds. Certain species of birds should be the subject of special conservation measures concerning their habitats ***in order to ensure their survival and reproduction in their area of distribution***. Such measures must also take account of migratory species and be coordinated with a view to setting up a coherent whole.
>
> **Article 4.1** The ***species*** mentioned in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction ***in their area of distribution***.

UK SPA Selection Guidelines

SPA Selection Guideline 2.2 states that:

> **Species range:** Areas selected for a given species provide as wide a geographic coverage across the species' range as possible.

Conservation biology background

Some propositions

Dispersal of protected areas (in this case SPAs) across the distribution of a bird species is important for the following reasons:

1. For migratory birds, to provide for connectivity between important areas used at different times of the annual cycle as individuals either move within UK (e.g. non-breeding Pink-footed Goose) or move on migration through the UK (e.g. for many arctic breeding waterbirds).

2. To provide for intra-UK movements in periods of extreme weather. Typically, this occurs in periods of extreme cold winter weather as birds move (often westwards) to seek milder

refuge sites. [Note such provision is explicitly recognised in Stage 2 of the SPA Selection Guidelines].

3. Assuming that protected areas should be better managed and thus holding concentrations of birds showing higher breeding success[30] than surrounding areas, to act as a source of birds that will move to surrounding areas of lower quality (lower breeding success (sink areas)[31]. Metapopulation theory suggests that such 'source' areas should be as widely dispersed through the range of the species as possible to maximise the benefits of such dispersal for the wider population.

4. Adaptation responses to climate change anticipate the need for changing (additional) site-based conservation provision (for appropriate species). The detailed Defra-funded CHAINSPAN analysis of the implications of climate change for the UK SPA network highlights the key importance of management of SPAs at network-scale (Johnston *et al.* 2015)[32] and supports other findings about the need for protected area networks to build resilience to climate change at broad geographical scales (Hole *et al.* 2009)[33].

Some practical issues

1. Typically, densities vary across distributional range, sometimes systematically so. Many species show lower densities towards the edges of their distributional ranges[34]. Thus, densities of wintering Moorhen *Gallinula chloropus* are greater in southern UK than in northern UK (see Figure 1). This gives a tension between any selection of protected areas across range that uses uniform abundance thresholds. In the example below, there will thus probably be fewer wetlands holding high numbers of Moorhens in winter in northern UK than in southern UK, and thus, consequently, fewer qualifying sites in the north than the south, even though the Moorhen winter range extends to Shetland.

2. The need to ensure that range is adequately addressed in the design of any protected area network raises critical issues of scale. At what scale is range representativity being considered? Thus, considering conserving range at a continental scale, it might be argued that a single site in the UK is adequate (irrespective of where this is placed within the country); conversely, it may be appropriate to consider a number of sites throughout the UK for those species whose international distributions are largely concentrated within the UK.

[30] Note that Stage 2 of the SPA Selection Guidelines requires that "areas of higher breeding success than others are favoured for selection".

[31] The 'rescue effect' – immigration reduces the risk of extinction.

[32] Johnston, A., Ausden, M., Dodd, A.M., Bradbury, R.B., Chamberlain, D.E., Jiguet, F., Thomas, C.D., Cook, A.S.C.P., Newson, S.E., Ockendon, N., Rehfisch, M.M., Roos, S., Thaxter, C., Brown, A., Crick, H.Q.P., Douse, A., McCall, R.A., Pontier, H., Stroud, D.A., Cadiou, B., Crowe, O., Deceuninck, B., Hornman, M. & Pearce-Higgins, J.W. 2013. Observed and predicted effects of climate change on species abundance in protected areas. *Nature Climate Change* 3: 1055–1061. Available here: https://doi.org/10.1038/nclimate2035.

[33] Hole, D.G. *et al.* 2009. Projected impacts of climate change on a continent-wide protected area network. *Ecological Letters* 12: 420–431. Available here: https://doi.org/10.1111/j.1461-0248.2009.01297.x.

[34] e.g. Lawton, J. 1993. Range, population abundance and conservation. *Trends in Ecology & Evolution* 8(11): 409–413. Available at: https://doi.org/10.1016/0169-5347(93)90043-O.

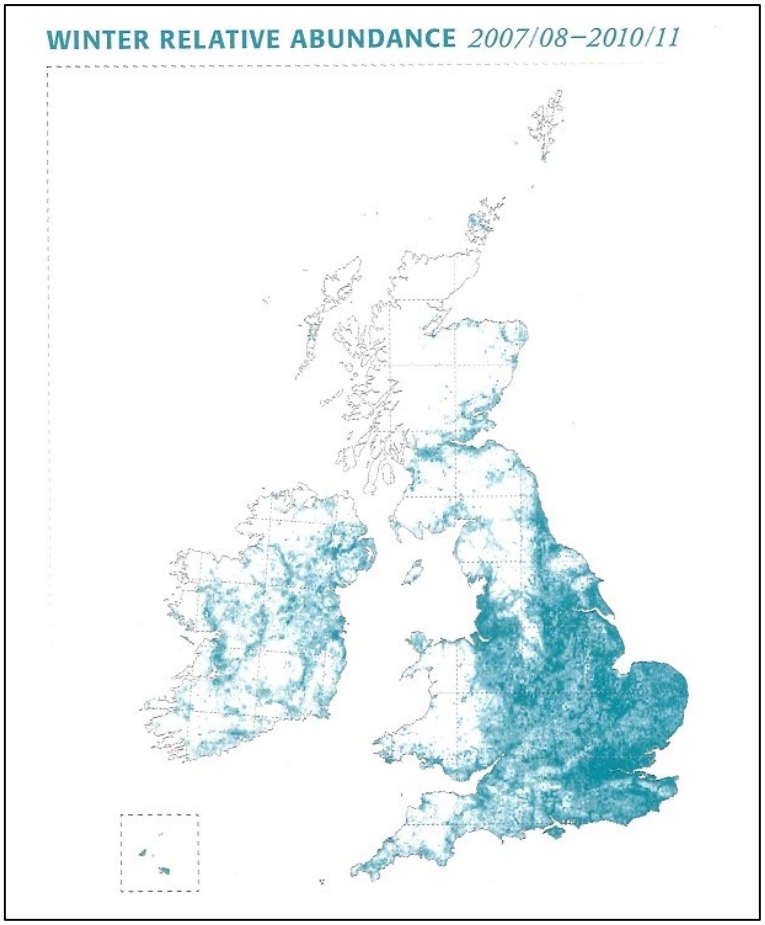

Figure 1: Densities of wintering Moorhen *Gallinula chloropus* (2007/08-2010/11) (Balmer *et al*. 2013).

Possible approaches to range in the context of the UK SPA network

The Stage 2 (of the SPA Selection Guidelines) explicit requirement to consider range in the selection of SPAs has so far been given little attention in the development of the network. There have been a few sites selected using Selection Guideline 1.4 where range was a supporting justification (e.g. breeding Dunlin *Calidris alpina schinzii* on Fetlar – the most northerly UK SPA for the species), but there has been no systematic guidance developed.

There are a number of possible approaches:

a. **Do nothing**. Not really an option since Phase 1 outputs explicitly record "Range insufficiency" for many species to be considered in Phase 2. So, we need to address this.

b. **Expert judgement**. Essential the *status quo* – i.e. past *ad hoc* decision making. Runs risk of lack of consistency and consequence challenge to decisions (more so for any future new classification that may be proposed based on range.)

c. **Some rule-based approach**. This would establish some simple guidance against which range provision could be assessed. The ideal would be to keep this simple to avoid complex analytical issues. JNCC has identified several possible approaches that could be used to justify SPA selection on the basis of the contribution that sites make to range conservation. These are outlined below.

i. The Article 12 report required the submission of distribution and range maps for all breeding birds (but not for wintering birds). See example in Figure 2.

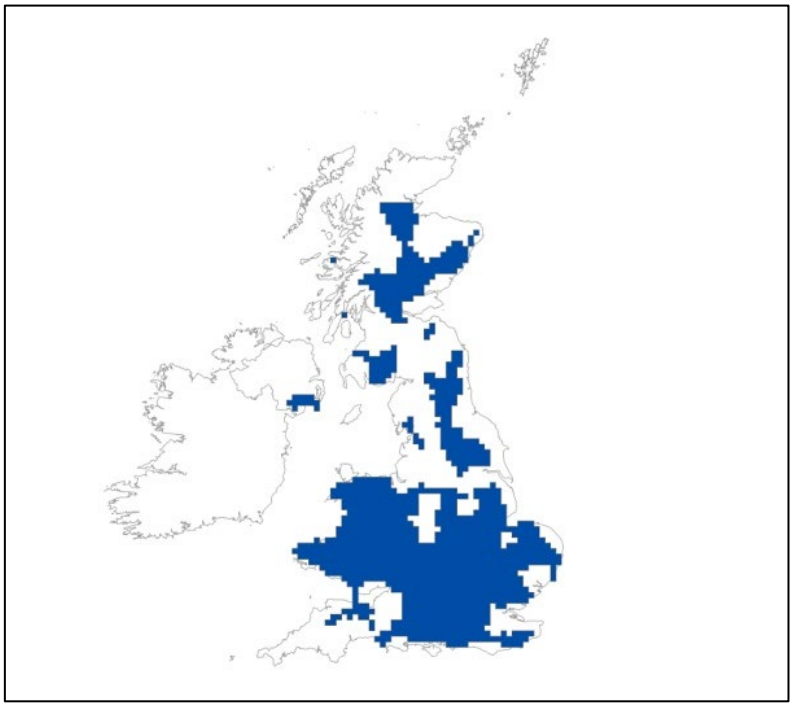

Figure 2: Example map used to report on distribution and range of breeding birds.

The QA checking process for the Article 12 report performed by the EEA identified those species where the species breeding range extends more than 250 km beyond a classified SPA. This approach (based on a GIS analysis) could be used to flag potential range insufficiencies (perhaps using different thresholds: >300 km, >500 km, *etc*.?) Note – this would just systematically identify those species where there is occupied range far from any relevant SPA: it wouldn't guide what to do about that situation.

ii. An alternative approach would be to think of SPA provision for range based on a simple N–S and E–W demarcation of the UK[35]. Such a demarcation might look like this (See Figure 3, left hand map).

[35] One justification for this might be the N vs S and E vs W environmental gradients across the UK.

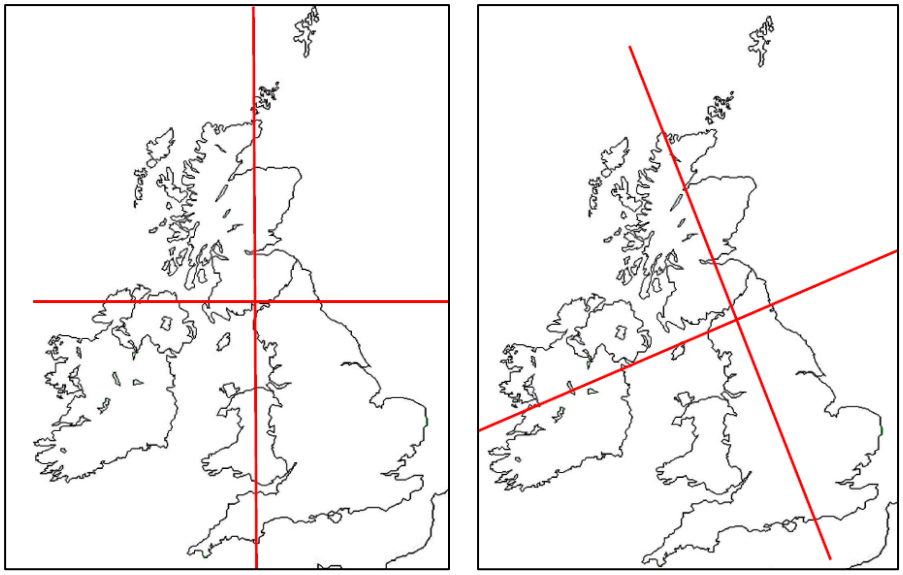

Figure 3: Possible approaches for assessing SPA provision for range based on different geographic orientation/demarcation across the UK.

Given the orientation of Britain however, there may be some merit in offsetting such demarcation such that the whole of the east and west coasts of Britain fall within East and West, and that Northern Ireland falls within North (see Figure 3, right hand map). The detail could be debated, but the principle would be to use such a 'quartering' approach as a cross-check perhaps along the following lines[36]. In the context of the conservation requirements of the individual species:

a. *If* the species' range extends into relevant region[37]; and

b. *if* there are site-based concentrations within that quarter; and

c. *if* there is SPA range insufficiency; then

d. potential SPA provision should be identified from within that quarter in preference to other quarters already holding SPAs.

iii. Additional rules might need to be developed. The situation is arguably straightforward where there is a straight choice of sites that qualify and are of roughly the same importance in quarters with vs. without existing SPAs. Given the density issue however (above), it is more likely that one may be preferring a site of lower numeric importance (perhaps even using SPA Selection Guideline 1.4) in an 'empty quarter' over a site with higher numbers elsewhere. One might need to devise some maybe informal rules to guide the 'trade-off' between addressing range sufficiency and population sufficiency.

iv. This basic approach in ii above might be further developed at a smaller scale, particularly if UK supports a significant proportion of the biogeographic population, thus raising the importance of securing full range representation within this part of the species' distribution. The map below (see Figure 4, left hand map) might be a further

[36] Rules to be developed.

[37] Perhaps this needs to be qualified to ensure that significant numbers occur within a quarter (i.e. at least XX% of the UK population) – although, of course, there is no ready source of such data.

logical split based on geography/ecology. (Or based on some subdivision of the National Grid (see Figure 4, right hand map), although a) any subdivision based on true north is problematic with respect to the orientation of Britain, and b) Northern Ireland has its own cartographic grid).

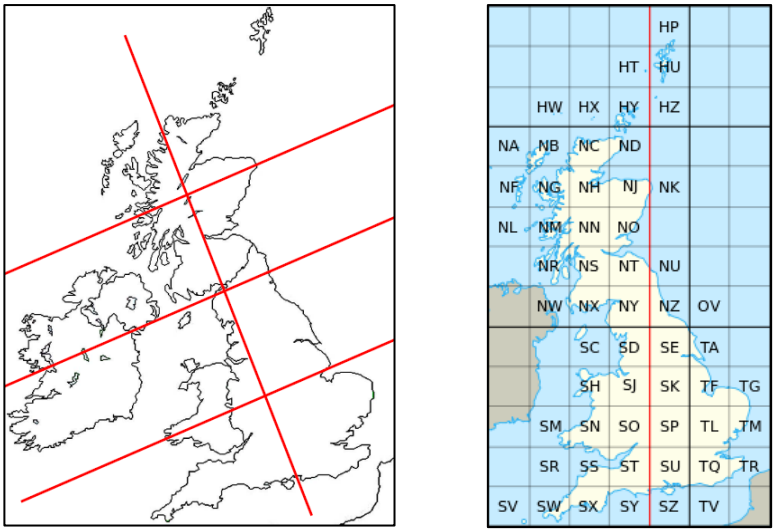

Figure 4: Further possible approaches for assessing SPA provision for range based on different geographic approaches across the UK (left hand map) and Britian (right hand map).

Summary of conclusions of sub-group discussions on range

- The thinking outlined above should be considered as an aid to decision making rather than formal rules (or guidance).

- Addressing range insufficiencies should be approached pragmatically. There are multiple theoretical (and actual) scenarios that make a prescriptive or rule-based approach to additional range provision problematic.

- It is important, however, to ensure consistency. There is an important need to cross-check decisions against approaches and decisions made for other species. This may result in a degree of iteration in the decision-making process. To this end, it is critical to ensure that the reasoning underlying any decisions are well documented (and published).

- In terms of overall priorities, addressing numerical insufficiency should be given greater weight than the need to address range insufficiency (important though this is).

- In addressing the need for additional SPA provision for range insufficiencies, and in line with the UK SPA Selection Guidelines, in the first instance additional provision should be sought from within the existing network. This increasingly considers the network as a true network anticipating the recommendations of Johnston *et al.* (2015) in the context of adaptation responses to climate change.

Appendix 2. Summaries of the Phase 2 detailed species/ population assessments

Summary context

These summaries[38] are based on the detailed species/population assessments[14] produced at the beginning of Phase 2 of this Third Review. They were then updated as the Phase 2 work progressed and following a quality assurance process by the SNCB Working Group in 2023/24 to improve clarity and accuracy. This included a review of the options for the addition of species/populations to existing SPAs, the classification of new SPAs, and/or boundary review/extensions to existing SPAs (see Table 2). There are therefore several differences between the details provided in these summaries and the original detailed species/population assessments.

Black-throated Diver *Gavia arctica* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for breeding Black-throated Diver, in terms of population numbers, range coverage and ecological provision of existing sites.
- A total of 45.5% of the GB population is currently represented within the SPA suite for breeding Black-throated Diver.
- The UK population increased by 46% between 1985 to 2006.
- Contemporary data (since the last national census in 2006) should be collated where available to check numbers and distribution in relation to existing SPAs.

Non-breeding waterbirds (Little Grebe *Tachybaptus ruficollis*, Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo carbo*, Whooper Swan *Cygnus cygnus*, Pochard *Aythya ferina*, Goosander *Mergus merganser*, Ruff *Calidris pugnax*, Common Snipe *Gallinago gallinago* and Greenshank *Tringa nebularia*)

- The following summarises options for nine species of non-breeding waterbirds with insufficient SPA provision.
- The Wetland Bird Survey (WeBS) is the most important single data source to inform any future options, however for some species/populations it needs to be supplemented with other data.
- The Site Provision Index “target” is useful for most species in this group but not for Common Snipe.
- For six of the nine species/populations, namely non-breeding Little Grebe, Great Crested Grebe, Cormorant, Pochard, Ruff and Greenshank, it is possible to address

[38] These summaries were originally prepared by the Phase 2 sub-group of the UK SPA & Ramsar Scientific Working Group (SPAR SWG) and presented to the SPA Review Executive Steering Group (ESG). They have been subsequently reviewed and updated by the SNCB Working Group. Appendix 2 also includes additional summaries (see also footnote 20) for the following species/populations only covered by the Phase 1 species/population accounts: Svalbard Barnacle Goose *Branta leucopsis* (non-breeding); Dark-bellied Brent Goose *Branta bernicla bernicla* (non-breeding); Golden Plover *Pluvialis apricaria* (non-breeding); Lapwing *Vanellus vanellus* (non-breeding); Dunlin *Calidris alpina schinzii* (breeding) and Curlew *Numenius arquata* (non-breeding), prepared by the SNCB Working Group.

the identified insufficiencies for population numbers and range coverage by adding the species/populations to existing classified SPAs.

- Sites within the existing UK SPA network can partially satisfy the insufficiencies for Whooper Swan and Goosander. Additional sites should also be considered for Goosander.
- For non-breeding Common Snipe, even with using a lower threshold of 0.5% of the GB or all-Ireland population under SPA Selection Guideline 1.4, it is not possible to select any sites from within the existing UK SPA network.

Slavonian Grebe *Podiceps auritus* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for Slavonian Grebe, in terms of both population numbers and range coverage.
- In 2014 the national population was at an all-time low since detailed recording began 40 years ago.
- A few existing SPAs no longer support Slavonian Grebe.
- There is no evidence that the reduced fortunes of the species have been influenced by SPA status.
- At the current population size, few lochs outside the existing SPA series support consistently viable numbers of pairs. Options are restricted to two completely new locations.
- In the immediate term continued consolidation of annual population data and review of positive management options is the prudent action.

Cormorant *Phalacrocorax carbo carbo* (breeding)

- Phase 1 of the Third Review concludes that the current network of SPAs is insufficient for breeding Cormorant for both population numbers and range coverage (especially in south-western Britain, East Anglia and south-western Scotland).
- A total of 19 sites have been identified for consideration as possible SPAs for breeding Cormorant, including 12 which are already classified as SPAs for other species.
- Classification of breeding Cormorant at all these locations would significantly increase UK coverage – more than enough to address the identified numerical insufficiency.
- Priority for classification should be given to the unimplemented Second Review recommendations made in 2001; additions to existing SPAs for other species; important breeding colonies adjacent to existing SPAs; and especially to sites which make a significant contribution to improvements in range coverage, also identified as insufficient.

Bittern *Botaurus stellaris* (breeding and non-breeding)

- Phase 1 of the Third Review concludes that the current UK SPA network is insufficient for breeding and non-breeding Bittern, both in terms of population numbers and range coverage. Ecological insufficiency is also identified for non-breeding Bittern.
- A total of 26 possible reclassified or new SPAs for breeding and/or non-breeding Bittern have been identified, which would significantly increase both numerical and range coverage.
- Priorities for classification include:

    - Those sites supporting the most significant numbers of birds in the breeding season and those sites known to support at least 1% of the GB population in the non-breeding season.
    - Those sites where there is a commitment to classify as a condition of the EU LIFE Bittern project.
    - Those sites which make the most significant contributions to increased range provision, particularly in the south-west, south-east and north of England, and at inland locations with greater resilience to the effects of climate change.
- Numerical provision for non-breeding Bittern is likely to remain insufficient and it is important to commission further survey work to provide updated and comprehensive counts to help identify additional possible SPAs.

Little Egret *Egretta garzetta* (breeding and non-breeding)

- Phase 1 of the SPA Review concludes that the current network of SPAs is insufficient for both breeding and non-breeding Little Egret for population numbers, range coverage and ecological provision.
- 25 sites have been identified for consideration as possible SPAs for Little Egret, many of which are already classified SPAs.
- Classification of Little Egret at all these locations would significantly increase coverage of the GB breeding and non-breeding populations respectively.
- Priority for classification could be given to existing SPAs, important breeding colonies adjacent to existing SPAs and sites which make a significant contribution to improvements in range coverage.

Spoonbill *Platalea leucorodia* (breeding and non-breeding)

- Phase 1 of the SPA Review concludes that the current network of SPAs is insufficient for breeding and non-breeding Spoonbill, for population numbers, range coverage and ecological provision.
- Five existing sites are indicated as possible SPAs for the species, four for non-breeding birds and one for both non-breeding and breeding birds. One possible new SPA is also identified for the non-breeding population. These sites would result in full coverage for breeding birds and significant coverage for non-breeding birds.
- Spoonbill numbers and range are increasing, and given the likelihood of further population growth, it is necessary to keep the species' status under review and to seek opportunities to classify additional sites in the future.

Greenland White-fronted Goose *Anser albifrons flavirostris* (non-breeding)

- Phase 1 of the Third Review determined the SPA coverage for Greenland White-fronted Goose to be insufficient for population numbers, range coverage and ecological provision.
- Greenland White-fronted Goose has been categorised as Endangered using the IUCN global Red List criteria. The UK holds over half the global population in the non-breeding season with a distribution restricted to a few highly traditional locations in Scotland, England and Wales.
- A total of 12 SPAs are currently classified for Greenland White-fronted Goose. Two contain both roost sites and some feeding areas, eight contain just roost sites, and two

comprise just feeding areas. All but one of these sites now hold numbers significantly lower than at classification.

- A total of six sites have been identified for consideration as possible SPAs for non-breeding Greenland White-fronted Goose, including two which are already classified as SPAs for other species.
- Phase 2 of the Third Review gives several linked pieces of advice to consolidate the SPA suite and address insufficiencies:
    - In respect of ecological insufficiency, currently excluded feeding areas should be included within existing SPAs as well as any new sites.
    - In respect of range insufficiency, the South Uist Machair and Lochs SPA should be reclassified to include roost and feeding areas of the internationally important numbers wintering there, and sites on Lismore Island and Lorn would also contribute.
    - In respect of numerical insufficiency, additional numerical provision could be provided by the addition of Greenland White-fronted Goose as a feature of the South Uist Machair and Lochs SPA (above) and within The Oa SPA on Islay. Four other Scottish sites each hold more than 1% of the GB population.
- Surveys of use should be undertaken of roost sites at existing SPAs.

Icelandic Greylag Goose *Anser anser* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for population numbers, range coverage and ecological provision of non-breeding Icelandic Greylag Goose *Anser anser* to be insufficient in the context of the significantly changed distribution (a northwards shift), and that additional SPA provision for roost sites should be sought.
- Phase 1 also recommended that a review of site boundaries of specific SPAs is needed, *inter alia* to include areas used for feeding or other functional needs as appropriate.
- A total of 22 SPAs in northern England, Scotland and Northern Ireland form the suite that has been used as the baseline for the Third Review for Icelandic Greylag Goose.
- The population has undergone historical decline in numbers, with a 12% decline in numbers between 1999/00 and 2010/11, and a long-term decline (1980/81 – 2010/11) of 48%.
- The population also has shown significant change in distributional range since the 1990s – essentially largely abandoning more southerly wintering areas and now occurring largely in the north of its range.
- Three existing SPAs have been identified as holding internationally important roosting concentrations. The addition of the population as a qualifying feature at those sites would result in a modest increase in population provision in Scotland.
- The priority, however, is the urgent need to better assess the situation in Orkney given the current lack of data at this, the population's main stronghold.

Svalbard Barnacle Goose *Branta leucopsis* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for non-breeding Svalbard Barnacle Goose to be insufficient for ecological provision.
- A total of two SPAs in Scotland form the suite that has been used as the baseline for the Third Review for Svalbard Barnacle Goose.

- The population has undergone an historical decrease in numbers, with a 49% decline in numbers between 1999/00 and 2010/11, however there was a long-term (1980/81 – 2010/11) increase of 14%.
- Current SPA coverage for population numbers and range coverage is sufficient, and there are no other factors suggesting the need to revise the previously identified suite of SPAs for the species. However, a review of boundaries of the existing SPA suite is needed to ensure that important areas used for feeding or other functional needs are included.

Dark-bellied Brent Goose *Branta bernicla bernicla* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for non-breeding Dark-bellied Brent Goose to be insufficient for ecological provision.
- A total of 19 SPAs in England form the suite that has been used as the baseline for the Third Review for Dark-bellied Brent Goose.
- The population has undergone an historical short-term decrease in numbers, with a 18% decline in numbers between 1999/2000 and 2010/11, however there was a long-term (1980/81 – 2010/11) population increase of 45%.
- Current SPA coverage for population numbers and range coverage is sufficient, and there are no other factors suggesting the need to revise the previously identified suite of SPAs for the species. However, a review of boundaries of the existing SPA suite is needed to ensure that important areas used for feeding or other functional needs are included.

Goldeneye *Bucephala clangula* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for population numbers and range coverage of non-breeding Goldeneye to be insufficient.
- Nine SPAs are currently classified for non-breeding Goldeneye and the Second Review recommended an additional six SPAs for re-classification to form the suite that has been used as the baseline for the Third Review.
- Phase 2 of the Third Review identifies a further five sites (two existing SPAs) which would result in a modest increase in both population and range provision in England and Scotland.

Smew *Mergellus albellus* (non-breeding)

- Phase 1 of the SPA Review concludes that the current UK SPA network is insufficient for non-breeding Smew in terms of population numbers, range coverage and ecological provision. No SPAs are currently classified for Smew.
- Six sites are indicated as possible SPAs for the species which would protect at least 50% of the population and provide good coverage for the core area in England.
- Additional range coverage could be provided by reclassified and/or new SPAs in northern England and Scotland, although these areas are of relatively low importance to the species.

Red Kite *Milvus milvus* (breeding and non-breeding)

- Phase 1 of the Third Review concluded that the current network of SPAs is insufficient for breeding and non-breeding Red Kite in respect of both population numbers and

range coverage. It also concluded ecological provision for non-breeding Red Kite were insufficient.

- Red Kite is an Annex I species with a high conservation profile. However, with a significant and widely dispersed population which is still growing, there is little need for high population representation within the UK SPA network, but the UK might appear vulnerable with no sites, even in the short-term.
- Any SPAs for breeding and non-breeding birds are likely to be in separate locations.
- There appear to be few obvious locations, but a small number of existing SPAs and SACs do support breeding pairs. Consideration as an additional feature of an SPA in each of the re-establishment locations is recommended.
- Further consideration will need to be given to appropriate approaches in each country.

White-tailed Eagle *Haliaeetus albicilla* (breeding)

- Phase 1 of the Third Review assessed the SPA coverage for White-tailed Eagle to be insufficient for population numbers, range coverage and ecological provision.
- Following extirpation in 1916, the White-tailed Eagle has been successfully re-established to the UK and the population is likely to be viable in perpetuity, continuing to increase in numbers and distribution.
- The best, and readily available, data are based on the breeding population; less is known of numbers and distribution outside the breeding season or about sub-adults.
- It should be possible to address insufficiencies by adding White-tailed Eagle as a feature to existing SPAs in Scotland.

Hen Harrier *Circus cyaneus* (breeding)

- Phase 1 of the Third Review assessed the SPA coverage for breeding Hen Harrier to be insufficient for population numbers and range coverage.
- A total of 17 SPAs are currently classified for breeding Hen Harrier with 11 in Scotland and two each in England, Wales and Northern Ireland.
- A recent contemporary population estimate is available and, together with existing mapped distribution data, this should enable the identification of any additional important areas.
- No important unclassified areas are apparent on the GB mainland.
- Any additional locations for further consideration are likely to be in Scotland; specifically, in the western islands of the Hebrides.
- As existing data are from a one-off national survey, any possible new sites will need further survey to ensure the proposals are robust.

Hen Harrier *Circus cyaneus* and Merlin *Falco columbarius* (non-breeding)

- Phase 1 of the SPA Review assessed the SPA coverage for population numbers and range coverage for non-breeding Hen Harrier and non-breeding Merlin to be insufficient. Ecological insufficiency is also identified for non-breeding Merlin.
- A total of 17 SPAs are currently classified for non-breeding Hen Harrier and one SPA is classified for non-breeding Merlin. A further three SPAs for non-breeding Hen Harrier were recommended by the Second Review SPA Review.

- The UK populations of both species have undergone historical declines and breeding Merlin have declined more recently in some regions of the UK.
- Potentially significant aggregations of non-breeding Hen Harrier and Merlin will require further investigation to estimate numbers of birds and determine SPA boundaries.
- It is advised that any new SPAs include both roosting and foraging habitats and that boundary reviews of existing SPAs are undertaken for this reason.

Montagu's Harrier *Circus pygargus* (breeding)

- Phase 1 of the SPA Review assessed the SPA coverage for breeding Montagu's Harrier, indicating that no SPAs are currently selected for the species in the UK.
- Consequently, SPA provision is insufficient in terms of population numbers, range coverage and ecological provision.
- Of the four areas in England which regularly support breeding Montagu's Harrier, the Salisbury Plain area is considered the most appropriate for SPA classification. This might include modifications to the existing Salisbury Plain SPA.
- More recent and geographically precise data are needed to verify the continued use of this location and to better consider the extent of a possible SPA.
- Site-specific information on foraging areas and/or generic information on the foraging range of breeding birds is also required to ensure suitable boundary definition.

Osprey *Pandion haliaetus* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for Osprey, in terms of population numbers, range coverage and ecological provision. This is due to expansion in numbers and range of the population significantly out with the current SPA suite of nine classified SPAs.
- Since its re-establishment in the UK in 1954, the species has continued to increase in both numbers and range in Great Britain and is no-longer restricted to the north and east of Scotland.
- Extending the SPA suite to better represent contemporary numbers and distribution in the remainder of Scotland and across the UK should be considered.
- An annual population dataset currently exists for most of the range enabling contemporary assessment to take place.

Merlin *Falco columbarius* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for breeding Merlin, in terms of population numbers, range coverage and ecological provision.
- Outside Scotland, few additional concentrations of Merlin are known, furthermore a large proportion of those populations in Scotland exist at low densities.
- One site in Scotland (Ronas Hill – North Roe and Tingon) recommended for classification in the Second Review remains to be classified.
- Additional areas for inclusion in the Merlin SPA suite to address the current numerical insufficiency should also be considered.

- Boundaries of any new SPAs should include all areas important for feeding and other functional needs, including adjacent marginal farmland and other habitats as appropriate.
- Similarly, the boundaries of existing SPAs should be reviewed to address identified ecological insufficiencies and ensure these sites fully support ecological requirements.

Peregrine *Falco peregrinus* (breeding)

- Phase 1 of the Third Review assessed the SPA coverage for Peregrine to be insufficient in respect of population numbers and range coverage.
- The latest national survey (2014) may provide data which can be used to consider additional SPA options.
- The population is undergoing change:
    - it is increasing overall in the UK;
    - the increase is not consistent across the UK; and
    - in some areas, especially north and west Scotland, there are significant decreases although substantial increases in England occur in urban areas.
- Existing data require mapping to further assess the opportunity for additional representation and where this might be implemented.
- Opportunity for new SPAs may be limited due to the dispersed distribution of the species; most opportunities may come from existing SPAs classified for other species.
- Classification of additional SPA may require further site-specific survey to provide robust justification if numbers of pairs are small.

Spotted Crake *Porzana porzana* (breeding)

- Phase 1 of the Third Review concludes that the current network of SPAs is insufficient for breeding Spotted Crake in respect of both population numbers and range coverage.
- It is now one of the UK's rarest breeding birds, formerly much more abundant but lost as a result of extensive land-use changes.
- This review identifies a total of 14 sites for consideration as possible SPAs for Spotted Crake, all of which are either classified SPAs (12 sites) or designated SACs (two sites). Three further sites were identified in the Second Review for classification for breeding Spotted Crake.
- Classification of Spotted Crake at these locations would very significantly increase network coverage of the GB breeding population.
- Priority for classification could be given to existing SPAs, and sites, which make a significant contribution to improvements in range coverage.
- Some breeding locations lie in wetlands adjacent to existing SPAs, and thus may need minor boundary extensions to adequately conserve these areas.

Common Crane *Grus grus* (breeding and non-breeding)

- Phase 1 of the SPA Review assessed the SPA coverage for population numbers, range coverage and ecological provision of breeding and non-breeding Common Crane to be insufficient.

- No SPAs are currently classified for breeding or non-breeding Common Crane, and none were recommended by the Second Review.
- The UK populations of both breeding and non-breeding birds have continued to increase from the initial re-establishment in 1981 and this may be expected to continue for the foreseeable future.
- Phase 2 of the Third Review currently identifies seven sites/locations in England and Scotland (including five existing SPAs which are all in England) which would provide good coverage for both breeding and non-breeding birds.
- Given the likelihood of further range and population increases it is important to maintain up to date information on the numbers and distribution of birds and to review these data prior to any programme of reclassifications for the species.

Avocet *Recurvirostra avosetta* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for breeding Avocet, both in terms of population numbers and range coverage, because of northwards expansion of its breeding range and growth of the population out with the current SPA suite of seven SPAs.
- The species/population should be added as a feature to ten existing SPAs (four of which would need boundary modifications) and one possible new site in Wales, with priority given to those in the north and west of the range – areas not covered by the existing suite, and in anticipation of further possible expansion of range associated with climate change.
- This provision would return representation within the suite to former levels.

Ringed Plover *Charadrius hiaticula* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for Ringed Plover as insufficient in terms of both population numbers and range coverage, especially in the north and northeast of the UK.
- Estuarine and soft shore populations tend to be largely, but not completely, adequately represented; insufficiency substantially relates to open shores (hard coastlines). Contemporary data suggest coastal areas around the whole UK coastline may contribute to further SPA representation.
- 11 sites supporting important numbers of Ringed Plover are already classified as SPAs for other waterbird features and numerical insufficiency can be partly addressed by the classification of these sites for Ringed Plover.
- Numbers of Ringed Plover on many open shores tend to be relatively small and hence will require assessment against SPA Selection Guideline 1.4, especially to address issues of range representation. Consider adding to 11 existing SPAs.
- The existing data of the periodic Non-Estuarine Waterbird Survey (NEWS) indicate the local importance of open shores, often for a guild of up to four species (Ringed Plover, Sanderling, Purple Sandpiper and Turnstone). These data require further analysis.
- Depending on data availability, important areas may, as appropriate, require focussed annual survey to further consider suitability for inclusion in the SPA suite for any (or all) of these species.

Dotterel *Charadrius morinellus* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for Dotterel, in terms of both population numbers and range coverage (especially in the south).
- National monitoring shows that Dotterel numbers have halved in the last 25 years and range simultaneously reduced. Between the 1990s and 2000s, numbers within the SPA suite have also halved from 469 to 241 pairs (49% decline).
- This large-scale population decline suggests there may be few additional locations suitable for SPA classification.
- The most recent existing data – the 2011 national survey and 2007–2011 Bird Atlas – are the best sources of information and should be examined as a priority.
- Locations which qualified in the 1990s but were not selected in the Second Review, should be reassessed in the first instance, but they will have minimum influence on range sufficiency.

Golden Plover *Pluvialis apricaria* (breeding)

- Phase 1 of the SPA Review concluded that the current UK SPA network is insufficient for breeding Golden Plover, both in terms of range coverage and ecological provision.
- Analysis of Bird Atlas data should be undertaken to identify high density areas within the range of Golden Plover without current SPA coverage where additional provision might be made either through the classification of existing upland SPAs or new sites. Subject to verification, such areas might include existing SPAs or other sites in Shetland, Wester Ross; Skye; north-west and central Highlands; and/or Grampian.
- Boundaries of any new SPAs should include all areas important for feeding and other functional needs, including adjacent marginal farmland and other habitats as appropriate.
- The boundaries of the eight existing SPAs classified for Golden Plover should be reviewed to ensure protection for associated areas used for feeding and other functional needs in marginal farmland and elsewhere. Where appropriate such reviews should also be undertaken for other relevant upland breeding waders.

Golden Plover *Pluvialis apricaria* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for non-breeding Golden Plover as insufficient for ecological provision.
- The long-term UK population trend over the period 1980/81 to 2010/11 illustrates a 150% increase in numbers, however the short-term UK population trend over the period 1999/2000 to 2010/11 shows a 45% decline in numbers.
- A total of 24 SPAs across the UK form the suite that has been used as the baseline for the Third Review for non-breeding Golden Plover in Phase 1.
- At the time of publication of Phase 1, only 13 of these 23 SPAs had been classified for non-breeding Golden Plover.
- Formal classification of the additional 11 SPAs within the UK SPA suite for non-breeding Golden Plover is a priority action. At all 11 sites the SPAs are already classified for other species.

- Boundary extension should also be considered at these 24 sites to fully meet ecological requirements.

Lapwing *Vanellus vanellus* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for non-breeding Lapwing as insufficient for ecological provision.
- The long-term UK population trend over the period 1980/81 to 2010/11 illustrates a 96% increase in numbers, however the short-term UK population trend over the period 1999/2000 to 2010/11 shows a 47% decline in numbers.
- A total of 39 SPAs form the suite of sites used as the baseline during Phase 1 of the Third Review for non-breeding Lapwing. There are eight SPAs classified that support non-breeding lapwing, two where lapwing is a feature under SPA Selection Guideline 1.2 (1% or more of the biogeographical population) and six where Lapwing is included under SPA Selection Guideline 1.3 as a main component of the waterbird assemblage. The Second Review identified a further 31 SPAs requiring non-breeding Lapwing to be included as a main component of the waterbird assemblage under SPA Selection Guideline 1.3.
- Site boundaries of these 39 SPAs should be reviewed, especially in the context of feeding areas or other functional needs. This is to ensure the SPA suite provides ecological sufficiency for non-breeding Lapwing.

Sanderling *Calidris alba* (non-breeding)

- Phase 1 of the Third Review assessed the sufficiency of SPA coverage for Sanderling as inadequate in range coverage in the UK.
- The insufficiency relates to both estuarine/soft and open shores (hard coastlines). However contemporary data suggest coastal areas around the whole UK coastline may contribute to further SPA representation.
- Several locations potentially supporting important numbers of Sanderling are already classified as SPAs for other waterbird features.
- Numbers of Sanderling on many of the currently unclassified areas of coast tend to be relatively small and hence will likely require assessment against SPA Selection Guideline 1.4.
- The existing data of the periodic Non-Estuarine Waterbird Survey (NEWS) indicate the important open shores, often for a guild of up to four small wader species, i.e. Ringed Plover, Sanderling, Purple Sandpiper and Turnstone.
- Further analysis of existing data is required before any possible new site options for either Sanderling alone, or the guild, are available for further consideration.
- Important areas may require focussed annual survey to further consider suitability for inclusion in the SPA suite for any (or all) of these species, depending on existing data availability.

Purple Sandpiper *Calidris maritima* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for Purple Sandpiper as inadequate in population numbers and range coverage in the UK.

- Insufficiency relates to both estuarine/soft and open shores (hard coastlines). However, contemporary data suggest coastal areas substantially in the northern parts of the UK range may contribute to further SPA representation.
- The classification of one site within the existing SPA suite, recommended the Second Review, has yet to occur and is a priority action.
- No locations potentially supporting additional important numbers of Purple Sandpiper are already classified as SPAs for other waterbird features.
- Numbers of Purple Sandpiper on many of the currently unclassified areas of coast tend to be relatively small and hence will require assessment against SPA Selection Guideline 1.4.
- The existing data of the periodic Non-Estuarine Waterbird Survey (NEWS) indicate the important open shores, often for a guild of up to four small wader species, i.e. Ringed Plover, Sanderling, Purple Sandpiper and Turnstone.
- Further analysis of existing data is required before any possible new site options for either Purple Sandpiper alone, or the guild, are available for further consideration.
- Depending on existing data availability, important areas may, as appropriate, require focussed annual survey to further consider suitability for inclusion in the SPA suite for any (or all) of these species.

Dunlin *Calidris alpina schinzii* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for breeding Dunlin in terms of ecological provision.
- A total of eight SPAs in the UK form the suite that has been used as the baseline for this review.
- The population has undergone an a long-term (1980-85 – 2005/07) decline of 3% but a short-term increase from 1998 to 2010 of 55.5%.
- Phase 1 of the review concluded that SPA coverage for population numbers and range coverage was sufficient to fulfil requirements of the Wild Birds Directive, however the addition of Dunlin as an interest feature to two existing SPAs in England as recommended by the Second Review is still outstanding. This is in addition to the necessary boundary reviews of the six existing SPAs to meet ecological sufficiency.

Whimbrel *Numenius phaeopus* (breeding)

- Phase 1 of the Third Review concludes that the current UK SPA network is insufficiently represented in the UK based on population numbers, range coverage and ecological provision.
- In the UK, breeding is restricted to Caithness, Sutherland, Outer Hebrides, Orkney and Shetland, but away from Shetland breeding numbers are very small and often irregular in occurrence.
- A scoping study is required to identify potentially important “hotspots”, with subsequent detailed survey to produce quantitative data for further consideration as “most suitable territories”.
- Any localities so identified will, in all probability, need consideration under SPA Selection Guideline 1.4.

Curlew *Numenius arquata* (breeding)

- Breeding Curlew are rapidly declining across their biogeographic range and require urgent conservation measures in the UK, which has particular international responsibility for the species.
- Phase 1 of the Third Review assessed the SPA coverage for breeding Curlew. No SPA is currently selected for breeding Curlew in the UK and although a single SPA (North Pennine Moors) was recommended for classification in 2001 by the Second Review it has not been progressed since then. The Third Review concludes that SPA provision is insufficient for Curlew in terms of population numbers, range coverage and ecological provision.
- In England, several moorland SPAs, including extensions into areas of marginal hill land, and many lowland locations supporting lowland wet grassland habitats, could be considered for classification.
- In Scotland, a scoping study is planned to identify significant aggregations, with subsequent detailed survey to identify sites for consideration as possible SPAs.
- There are several sites which could be considered for classification in Northern Ireland.
- In Wales, several existing moorland SPAs that may require extensions into adjacent farmland and one new SPA have been identified, but this will require survey and analysis of numbers and distribution. This could initially be progressed with available data.
- The classification of the North Pennine Moors SPA, the single most important site in England (and probably in the UK) for breeding Curlew, should be a high priority.
- If adopted this would achieve sufficient SPA provision for both numbers and range in the UK.
- Extensive survey data would be necessary, in many cases, to support classifications and boundary changes.
- An International Single Species Action Plan (ISSAP) has been developed for Curlew by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and includes the relevant objective: *Important breeding sites for Curlew are appropriately protected and managed*.

Curlew *Numenius arquata* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for non-breeding Curlew and concluded that SPA provision is insufficient for both population numbers and ecological provision.
- There are 13 SPAs classified which support non-breeding Curlew. This is either as a main component of the waterbird assemblage feature under SPA Selection Guideline 1.3 (nine sites) or an individual qualifier (1% or more of the biogeographical population) under SPA Selection Guideline 1.2 (four sites). Additionally, the Second Review identified 11 SPAs supporting non-breeding Curlew that would require amendments to SPA Citations. Ten of these sites were identified where non-breeding Curlew was a main component of the waterbird assemblage under SPA Selection Guideline 1.3 and one site under SPA Selection Guideline 1.2.
- The Phase 1 non-breeding Curlew account considered that most sites within the current UK SPA suite do not provide adequate provision for foraging (data based on WeBS, so only represents roosting birds). A review of boundaries of sites within the

current suite is needed to identify and protect areas used for feeding and other functional needs.

- An International Single Species Action Plan (ISSAP) has been developed for Curlew by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and includes the relevant objective: *Important staging, stopover and wintering sites for Curlew are appropriately protected and managed*.

Redshank *Tringa totanus* (breeding)

- Three SPAs are classified for breeding Redshank (all in Scotland) and a single SPA (North Norfolk Coast) was recommended for classification by the Second Review, but this has not yet been implemented.
- The Third Review concludes that SPA provision is considered insufficient for breeding Redshank in terms of population numbers and range coverage.
- 13 sites are identified for consideration, across a range of habitats, 12 of which are existing SPAs, and one a new site option.
- This advice, if adopted, would achieve sufficient SPA provision for breeding Redshank.
- Extensive survey data would be necessary, in many cases, to support classifications and any necessary boundary changes.

Turnstone *Arenaria interpres* (non-breeding)

- Phase 1 of the Third Review assessed the SPA coverage for Turnstone as inadequate in terms of population numbers and range coverage in the UK.
- Insufficiency relates to both estuarine/soft and open shores (hard coastlines). However contemporary data suggest coastal areas around the whole UK coastline may contribute to further SPA representation.
- The classification of two sites within the existing SPA suite, recommended in the Second Review, has yet to occur and is a priority action.
- 20 sites potentially supporting important numbers of Turnstone are already classified as SPAs for other waterbirds and numerical insufficiency can be partly addressed by the classification of these sites for Turnstone.
- Numbers of Turnstone on many of the currently unclassified areas of coast tend to be relatively small and hence will require assessment against SPA Selection Guideline 1.4.
- The existing data of the periodic Non-Estuarine Wetland Bird Survey (NEWS) surveys indicate the important open shores, often for a guild of up to four small wader species: Ringed Plover, Sanderling, Purple Sandpiper and Turnstone.
- Further analysis of existing data is required before any possible new site options for either Turnstone alone, or the guild, are available for further consideration.
- Depending on existing data availability, important areas may, as appropriate, require focussed annual survey to further consider suitability for inclusion in the SPA suite for any (or all) of these species.

Red-necked Phalarope *Phalaropus lobatus* (breeding)

- Phase 1 of the Third Review assessed the SPA coverage for breeding Red-necked Phalarope to be insufficient in terms of population numbers and range coverage.

- The species' distribution is restricted to Scotland. After a period of decline, the species is increasing in numbers and distribution and regularly occurs at several sites in Shetland, the Outer and Inner Hebrides and more sporadically at other sites in NW and NE Scotland. Monitoring is annual at major sites.
- Within Shetland, the current population is centred on Fetlar, which comprises the single SPA classified for the species, and priority should be placed on maintaining the population there. The species also regularly occurs on other sites within the islands.
- It is advised that Red-necked Phalarope is added as a qualifying feature to Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast) SPA where over 1% of the British population regularly breeds.
- The species regularly breeds elsewhere in the Inner and Outer Hebrides and five sites are identified where qualifying numbers occur which could be classified for the species/population subject to further review of data and survey as appropriate or necessary.

Breeding seabirds (Arctic Skua *Stercorarius parasiticus*, Mediterranean Gull *Ichthyaetus melanocephalus*, Common Gull *Larus canus*, Great Black-backed Gull *Larus marinus* and Arctic Tern *Sterna paradisaea*)

- Phase 1 of the Third Review assessed the representation of five species of seabird breeding in the UK as insufficient on the basis of either population numbers and/or range coverage within the UK SPA network. Extending the species suite for a limited number of species in some locations is possible on existing data.
- Data may be sparse (and inadequate for classification) for most species and locations but are good for Mediterranean Gull, and for Arctic Skua on Handa.
- Focussed additional survey will be essential for some species and site proposals before decisions can be made.

Non-breeding gulls (Mediterranean Gull *Ichthyaetus melanocephalus*, Black-headed Gull *Chroicocephalus ridibundus*, Common Gull *Larus canus*, Lesser Black-backed Gull *Larus fuscus*, Herring Gull *Larus argentatus* and Great Black-backed Gull *Larus marinus*)

- There are currently no SPAs classified for non-breeding gulls, therefore the UK network has been assessed as insufficient for population numbers, range coverage and ecological provision for all six species/populations: Mediterranean Gull, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Herring Gull and Great Black-backed Gull.
- Data on non-breeding gulls are available from two national surveys – the annual Wetland Bird Survey (WeBS) and a national Winter Gull Roost Survey (WinGS) – a one-off survey in 2003/04 – 2005/06. Different issues regarding both surveys mean that further surveys will be needed for many sites, although ad hoc additional counts exist at many sites.
- Site options have been identified for all species.
- Given that many different species of gull frequently occur together at the same sites, an analysis has been made as to the combination of sites that would most effectively provide for sufficient suites of SPAs for these species. It is proposed that priority should be given to sites holding multiple qualifying gull species.

Little Gull *Hydrocoloeus minutus* (non-breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for non-breeding Little Gull, both in terms of population numbers and range coverage. One terrestrial/coastal SPA is currently classified for the species/population.
- Five existing SPAs and one possible new SPA (an existing SSSI) are identified for possible reclassification or classification, respectively, to include non-breeding Little Gull. If adopted, these changes would greatly increase SPA provision for both population numbers and range coverage for the species/population in Britain.
- The reclassification of most of these sites would require additional data review and/or dedicated survey to provide more reliable population estimates.
- The reclassification of Hornsea Mere, by far the most important site for the species/ population in Britain, should be a high priority.

Sandwich Tern *Thalasseus sandvicensis* and Common Tern *Sterna hirundo* (passage)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for non-breeding (passage) Sandwich Tern and Common Tern, both in terms of population numbers and range coverage, and additionally in terms of ecological provision at SPAs already classified for Sandwich Tern.
- The addition of either, or both, of the two species as a qualifying feature to a number of already classified coastal SPAs is recommended.

Nightjar *Caprimulgus europaeus*, Woodlark *Lullula arborea* and Dartford Warbler *Curruca undata* (breeding)

- Phase 1 of the SPA Review has assessed the SPA coverage of three scarce breeding species associated with heathland and/or forestry plantations in the UK: Nightjar, Woodlark and Dartford Warbler.
- SPA provision is considered sufficient in terms of population numbers for all three species/populations, but insufficient in terms of range coverage. Woodlark is also assessed as insufficient for ecological provision, including foraging areas.
- Two new SPAs and the modification of one existing SPA are advised to improve range coverage.
- Current insufficiencies in SPA range coverage can be addressed by classifying two new SPAs (North York Moors Forests and Sherwood Forest) for Nightjar, one new SPA (Sherwood Forest) for Woodlark and by adding Dartford Warbler as a feature of the existing Minsmere-Walberswick SPA.
- Collect data to support these new classifications by undertaking national surveys. It is also important to undertake surveys across the range of each species to identify possible new SPAs which would further improve range coverage.
- Assess feasibility of improving SPA coverage of foraging habitats for Nightjar and Woodlark by undertaking pilot studies to identify possible boundary extensions at selected sites, including the use of radio- and/or satellite-tracking equipment and existing information on bird distribution.

Kingfisher *Alcedo atthis* (breeding and non-breeding)

- Phase 1 of the Third Review determined that SPA provision for both breeding and non-breeding Kingfisher is insufficient in terms of population numbers, range coverage and ecological provision.
- It has been agreed that an acceptable level of provision for breeding and non-breeding Kingfisher within the UK SPA suite is necessary.
- Possible sites that have been identified as being able to contribute to this provision have been reviewed and additional data requirements identified.
- Further work is required to refine relevant data and information for the sites concerned.

Ring Ouzel *Turdus torquatus* (breeding)

- Migrant passerine bird species are generally widely dispersed where they occur in the UK and therefore are not well suited to site-based conservation measures. Breeding Ring Ouzel is one population where it is sufficiently clumped to allow identification of possible sites using SPA Selection Guideline 1.2 and this species was therefore included in the Third Review.
- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for Ring Ouzel in terms of population numbers, range coverage and ecological provision, given the lack of any current SPA provision for this summer migrant.
- The British population of Ring Ouzel has shown a decline in numbers and range. Numbers have declined from a first estimate of 7,549 pairs (4,459 – 11,197) in 1999 to an estimate of 5,332 pairs (range 4,096 – 6,875). There has been a 43% decline in range in the period 1968–1972 to 2007–2011 stimulating conservation research and attention.
- Given the relatively low densities at which Ring Ouzel breed, there are likely to be limited numbers of sites which hold enough birds to qualify for SPA consideration under SPA Selection Guideline 1.2. Thus, a case for using SPA Selection Guideline 1.4 would need to be developed.
- Following further analysis of existing data on densities, the addition of Ring Ouzel to those SPAs where the species qualifies under SPA Selection Guideline 1.2 is advised. This is likely to affect the Cairngorms Massif and North Pennine Moors SPAs.
- Following further analysis of the 2012 national survey data possibly combined also with the 2007-2011 Bird Atlas data, this suggests that Ring Ouzel should be added as a qualifying species to appropriate upland SPAs. Without prejudging the results of such analysis, these might include the South Pennine Moors, a few of the more extensive SPAs in central and NW Scotland and in upland areas in Wales.

Aquatic Warbler *Acrocephalus paludicola* (passage)

- Phase 1 of the Third Review concluded SPA provision is considered insufficient for population numbers.
- Two possible additional SPAs for the species were identified based on data up to 2011. Of these, one is already a classified SPA and the other is a SSSI.
- More recent information is needed to verify continued use of these locations and to support the case for classifications. This should include at least one year of intensive, coordinated monitoring using a similar methodology to that used for other such surveys in 2007 and 2011.

Red-backed Shrike *Lanius collurio* (breeding)

- Phase 1 of the Third Review concludes that the current UK SPA network is insufficient for breeding Red-backed Shrike, in terms of population numbers, range coverage and ecological provision.
- No SPAs are currently classified for this Annex I species, which formerly bred widely with considerable abundance in the UK but became extinct by the 1980s. It has more recently returned to UK as a breeding species but in small numbers and with no significant consistency in breeding locations.
- At present, there are no regularly used breeding locations that would be viable as SPAs. However, with a large population on continental Europe, climate modelling indicates the likely increase and consolidation of numbers in the UK (although this will also depend highly on the extent of suitable scrubby habitat which is currently restricted by current land-use patterns).
- Given the likelihood of population growth, it is recommended that the species' status be reviewed again in 2026 with any suitable regularly used sites considered for SPA classification.

Chough *Pyrrhocorax pyrrhocorax* (breeding and non-breeding)

- Phase 1 of the Third Review determined SPA provision for both breeding and non-breeding Chough is insufficient in terms of range coverage and ecological provision.
- Two new SPAs are advised in order to improve population and range coverage, and boundary amendments to three existing SPAs are advised to address ecological insufficiency.
- Data requirements to support this advice are described and summarised below.
- Classify new sites in Eryri/Snowdonia (North Wales) and West Cornwall to provide additional range provision for breeding and non-breeding populations.
- Amend boundaries of the existing SPAs of Craig yr Aderyn (Bird's Rock), Glannau Aberdaron ac Ynys Enlli, and Glannau Ynys Gybi to address current insufficiencies in ecological provision for both breeding and non-breeding birds (specifically to include cropped habitats for foraging Chough).

Twite *Carduelis flavirostris* (breeding and non-breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for population numbers, range coverage and ecological provision for breeding and non-breeding Twite.
- There are currently no SPAs classified for breeding Twite. The South Pennine Moors Phase 2 SPA is classified for a breeding bird assemblage (no longer a valid SPA selection criterion) which includes Twite. It is the only site supporting this species in England and should be considered for SPA classification. Extensions to this SPA would also be required to include foraging habitats located in adjacent farmland below the moor wall.
- It is also recommended that coastal SPAs between the Humber Estuary and north Essex used as wintering areas (saltmarsh habitats) in eastern England are investigated and considered as possible sites for non-breeding Twite

- Although some survey datasets are available for upland foraging birds and coastal wintering birds, new survey data are required to support any spatial and temporal changes.
- A review of the migratory status of Scottish and Irish birds is also recommended and it is suggested that this be undertaken by the SPAR SWG.

Scottish Crossbill *Loxia scotica* (breeding)

- Phase 1 of the Third Review concluded that the current UK SPA network is insufficient for Scottish Crossbill, in terms of population numbers, range coverage and the ecological provision of existing SPAs. It is the UK's only endemic bird species for which there is thus particular international responsibility.
- Separation of Scottish Crossbill in the field from the other two species (Parrot Crossbill *L. pytyopsittacus* and Common Crossbill *L. curvirostra*) in Scotland is a challenge; robust data on the species are therefore essential and techniques have been developed recently to enable this.
- The estimate of the Scottish Crossbill population has increased over the past few years to 6,800 pairs, alongside a similarly increased range.
- Habitat use is much more catholic than previously thought, both in terms of conifer species used and the commercial plantation nature of these.
- Consideration of any additional SPAs will require new data and focussed annual survey on known hotspots throughout the contemporary range.
- Due to the nomadic nature of the species and the land management practices executed on its favoured habitats, the identification of additional, robust, long-term statutory sites may be a complex challenge.
- Because of the above, the development of a conservation strategy for the Scottish Crossbill (including the role of protected areas) should be one of the first priorities for this species.

Appendix 3a. List of SPAs requiring boundary review (by species/population)

Summary of species/populations[39] whose terrestrial/coastal SPA suites require boundary review (as identified in the Third Review) to ensure they provide ecological sufficiency or to consider additional areas used for feeding or other functional needs. Table 3 is ordered by species/population and existing SPAs.

* Not all boundary reviews listed in Table 6.4 in the Phase 1 Report have been included because: 1) some relate to unimplemented recommendations (i.e. the addition of features to existing SPAs) associated with the Second Review (as of the end of May 2016), which are listed in Table 8 of Appendix 8; and 2) those relating to Red-throated Diver (breeding) have been addressed through classification/extension of new/existing marine SPAs or are no longer considered applicable.

Note there are an additional 21 species/populations[40] identified in Table 2 where further work is required in Phase 3 to assess whether review of SPA boundaries is required to address ecological insufficiency.

Table 3: List of SPAs requiring boundary review (by species/population) as set out by the Third Review.

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Slavonian Grebe (breeding)	Loch Vaa (extension to include Avielochan)	-
Cormorant (breeding)	Sheep Island; Ynys Seiriol/Puffin Island	-

[39] Appendix 3a does not include species/populations covered solely by the UK marine SPA sufficiency assessment process.

[40] Black-throated Diver (breeding); Little Grebe (non-breeding); Bittern (non-breeding); Little Egret (non-breeding); Spoonbill (breeding); Spoonbill (non-breeding); Whooper Swan (non-breeding); Smew (non-breeding); Mediterranean Gull (non-breeding); Black-headed Gull (non-breeding); Common Gull (non-breeding); Lesser Black-backed Gull (non-breeding); Herring Gull (non-breeding);Great Black-backed Gull (non-breeding); Sandwich Tern (passage); Kingfisher (breeding); Kingfisher (non-breeding); Ring Ouzel (breeding); Red-backed Shrike (breeding); Twite (non-breeding); Scottish Crossbill (breeding).

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Little Egret (breeding)	Alde-Ore Estuary; Breydon Water; Chichester and Langstone Harbours; Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Dorset Heathlands, Exe Estuary; Foulness (Mid-Essex Coast Phase 5); Humber Estuary; Portsmouth Harbour; Severn Estuary; Somerset Levels and Moors; Stour and Orwell Estuaries; Thames Estuary and Marshes; The Dee Estuary; The Swale; The Wash; Traeth Lafan/Lavan Sands, Conway Bay	-
Pink-footed Goose (non-breeding)	-	Cameron Reservoir; Castle Loch, Lochmaben; Din Moss - Hoselaw Loch; Fala Flow; Firth of Forth; Firth of Tay and Eden Estuary; Gladhouse Reservoir; Greenlaw Moor; Loch Leven; Loch of Kinnordy; Loch of Strathbeg; Martin Mere; Montrose Basin; Moray and Nairn Coast; Morecambe Bay and Duddon Estuary; North Norfolk Coast; Ribble and Alt Estuaries; Solway Firth; South Tayside Goose Roosts; The Wash; Westwater; Ythan Estuary, Sands of Forvie and Meikle Loch
European White-fronted Goose (non-breeding)	-	Severn Estuary
Greenland White-fronted Goose (non-breeding)	Caithness Lochs; Coll; Dyfi Estuary/Aber Dyfi; Kintyre Goose Roosts; Loch Ken and River Dee Marshes; Loch Lomond; Loch of Inch and Torrs Warren; Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); South Uist Machair and Lochs; The Oa	-

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Icelandic Greylag Goose (non-breeding)	Firth of Forth; Loch Leven; River Spey - Insh Marshes	Caithness Lochs; Cromarty Firth; Din Moss - Hoselaw Loch; Dornoch Firth and Loch Fleet; Firth of Tay and Eden Estuary; Holburn Lake and Moss; Lindisfarne; Inner Moray Firth; Loch Eye; Loch Ken and River Dee Marshes; Loch of Kinnordy; Loch of Lintrathen; Loch of Skene; Loch of Strathbeg; Loch Spynie; Montrose Basin; Moray and Nairn Coast; Muir of Dinnet; South Tayside Goose Roosts
Svalbard Barnacle Goose (non-breeding)	-	Solway Firth
Dark-bellied Brent Goose (non-breeding)	Deben Estuary; Pagham Harbour	Benfleet and Southend Marshes; Blackwater Estuary (Mid-Essex Coast Phase 4); Chichester and Langstone Harbours; Colne Estuary (Mid-Essex Coast Phase 2); Crouch and Roach Estuaries (Mid-Essex Coast Phase 3); Dengie (Mid-Essex Coast Phase 1); Exe Estuary; Foulness (Mid-Essex Coast Phase 5); Hamford Water; Humber Estuary; Medway Estuary and Marshes; North Norfolk Coast; Portsmouth Harbour; Solent and Southampton Water; Stour and Orwell Estuaries; The Swale; The Wash
Red Kite (breeding)	Migneint-Arenig-Ddugallt	-
Red Kite (non-breeding)	Migneint-Arenig-Ddugallt	-
White-tailed Eagle (breeding)	Loch Maree; Wester Ross Lochs	-
Hen Harrier (breeding)	Cnuic agus Cladach Mhuile; Gruinart Flats, Islay; Mointeach Scadabhaigh; The Oa	-

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Hen Harrier (non-breeding)	Blackwater Estuary (Mid-Essex Coast Phase 4); Broadland; Colne Estuary (Mid-Essex Coast Phase 2); Dengie (Mid-Essex Coast Phase 1); Dorset Heathlands; Foulness (Mid-Essex Coast Phase 5); Humber Estuary; Loch of Inch and Torrs Warren; Minsmere-Walberswick; Muirkirk and North Lowther Uplands; New Forest; Orkney Mainland Moors; Ouse Washes; River Spey - Insh Marshes; Salisbury Plain; Stodmarsh; Stour and Orwell Estuaries	-
Montagu's Harrier (breeding)	Salisbury Plain	-
Osprey (breeding)	-	Abernethy Forest; Cairngorms; Cromarty Firth; Dornoch Firth and Loch Fleet; Forest of Clunie; Glen Tanar; Inner Moray Firth; Moray and Nairn Coast; River Spey - Insh Marshes
Merlin (breeding)	Antrim Hills; Berwyn; Bowland Fells; Cairngorms; Caithness and Sutherland Peatlands; Drumochter Hills; Elenydd-Mallaen; Forest of Clunie; Hoy; Langholm - Newcastleton Hills; Lewis Peatlands; Migneint – Arenig – Dduallt; Mointeach Scadabhaigh; Muirkirk and North Lowther Uplands; North Harris Mountains; North Pennine Moors; North York Moors; Orkney Mainland Moors; Peak District Moors (South Pennine Moors Phase 1); Rum; South Pennine Moors Phase 2; Strath Carnaig and Strath Fleet Moors	-
Merlin (non-breeding)	Dorset Heathlands	-

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Spotted Crake (breeding)	Coll; Gruinart Flats, Islay; Loch Ken and River Dee Marshes; Loch of Kinnordy; Loch of Strathbeg; Martin Mere; Minsmere-Walberswick; North Uist Machair and Islands; Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); Somerset Levels and Moors; The Dee Estuary; Thorne and Hatfield Moors	-
Common Crane (breeding)	Broadland; Nene Washes; Severn Estuary; Somerset Levels and Moors; Thorne and Hatfield Moors	-
Common Crane (non-breeding)	Broadland; Nene Washes; Severn Estuary; Somerset Levels and Moors; Thorne and Hatfield Moors	-
Avocet (breeding)	Ouse Washes; Ribble and Alt Estuaries; The Dee Estuary; The Wash	-
Golden Plover (breeding)	-	Caithness and Sutherland Peatlands; Lewis Peatlands; Muirkirk and North Lowther Uplands; North Pennine Moors; North York Moors; Peak District Moors (South Pennine Moors Phase 1); Pettigoe Plateau; South Pennine Moors Phase 2
Golden Plover (non-breeding)	Dungeness, Romney Marsh and Rye Bay	Breydon Water; Firth of Forth; Humber Estuary; Lindisfarne; Lower Derwent Valley; Mersey Estuary; Morecambe Bay and Duddon Estuary; Outer Ards; Ribble and Alt Estuaries; Solway Firth; Somerset Levels and Moors; Upper Nene Valley Gravel Pits
Lapwing (non-breeding)	-	Breydon Water; Firth of Forth; Humber Estuary; Mersey Estuary; Ribble and Alt Estuaries; Somerset Levels and Moors; Stour and Orwell Estuaries; Upper Nene Valley Gravel Pits
Sanderling (non-breeding)	Inner Moray Firth; South Uist Machair and Lochs (extension to include Ardivachar Point)	-

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Dunlin (breeding)	-	Caithness and Sutherland Peatlands; Fetlar; Lewis Peatlands; North Uist Machair and Islands; Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast); South Uist Machair and Lochs
Whimbrel (breeding)	Fetlar	-
Curlew (breeding)	Antrim Hills; Berwyn; Bowland Fells; Elenydd - Mallaen; Migneint-Arenig-Dduallt; New Forest; North York Moors; Peak District Moors (South Pennine Moors Phase 1); Somerset Levels and Moors; South Pennine Moors Phase 2	-
Curlew (non-breeding)	-	Burry Inlet; Chichester and Langstone Harbours; Firth of Forth; Humber Estuary; Medway Estuary and Marshes; Mersey Estuary; Morecambe Bay and Duddon Estuary; Ribble and Alt Estuaries; Solway Firth; Stour and Orwell Estuaries; The Dee Estuary; The Swale; The Wash
Redshank (breeding)	Ouse Washes; Ribble and Alt Estuaries; Thames Estuary and Marshes	-
Turnstone (non-breeding)	South Uist Machair and Lochs (extension to include Ardivachar Point)	-
Nightjar (breeding)	-	Ashdown Forest; Breckland; Dorset Heathlands; East Devon Heaths; Minsmere-Walberswick; New Forest; Sandlings; Thames Basin Heaths; Thorne and Hatfield Moors; Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1); Wealden Heaths Phase 2
Woodlark (breeding)	-	Breckland; Dorset Heathlands; Minsmere-Walberswick; New Forest; Sandlings; Thames Basin Heaths; Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1); Wealden Heaths Phase 2

Species/ population	SPAs requiring boundary review identified in Phase 2	SPAs requiring boundary review identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Chough (breeding)	-	Castlemartin Coast; Craig yr Aderyn (Bird's Rock); Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island; Glannau Ynys Gybi/ Holy Island Coast; Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal/Mynydd Cilan, Trwyn y Wylfa and the St Tudwal Islands; Ramsey and St David's Penisular Coast; Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro
Chough (non-breeding)	-	Craig yr Aderyn (Bird's Rock); Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island; Glannau Ynys Gybi/Holy Island Coast; Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal/Mynydd Cilan, Trwyn y Wylfa and the St Tudwal Islands
Twite (breeding)	South Pennine Moors Phase 2	-

Appendix 3b. List of SPAs requiring boundary review (by site)

Summary of species/populations[41] whose terrestrial/coastal SPA suites require boundary review (as identified in the Third Review) to ensure they provide ecological sufficiency or to consider additional areas used for feeding or other functional needs. Table 4 is ordered by country and existing SPAs.

* Not all boundary reviews listed in Table 6.4 in the Phase 1 Report have been included because: 1) some relate to unimplemented recommendations (i.e. the addition of features to existing SPAs) associated with the Second Review (as of the end of May 2016), which are listed in Table 8 of Appendix 8; and 2) those relating to Red-throated Diver (breeding) have been addressed through classification/extension of new/existing marine SPAs or are no longer considered applicable.

Note there are an additional 21 species/populations[42] identified in Table 2 where further work is required in Phase 3 to assess whether review of SPA boundaries is required to address ecological insufficiency.

Table 4: List of SPAs requiring boundary review (by site) as set out by the Third Review.

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
England		
Alde-Ore Estuary	Little Egret (breeding)	-
Ashdown Forest	-	Nightjar (breeding)
Benfleet and Southend Marshes	-	Dark-bellied Brent Goose (non-breeding)
Blackwater Estuary (Mid-Essex Coast Phase 4)	Hen Harrier (non-breeding)	Dark-bellied Brent Goose (non-breeding)
Bowland Fells	Curlew (breeding); Merlin (breeding)	-
Breckland	-	Nightjar (breeding); Woodlark (breeding)
Breydon Water	Little Egret (breeding)	Golden Plover (non-breeding); Lapwing (non-breeding)

[41] Appendix 3b does not include species/populations covered solely by the UK marine SPA sufficiency assessment process.

[42] Black-throated Diver (breeding); Little Grebe (non-breeding); Bittern (non-breeding); Little Egret (non-breeding); Spoonbill (breeding); Spoonbill (non-breeding); Whooper Swan (non-breeding); Smew (non-breeding); Mediterranean Gull (non-breeding); Black-headed Gull (non-breeding); Common Gull (non-breeding); Lesser Black-backed Gull (non-breeding); Herring Gull (non-breeding);Great Black-backed Gull (non-breeding); Sandwich Tern (passage); Kingfisher (breeding); Kingfisher (non-breeding); Ring Ouzel (breeding); Red-backed Shrike (breeding); Twite (non-breeding); Scottish Crossbill (breeding).

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Broadland	Common Crane (breeding); Common Crane (non-breeding); Hen Harrier (non-breeding)	-
Chichester and Langstone Harbours	Little Egret (breeding)	Curlew (non-breeding); Dark-bellied Brent Goose (non-breeding)
Colne Estuary (Mid-Essex Coast Phase 2)	Hen Harrier (non-breeding)	Dark-bellied Brent Goose (non-breeding)
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3)	Little Egret (breeding)	Dark-bellied Brent Goose (non-breeding)
Deben Estuary	Dark-bellied Brent Goose (non-breeding)	-
Dengie (Mid-Essex Coast Phase 1)	Hen Harrier (non-breeding)	Dark-bellied Brent Goose (non-breeding)
Dorset Heathlands	Hen Harrier (non-breeding); Little Egret (breeding); Merlin (non-breeding)	Nightjar (breeding); Woodlark (breeding)
Dungeness, Romney Marsh and Rye Bay	Golden Plover (non-breeding)	-
East Devon Heaths	-	Nightjar (breeding)
Exe Estuary	Little Egret (breeding)	Dark-bellied Brent Goose (non-breeding)
Foulness (Mid-Essex Coast Phase 5)	Hen Harrier (non-breeding); Little Egret (breeding)	Dark-bellied Brent Goose (non-breeding)
Hamford Water	-	Dark-bellied Brent Goose (non-breeding)
Holburn Lake and Moss	-	Icelandic Greylag Goose (non-breeding)
Humber Estuary	Hen Harrier (non-breeding); Little Egret (breeding)	Curlew (non-breeding); Dark-bellied Brent Goose (non-breeding); Golden Plover (non-breeding); Lapwing (non-breeding)
Lindisfarne	-	Golden Plover (non-breeding); Icelandic Greylag Goose (non-breeding)
Lower Derwent Valley	-	Golden Plover (non-breeding)
Martin Mere	Spotted Crake (breeding)	Pink-footed Goose (non-breeding)

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Medway Estuary and Marshes	-	Curlew (non-breeding); Dark-bellied Brent Goose (non-breeding)
Mersey Estuary	-	Curlew (non-breeding); Golden Plover (non-breeding); Lapwing (non-breeding)
Minsmere-Walberswick	Hen Harrier (non-breeding); Spotted Crake (breeding)	Woodlark (breeding); Nightjar (breeding)
Morecambe Bay and Duddon Estuary	-	Curlew (non-breeding); Golden Plover (non-breeding); Pink-footed Goose (non-breeding)
Nene Washes	Common Crane (breeding); Common Crane (non-breeding)	-
New Forest	Curlew (breeding); Hen Harrier (non-breeding)	Nightjar (breeding); Woodlark (breeding)
North Norfolk Coast	-	Dark-bellied Brent Goose (non-breeding); Pink-footed Goose (non-breeding)
North Pennine Moors	Merlin (breeding)	Golden Plover (breeding)
North York Moors	Curlew (breeding); Merlin (breeding)	Golden Plover (breeding)
Ouse Washes	Avocet (breeding); Hen Harrier (non-breeding); Redshank (breeding)	-
Pagham Harbour	Dark-bellied Brent Goose (non-breeding)	-
Peak District Moors (South Pennine Moors Phase 1)	Curlew (breeding); Merlin (breeding)	Golden Plover (breeding)
Portsmouth Harbour	Little Egret (breeding)	Dark-bellied Brent Goose (non-breeding)
Ribble and Alt Estuaries	Avocet (breeding); Redshank (breeding)	Curlew (non-breeding); Golden Plover (non-breeding); Lapwing (non-breeding); Pink-footed Goose (non-breeding)
Salisbury Plain	Hen Harrier (non-breeding); Montagu's Harrier (breeding)	-
Sandlings	-	Nightjar (breeding); Woodlark (breeding)
Solent and Southampton Water	-	Dark-bellied Brent Goose (non-breeding)

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Somerset Levels and Moors	Common Crane (breeding); Common Crane (non-breeding); Curlew (breeding); Little Egret (breeding); Spotted Crake (breeding)	Golden Plover (non-breeding); Lapwing (non- breeding)
South Pennine Moors Phase 2	Curlew (breeding); Merlin (breeding); Twite (breeding)	Golden Plover (breeding)
Stodmarsh	Hen Harrier (non-breeding)	-
Stour and Orwell Estuaries	Hen Harrier (non-breeding); Little Egret (breeding)	Curlew (non-breeding); Dark-bellied Brent Goose (non-breeding); Lapwing (non-breeding)
Thames Basin Heaths	-	Nightjar (breeding); Woodlark (breeding)
Thames Estuary and Marshes	Little Egret (breeding); Redshank (breeding)	-
The Swale	Little Egret (breeding)	Curlew (non-breeding); Dark-bellied Brent Goose (non-breeding)
The Wash	Avocet (breeding); Little Egret (breeding)	Curlew (non-breeding); Dark-bellied Brent Goose (non-breeding); Pink-footed Goose (non-breeding)
Thorne and Hatfield Moors	Common Crane (breeding); Common Crane (non-breeding); Spotted Crake (breeding)	Nightjar (breeding)
Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1)	-	Nightjar (breeding); Woodlark (breeding)
Upper Nene Valley Gravel Pits	-	Golden Plover (non-breeding); Lapwing (non-breeding)
Wealden Heaths Phase 2	-	Nightjar (breeding); Woodlark (breeding)
England/Scotland		
Solway Firth	-	Curlew (non-breeding); Golden Plover (non-breeding); Pink-footed Goose (non-breeding); Svalbard Barnacle Goose (non-breeding)

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
England/Wales		
Severn Estuary	Common Crane (breeding); Common Crane (non-breeding); Little Egret (breeding)	European White-fronted Goose (non-breeding)
The Dee Estuary	Avocet (breeding); Little Egret (breeding); Spotted Crake (breeding)	Curlew (non-breeding)
Northern Ireland		
Antrim Hills	Curlew (breeding); Merlin (breeding)	-
Outer Ards	-	Golden Plover (non-breeding)
Pettigoe Plateau	-	Golden Plover (breeding)
Sheep Island	Cormorant (breeding)	-
Scotland		
Abernethy Forest	-	Osprey (breeding)
Cairngorms	Merlin (breeding)	Osprey (breeding)
Caithness and Sutherland Peatlands	Merlin (breeding)	Dunlin (breeding); Golden Plover (breeding)
Caithness Lochs	Greenland White-fronted Goose (non-breeding)	Icelandic Greylag Goose (non-breeding)
Cameron Reservoir	-	Pink-footed Goose (non-breeding)
Castle Loch, Lochmaben	-	Pink-footed Goose (non-breeding)
Cnuic agus Cladach Mhuile	Hen Harrier (breeding)	-
Coll	Greenland White-fronted Goose (non-breeding); Spotted Crake (breeding)	-
Cromarty Firth	-	Icelandic Greylag Goose (non-breeding); Osprey (breeding)
Din Moss - Hoselaw Loch	-	Icelandic Greylag Goose (non-breeding); Pink-footed Goose (non-breeding)
Dornoch Firth and Loch Fleet	-	Icelandic Greylag Goose (non-breeding); Osprey (breeding)
Drumochter Hills	Merlin (breeding)	-
Fala Flow	-	Pink-footed Goose (non-breeding)

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Fetlar	Whimbrel (breeding)	Dunlin (breeding)
Firth of Forth	Icelandic Greylag Goose (non-breeding)	Curlew (non-breeding); Golden Plover (non-breeding); Lapwing (non-breeding); Pink-footed Goose (non-breeding)
Firth of Tay and Eden Estuary	-	Icelandic Greylag Goose (non-breeding); Pink-footed Goose (non-breeding)
Forest of Clunie	Merlin (breeding)	Osprey (breeding)
Gladhouse Reservoir	-	Pink-footed Goose (non-breeding)
Glen Tanar	-	Osprey (breeding)
Greenlaw Moor	-	Pink-footed Goose (non-breeding)
Gruinart Flats, Islay	Hen Harrier (breeding); Spotted Crake (breeding)	-
Hoy	Merlin (breeding)	-
Inner Moray Firth	Sanderling (non-breeding)	Osprey (breeding); Icelandic Greylag Goose (non-breeding)
Kintyre Goose Roosts	Greenland White-fronted Goose (non-breeding)	-
Langholm - Newcastleton Hills	Merlin (breeding)	-
Lewis Peatlands	Merlin (breeding)	Dunlin (breeding); Golden Plover (breeding)
Loch Eye	-	Icelandic Greylag Goose (non-breeding)
Loch Ken and River Dee Marshes	Greenland White-fronted Goose (non-breeding); Spotted Crake (breeding)	Icelandic Greylag Goose (non-breeding)
Loch Leven	Icelandic Greylag Goose (non-breeding)	Pink-footed Goose (non-breeding)
Loch Lomond	Greenland White-fronted Goose (non-breeding)	-
Loch Maree	White-tailed Eagle (breeding)	-
Loch of Inch and Torrs Warren	Greenland White-fronted Goose (non-breeding); Hen Harrier (non-breeding)	-

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Loch of Kinnordy	Spotted Crake (breeding)	Icelandic Greylag Goose (non-breeding); Pink-footed Goose (non-breeding)
Loch of Lintrathen	-	Icelandic Greylag Goose (non-breeding)
Loch of Skene	-	Icelandic Greylag Goose (non-breeding)
Loch of Strathbeg	Spotted Crake (breeding)	Icelandic Greylag Goose (non-breeding); Pink-footed Goose (non-breeding)
Loch Spynie	-	Icelandic Greylag Goose (non-breeding)
Loch Vaa	Slavonian Grebe (breeding) (extension to include Avielochan)	-
Mointeach Scadabhaigh	Hen Harrier (breeding); Merlin (breeding)	-
Montrose Basin	-	Icelandic Greylag Goose (non-breeding); Pink-footed Goose (non-breeding)
Moray and Nairn Coast	-	Icelandic Greylag Goose (non-breeding); Osprey (breeding); Pink-footed Goose (non-breeding)
Muir of Dinnet	-	Icelandic Greylag Goose (non-breeding)
Muirkirk and North Lowther Uplands	Hen Harrier (non-breeding); Merlin (breeding)	Golden Plover (breeding)
North Harris Mountains	Merlin (breeding)	-
North Uist Machair and Islands	Spotted Crake (breeding)	Dunlin (breeding)
Orkney Mainland Moors	Hen Harrier (non-breeding); Merlin (breeding)	-
River Spey - Insh Marshes	Hen Harrier (non-breeding); Icelandic Greylag Goose (non-breeding)	Osprey (breeding)
Rum	Merlin (breeding)	-
Sléibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)	Greenland White-fronted Goose (non-breeding); Spotted Crake (breeding)	Dunlin (breeding)

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
South Tayside Goose Roosts	-	Icelandic Greylag Goose (non-breeding); Pink-footed Goose (non-breeding)
South Uist Machair and Lochs	Greenland White-fronted Goose (non-breeding); Sanderling (non-breeding) (extension to include Ardivachar Point); Turnstone (non-breeding) (extension to include Ardivachar Point)	Dunlin (breeding)
Strath Carnaig and Strath Fleet Moors	Merlin (breeding)	-
The Oa	Greenland White-fronted Goose (non-breeding); Hen Harrier (breeding)	-
Wester Ross Lochs	White-tailed Eagle (breeding)	-
Westwater	-	Pink-footed Goose (non-breeding)
Ythan Estuary, Sands of Forvie and Meikle Loch	-	Pink-footed Goose (non-breeding)
Wales		
Berwyn	Merlin (breeding)	Curlew (breeding)
Burry Inlet	-	Curlew (non-breeding)
Castlemartin Coast	-	Chough (breeding)
Craig yr Aderyn (Bird's Rock)	-	Chough (breeding); Chough (non-breeding)
Dyfi Estuary/Aber Dyfi	Greenland White-fronted Goose (non-breeding)	-
Elenydd - Mallaen	Curlew (breeding); Merlin (breeding)	-
Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island	-	Chough (breeding); Chough (non-breeding)
Glannau Ynys Gybi/Holy Island Coast	-	Chough (breeding); Chough (non-breeding)
Migneint-Arenig-Dduallt	Merlin (breeding); Red Kite (breeding); Red Kite (non-breeding)	Curlew (breeding)
Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd	-	Chough (breeding); Chough (non-breeding)

SPA	SPAs requiring boundary review by species/population identified in Phase 2	SPAs requiring boundary review by species/population identified in Phase 1 (Table 6.4 in Stroud *et al.* 2016)*
Sant Tudwal/Mynydd Cilan, Trwyn y Wylfa and the St Tudwal Islands		
Ramsey and St David's Peninsula Coast	-	Chough (breeding)
Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro	-	Chough (breeding)
Traeth Lafan/Lavan Sands, Conway Bay	Little Egret (breeding)	-
Ynys Seiriol/Puffin Island	Cormorant (breeding)	-

Appendix 4. Summary of recommended management reviews for species/populations at specific SPAs

Table 5: Summary of recommended management reviews for species/populations at specific SPAs (based on Table 6.3 and other details in the Phase 1 Report).

Species/population	SPAs with management review needs
Black-throated Diver *Gavia arctica* (breeding)	**Scotland** Review management at six sites (Assynt Lochs; Inverpolly, Loch Urigill and nearby Lochs; Lairg and Strath Brora Lochs; Loch Maree[43]; Loch Shiel; Wester Ross Lochs) where numbers are now less than in the 1990s – counter to the increasing national trend – and take remedial actions.
Great Crested Grebe *Podiceps cristatus* (breeding)	**Northern Ireland** Review management at Lough Neagh and Lough Beg SPA to understand the causes of significant decline running counter to increasing national trend.
Slavonian Grebe *Podiceps auritus* (breeding)	**Scotland** In view of the small size of the national population and declining trend within and outwith SPAs, the conservation management of all regularly used breeding sites (Loch Flemington; Loch Knockie and nearby Lochs; Loch Ruthven; Loch Vaa; North Inverness Lochs) should be subject to urgent review.
Bewick's Swan *Cygnus columbianus bewickii* (non-breeding)	**England and Northern Ireland** Both geographic redistribution within the UK and an overall population decline have led to a decrease in overall national numbers. A more-detailed review of the data for all SPAs (Arun Valley; Avon Valley; Breydon Water; Broadland; Dungeness, Romney Marsh and Rye Bay; Lough Foyle; Lough Neagh and Lough Beg; Lower Derwent Valley; Martin Mere; Nene Washes; Ouse Washes; Ribble and Alt Estuaries; Severn Estuary; Somerset Levels and Moors; Walmore Common) is recommended, and, as appropriate, enhanced management at some sites considered in order to ameliorate factors causing reduced numbers as is best possible.
Ruff *Calidris pugnax* (breeding)	**England** Assess site condition, current management and potential for enhancement of key sites given the extinction of breeding Ruff from three of the four SPAs (Lower Derwent Valley; Nene Washes; Ouse Washes; Ribble and Alt Estuaries) used in the 1990s.
Whimbrel *Numenius phaeopus* (breeding)	**Scotland** In view of declining trends at Fetlar SPA, a review of management and boundaries is needed to ensure that important areas used for feeding or other functional needs are included.

[43] Note that a thorough review for the period 2006-2009 has already been undertaken by Brown (2010) for Loch Maree. This provides a model for similar reviews at other sites.

Species/population	SPAs with management review needs
Sandwich Tern *Thalasseus sandvicensis* (breeding)	**England, Wales, Scotland and Northern Ireland** Site condition and management should be considered at SPAs where numbers have shown major decreases.

Appendix 5. Recommended format for SPA management reviews

The objective of a management review is to identify those factors that are causing, or likely, to cause, anomalous species declines at particular sites. The need for such reviews (see section 4.2) has been identified typically where numbers on a site are declining in contrast to stable or increasing trends on other SPAs.

A review will help address where possible – those factors through directing appropriate management aimed at restoring the population status of a given species and thus the favourable condition of the site(s) concerned.

The starting point of a site review is to consider whether the issue is likely to be real, or an artefact of the data. For example, the SPA concerned may have much more limited monitoring data than other sites, such that the apparent declines that have been identified may merely be a consequence of these restricted data.

The SPA management review provides a summary of all the factors relevant to the species' conservation status. The following is a checklist of possible steps that may be useful in undertaking a SPA management review in a standardised way. Not necessarily all measures will be needed, but they may help guide approaches to be taken – which will vary between sites and species.

- Determine what data (for example on current numbers, historic trends, spatial and temporal distribution on the site, habitat use *etc*.) exists for the species at the site?
- The review should ideally rely on a critical and inclusive analysis of reliable scientific data. However, sometimes such data are incomplete or entirely lacking, and in such situations, there will be a need – at least initially – to rely on inference or expert opinion to guide initial steps.
- Determine what information exists about the species at the site? Typically, this would involve broad collaboration with those involved in undertaking species monitoring (such as Wetland Bird Survey (WeBS) counters, other bird monitoring volunteers, reserve or site managers) who will be an important source of information about current and past status, use of habitats within the site, and likely influencing factors – such as levels of disturbance – that may have changed. Where data from volunteers is lacking completely, there will be a need for professional surveys to be commissioned to fill gaps in coverage (an issue explored by Stroud *et al.* 2016).
- Determine whether the SPA overlaps with other designations (e.g. SAC, ASSI/SSSI, Ramsar Site (Wetland of International Importance), National Nature Reserve, Areas of Special Protection, or other reserve status e.g. RSPB or The Wildlife Trusts) through which relevant data and information may be available? Data and information may be available either from formal reporting processes (e.g. Ramsar Information Sheets, Wild Birds Directive Article 12 reporting, Habitats and Species Regulations reporting, and National Site Network (and potentially any useful information from any overlapping SAC) Standard Data Forms), or from others involved in implementing reserve management plans (e.g. Reserve reports by reserve staff). Where relevant, Site Improvement Plans (SIPs) such as in the IPENS project in England, and Prioritised Improvement Plans (PIPs) through the former LIFE Natura 2000 (N2K) Programme for Wales, are additional sources of useful information.
- Following an assessment of available data and information, if it is still apparent that there is a general lack of information, then consideration should be given to determine whether there is a need to commission a targeted species survey at the site.

- For species where habitat condition may be an important factor determining species numbers within the site, consideration as to whether there have been changes to land-use and/or habitat management that may have impacted habitat quality may be required. For example, changes to lowland wet grassland management and/or hydrology for breeding waders, or changes in moorland management regimes for upland birds. Assess the likely scale of significance of such information and document it.
- Consideration of whether external influences are significant may be necessary, for example increased disturbance from various sources. Assess the scale of significance and document it.
- Review the extent and detail of the data and information that has been brought together. Is the situation of such complexity that there may be a need for a detailed, commissioned survey?
- In light of the conclusions reached, initiate relevant management intervention(s).
- Document the process and outcomes, and archive this for future reference.

The Scottish Natural Heritage (now NatureScot) review of causes of Black-throated Diver *Gavia arctica* breeding failure on Loch Maree provides a good model for a site review (Brown 2010). Similarly, Natural England have analysed the reasons for the absence of breeding Hen Harrier *Circus cyaneus* from SPAs classified for the species in upland England (Natural England 2008) and Natural Resources Wales have commissioned analyses of environmental covariates of SPA occupation rates, productivity and functional linkage of Chough *Pyrrhocorax pyrrhocorax* across the Welsh Chough SPA network (Cross *et al*. 2020).

Appendix 6. Summary of recommended enhanced monitoring needs for species/populations at specific SPAs/sites

Table 6: Summary of recommended enhanced monitoring needs for species/ populations at specific SPAs/sites (based on Table 6.3 in the Phase 1 Report).

Species/population	SPA/site monitoring needs
Great Crested Grebe *Podiceps cristatus* (breeding)	**Northern Ireland** Enhance monitoring at Lough Neagh and Lough Beg SPA.
Fulmar *Fulmarus glacialis* (breeding)	**Northern Ireland & Scotland** The proportion of the GB population within the UK SPA network has declined by *c.*7% between the 1990s and 2000s with significant declines across most SPAs, some being very large (e.g. an apparent loss of 13,000 pairs on Fair Isle). The widespread nature of the declines suggests a wider 'off-site' issue. Research should be undertaken to investigate whether the population has moved to other non-SPA sites or been lost to inform possible conservation responses.
Storm Petrel *Hydrobates pelagicus* (breeding)	**England, Scotland & Wales** Determine, on a site-specific basis, monitoring protocols (including correction factors) that will allow comparison with past surveys as well as enhanced understanding of current numbers for future comparisons.
Cormorant *Phalacrocorax carbo carbo* (breeding)	**Wales** Ensure use of standard methods for future counts at Ynys Seiriol/Puffin Island SPA to ensure comparability across the UK SPA suite.
Cormorant *Phalacrocorax carbo carbo* (non-breeding)	**England** Ensure complete coverage of Medway Estuary and Marshes SPA and Upper Nene Valley Gravel Pits SPA in future WeBS counts.
European White-fronted Goose *Anser albifrons albifrons* (non-breeding)	**England** Ensure complete coverage of Broadland SPA in future WeBS counts (Heigham Holmes and possibly other areas currently not included). Enhance collection and availability of information concerning location and extent of feeding areas and their relationship with (generally better known) roosting sites.

Species/population	SPA/site monitoring needs
Greenland White-fronted Goose *Anser albifrons flavirostris* (non-breeding)	**Scotland & Wales** Within monitoring programmes, enhance the collection and availability of information concerning location and extent of feeding areas and their relationship with (generally better known) roosting sites. Ensure monitoring regime established that can assess population numbers at the roost sites at Eilean na Muice Duibhe (Duich Moss), Islay SPA and Rinns of Islay SPA, either directly or through research to demonstrate reliability of assumptions concerning the relationship between roost sites and feeding areas currently giving indirect assessments with potentially significant error. Undertake survey of roost sites on Coll SPA to assess whether the SPA is still used by roosting geese.
Greenland Barnacle Goose *Branta leucopsis* (non-breeding)	**Scotland** Ensure monitoring regime established that can assess population numbers at the roost sites at Gruinart Flats, Islay SPA and Bridgend Flats, Islay SPA, either directly or through research to demonstrate reliability of assumptions concerning the relationship between roost sites and feeding areas currently giving indirect assessments. Within monitoring programmes, enhance the collection and availability of information concerning location and extent of feeding areas and their relationship with (generally better known) roosting sites.
Wigeon *Mareca penelope* (breeding)	**Scotland** Ensure monitoring protocols are in place to assess status of the species on two SPAs (Caithness and Sutherland Peatlands SPA and River Spey - Insh Marshes SPA), focussing priority attention on the Caithness and Sutherland Peatlands SPA for which no contemporary site assessments exist.
Short-eared Owl *Asio flammeus* (breeding)	**Scotland, England and Wales** In light of the lack of contemporary data, ensure monitoring regimes are developed and in place at the Caithness and Sutherland SPA, Muirkirk and North Lowther Uplands SPA, Orkney Mainland Moors SPA and South Pennine Moors by the next UK SPA network review. Standardise methods between these and the other two SPAs (Forest of Clunie, and Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro) where monitoring does occur. Continue work to develop appropriate survey methodologies applicable at wide scales although noting that work undertaken so far (Calladine *et al.* 2008) has shown the development of such methods to be especially challenging.

Appendix 7. Recommended broad-scale survey and monitoring needs

Table 7: Recommended broad-scale survey and monitoring needs based in part on the Phase 2 detailed species/population assessments.

Research/ survey need	Purpose	Delivery	Relevant species/ population
National survey of breeding seabirds to provide contemporary data on sites of importance	Site selection	Apply the spatial distribution and numerical data from the latest GB and Ireland seabird census (Seabirds Count: 2015-2022) (Burnell *et al.* 2023).	Cormorant; Arctic Skua; Mediterranean Gull; Common Gull; Great Black-backed Gull; Arctic Tern
Site-specific surveys of non-breeding seabirds to provide contemporary data on sites of importance	Site selection	Ongoing - repeat national survey of winter (2023/24-2024/25) gull roosts (WinGS). Little Gull: dedicated survey of both marine and terrestrial areas supporting known aggregations.	Black-headed Gull; Common Gull; Herring Gull; Lesser Black-backed Gull; Great Black-backed Gull; Mediterranean Gull; Little Gull
Upland breeding birds: use of feeding areas adjacent to moorland breeding sites	Site selection, boundary delineation and/or revision	Repeat national surveys for Twite (last UK survey in 2013), Ring Ouzel (last UK survey in 2012 and Merlin (last UK survey in 2008) providing more comprehensive surveys of likely hotspots next to SPAs. Dedicated survey of foraging Golden Plover (including night visits) and Curlew is required.	Golden Plover; Curlew; Twite; Merlin; Ring Ouzel
Upland breeding waders: analysis of hotspots to guide follow-up site survey on existing upland SPAs	Site selection, boundary delineation and/or revision	Dedicated surveys of breeding Curlew where required – sample-based survey might be suitable and less expensive.	Curlew
Lowland breeding waders: analysis of hotspots to guide follow-up site survey at possible new sites	Site selection, boundary delineation and/or revision	Extensive surveys of lowland grassland sites for Curlew. Surveys of saltmarsh and lowland wet grassland for Redshank (mostly classified SPAs).	Redshank; Curlew

Research/ survey need	Purpose	Delivery	Relevant species/ population
Breeding raptors	Site selection boundary delineation and/or revision	Repeat UK surveys for breeding Peregrine (last UK survey in 2014) and breeding Merlin (last UK survey in 2008). For Montagu's Harrier, the collation of Raptor Study Group data and dedicated survey will be required to identify regularly used breeding locations including adjacent foraging areas – non-SPA farmland adjacent to Salisbury Plain SPA likely to be highest priority.	Montagu's Harrier; Peregrine; Merlin
Heathland/ plantation breeding birds	Site selection and boundary revision	Repeat UK national surveys for Nightjar (last UK survey in 2004), Woodlark (last GB survey in 2006) and Dartford Warbler (last UK survey in 2006) – volunteer input and co-ordination is likely to be most cost-effective and will also provide national contextual information. Dedicated survey of functionally important habitats (particularly for Nightjar) also required.	Nightjar; Woodlark; Dartford Warbler
Detailed monitoring of key sites to develop case for classification	Site selection	Dedicated surveys required using specialised methodology for Aquatic Warbler (two sites). Extensive surveys of saltmarshes in classified SPAs are required for non-breeding Twite. Dedicated survey work is likely to be necessary for non-breeding bittern as it is poorly covered by the national WeBS scheme.	Aquatic Warbler (passage); Twite (non-breeding); Bittern (non-breeding)

Research/ survey need	Purpose	Delivery	Relevant species/ population
Non-breeding waterbirds: location of high-tide roosts outside nearby existing SPAs	Boundary delineation and revision	Planned to be delivered by five-year means derived from WeBS.	Little Grebe; Great-Crested Grebe; Cormorant; Whooper Swan; Pochard; Goosander; Ruff; Common Snipe; Greenshank; Curlew; Lapwing; Golden Plover
Non-breeding raptors on heathland, fen and farmland sites	Boundary revision and site selection	Use of Bird Atlas and other sources to identify potential new aggregations for follow-up dedicated surveys, including both hunting and roosting habitats to ensure suitable boundaries of existing and new SPAs.	Merlin; Hen Harrier
Enhancement of knowledge concerning ecology, population and distribution	Site selection	Further data needed to develop strategy to define site protection needs for the species/populations in the context of habitats used.	Scottish Crossbill
Identify sites of importance for possible SPA status	Site selection boundary delineation and/or revision	Mapping of distributional data from Bird Atlases and other sources.	Osprey (breeding); Peregrine (breeding); Golden Plover (breeding); Dotterel (breeding); Curlew (breeding); Whimbrel (breeding); Redshank (breeding); Common Tern (passage); Ring Ouzel (breeding); Twite (non-breeding)

Appendix 8. Species/populations/assemblages recommended for addition by the Second Review

Tables 8 to 10 list the remaining unimplemented Second Review recommendations for addition (i.e. through classification) to SPA Citations and SPA Standard Data Forms as of the end of May 2016. A number of these recommendations have since been implemented[44]. Note that Tables 9 and 10 identify species/populations that were listed in error or where subsequent review suggests these may now not qualify for addition (subject to further data checks). The implementation status of these recommendations will be further checked during Phase 3[45].

* SPAs requiring boundary review as identified in Table 6.4 in the Phase 1 Report that relate to unimplemented recommendations (i.e. addition of features to existing SPAs) associated with the Second Review (as of the end of May 2016).

Note: consideration of boundary review needs may also be required during Phase 3 for SPAs of other species/populations e.g. non-breeding Hen Harrier, that relate to the addition of features as identified in the Second Review.

B = breeding, NB = non-breeding, P = passage)

Table 8: Additions to SPAs recommended in the Second Review (ordered by country).

Common name	Scientific name	Population	Site name	SPA Selection Guideline
England				
Little Grebe	*Tachybaptus ruficollis*	NB	Chichester and Langstone Harbours	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	Foulness (Mid-Essex Coast Phase 5)	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	Medway Estuary and Marshes	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	Rutland Water	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	Solent and Southampton Water	1.3

[44] For example, of the remaining unimplemented Second Review recommendations (i.e. additions and deletions), in Scotland these have been reviewed and most have been implemented as agreed between NatureScot and Scottish Government, and in Northern Ireland over two-thirds have been implemented by DAERA-NIEA.

[45] A number of the Second Review recommended additions listed within Appendix 8 relate to species/populations recommended as additional main components of either a waterbird or seabird assemblage (under SPA Selection Stage 1.3). If a waterbird or seabird assemblage is already a classified feature of the SPA, then those species/populations listed (within Appendix 8) as a Second Review recommendation under SPA Selection Stage 1.3, will already be protected as part of the waterbird or seabird assemblage. The remaining action would be to consider whether to update the SPA Citation and SPA Standard Data Form to reflect this.

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Little Grebe	*Tachybaptus ruficollis*	NB	Thames Estuary and Marshes	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	The Swale	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	The Wash	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Broadland	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Dengie (Mid-Essex Coast Phase 1)	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Morecambe Bay and Duddon Estuary	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Solent and Southampton Water	1.3
Gannet	*Morus bassanus*	B	Flamborough and Filey Coast	1.3
Cormorant	*Phalacrocorax carbo carbo*	B	Farne Islands	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Abberton Reservoir	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Breydon Water	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Broadland	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Chichester and Langstone Harbours	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Dengie (Mid-Essex Coast Phase 1)	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Exe Estuary	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Humber Estuary	1.4

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Cormorant	*Phalacrocorax carbo carbo*	NB	Medway Estuary and Marshes	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Morecambe Bay and Duddon Estuary	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	North Norfolk Coast	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Poole Harbour	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Rutland Water	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Solent and Southampton Water	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	The Swale	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	The Wash	1.3
Shag	*Gulosus aristotelis*	B	Farne Islands	1.3
Bittern	*Botaurus stellaris*	NB	Benacre to Easton Bavents	1.1
Bittern	*Botaurus stellaris*	NB	Broadland	1.1
Bittern	*Botaurus stellaris*	NB	Leighton Moss	1.1
Bittern	*Botaurus stellaris*	NB	Lower Derwent Valley	1.1
Bittern	*Botaurus stellaris*	NB	Minsmere-Walberswick	1.1
Bittern	*Botaurus stellaris*	NB	North Norfolk Coast	1.1
Little Egret	*Egretta garzetta*	NB	Chichester and Langstone Harbours	1.1
Little Egret	*Egretta garzetta*	NB	Poole Harbour	1.1
Whooper Swan	*Cygnus cygnus*	NB	The Wash	1.1
Bean Goose	*Anser fabalis*	NB	Broadland	1.4
Pink-footed Goose	*Anser brachy-rhynchus*	NB	Broadland*	1.2

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Pink-footed Goose	*Anser brachy-rhynchus*	NB	Lindisfarne*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	Alde-Ore Estuary*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	Breydon Water*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	Broadland*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	North Norfolk Coast*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	Thames Estuary and Marshes*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	The Swale*	1.3
European White-fronted Goose	*Anser albifrons albifrons*	NB	The Wash*	1.3
Dark-bellied Brent Goose	*Branta bernicla bernicla*	NB	Chesil Beach and The Fleet*	1.2
Dark-bellied Brent Goose	*Branta bernicla bernicla*	NB	Poole Harbour*	1.3
Shelduck	*Tadorna tadorna*	NB	Alde-Ore Estuary	1.3
Shelduck	*Tadorna tadorna*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.2
Shelduck	*Tadorna tadorna*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3
Shelduck	*Tadorna tadorna*	NB	Foulness (Mid-Essex Coast Phase 5)	1.3
Shelduck	*Tadorna tadorna*	NB	North Norfolk Coast	1.3
Shelduck	*Tadorna tadorna*	NB	Solent and Southampton Water	1.3
Shelduck	*Tadorna tadorna*	NB	Thames Estuary and Marshes	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Shelduck	*Tadorna tadorna*	NB	The Swale	1.3
Wigeon	*Mareca penelope*	NB	Alde-Ore Estuary	1.3
Wigeon	*Mareca penelope*	NB	Arun Valley	1.3
Wigeon	*Mareca penelope*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Wigeon	*Mareca penelope*	NB	Breydon Water	1.3
Wigeon	*Mareca penelope*	NB	Exe Estuary	1.3
Wigeon	*Mareca penelope*	NB	Foulness (Mid-Essex Coast Phase 5)	1.3
Wigeon	*Mareca penelope*	NB	Hamford Water	1.3
Wigeon	*Mareca penelope*	NB	Morecambe Bay and Duddon Estuary	1.3
Wigeon	*Mareca penelope*	NB	Solent and Southampton Water	1.3
Wigeon	*Mareca penelope*	NB	Somerset Levels and Moors	1.2
Wigeon	*Mareca penelope*	NB	The Swale	1.3
Gadwall	*Mareca strepera*	NB	North Norfolk Coast	1.3
Gadwall	*Mareca strepera*	NB	Solent and Southampton Water	1.3
Gadwall	*Mareca strepera*	NB	Somerset Levels and Moors	1.3
Gadwall	*Mareca strepera*	NB	Thames Estuary and Marshes	1.3
Teal	*Anas crecca*	NB	Alde-Ore Estuary	1.3
Teal	*Anas crecca*	NB	Arun Valley	1.3
Teal	*Anas crecca*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Teal	*Anas crecca*	NB	Broadland	1.3
Teal	*Anas crecca*	NB	Martin Mere	1.3
Teal	*Anas crecca*	NB	Morecambe Bay and Duddon Estuary	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Teal	*Anas crecca*	NB	North Norfolk Coast	1.3
Mallard	*Anas platyrhynchos*	NB	Lower Derwent Valley	1.3
Mallard	*Anas platyrhynchos*	NB	Martin Mere	1.3
Mallard	*Anas platyrhynchos*	NB	Morecambe Bay and Duddon Estuary	1.3
Mallard	*Anas platyrhynchos*	NB	Ouse Washes	1.3
Mallard	*Anas platyrhynchos*	NB	The Wash	1.3
Pintail	*Anas acuta*	NB	Abberton Reservoir	1.3
Pintail	*Anas acuta*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Pintail	*Anas acuta*	NB	North Norfolk Coast	1.2
Pintail	*Anas acuta*	NB	Pagham Harbour	1.2
Pintail	*Anas acuta*	NB	Solent and Southampton Water	1.3
Pintail	*Anas acuta*	NB	Somerset Levels and Moors	1.3
Pintail	*Anas acuta*	NB	Thames Estuary and Marshes	1.3
Pintail	*Anas acuta*	NB	The Swale	1.2
Shoveler	*Spatula clypeata*	NB	Alde-Ore Estuary	1.3
Shoveler	*Spatula clypeata*	NB	Arun Valley	1.3
Shoveler	*Spatula clypeata*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Shoveler	*Spatula clypeata*	NB	Breydon Water	1.3
Shoveler	*Spatula clypeata*	NB	Lower Derwent Valley	1.3
Shoveler	*Spatula clypeata*	NB	North Norfolk Coast	1.3
Shoveler	*Spatula clypeata*	NB	Poole Harbour	1.3
Shoveler	*Spatula clypeata*	NB	Solent and Southampton Water	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Shoveler	*Spatula clypeata*	NB	Somerset Levels and Moors	1.2
Shoveler	*Spatula clypeata*	NB	Thames Estuary and Marshes	1.3
Shoveler	*Spatula clypeata*	NB	The Swale	1.2
Pochard	*Aythya ferina*	NB	Broadland	1.3
Pochard	*Aythya ferina*	NB	Lower Derwent Valley	1.3
Pochard	*Aythya ferina*	NB	Martin Mere	1.3
Pochard	*Aythya ferina*	NB	Nene Washes	1.3
Pochard	*Aythya ferina*	NB	Poole Harbour	1.3
Pochard	*Aythya ferina*	NB	Rutland Water	1.3
Tufted Duck	*Aythya fuligula*	NB	Broadland	1.3
Common Scoter	*Melanitta nigra*	NB	North Norfolk Coast	1.3
Velvet Scoter	*Melanitta fusca*	NB	North Norfolk Coast	1.3
Goldeneye	*Bucephala clangula*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Goldeneye	*Bucephala clangula*	NB	Morecambe Bay and Duddon Estuary	1.3
Goldeneye	*Bucephala clangula*	NB	Poole Harbour	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Exe Estuary	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Morecambe Bay and Duddon Estuary	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Poole Harbour	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Solent and Southampton Water	1.3
Marsh Harrier	*Circus aeruginosus*	B	The Swale	1.1
Marsh Harrier	*Circus aeruginosus*	B	The Wash	1.1
Hen Harrier	*Circus cyaneus*	NB	North Norfolk Coast	1.1
Hen Harrier	*Circus cyaneus*	NB	Thames Estuary and Marshes	1.1

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Hen Harrier	*Circus cyaneus*	NB	The Swale	1.1
Peregrine	*Falco peregrinus*	B	South Pennine Moors	1.1
Spotted Crake	*Porzana porzana*	B	Lower Derwent Valley	1.1
Spotted Crake	*Porzana porzana*	B	Nene Washes	1.1
Spotted Crake	*Porzana porzana*	B	Ouse Washes	1.1
Corncrake	*Crex crex*	B	Lower Derwent Valley	1.1
Coot	*Fulica atra*	NB	Broadland	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Benfleet and Southend Marshes	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Chichester and Langstone Harbours	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Dengie (Mid-Essex Coast Phase 1)	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Gibraltar Point	1.3
Oystercatcher	*Haematopus ostralegus*	NB	North Norfolk Coast	1.3
Avocet	*Recuvirostra avosetta*	B	The Swale	1.1
Avocet	*Recuvirostra avosetta*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.1
Avocet	*Recuvirostra avosetta*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.1
Avocet	*Recuvirostra avosetta*	NB	Minsmere-Walberswick	1.1
Avocet	*Recuvirostra avosetta*	NB	The Swale	1.1
Avocet	*Recuvirostra avosetta*	NB	The Wash	1.1
Ringed Plover	*Charadrius hiaticula*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.2
Ringed Plover	*Charadrius hiaticula*	NB	Chichester and Langstone Harbours	1.2
Ringed Plover	*Charadrius hiaticula*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Ringed Plover	*Charadrius hiaticula*	NB	Lindisfarne	1.2
Ringed Plover	*Charadrius hiaticula*	NB	Medway Estuary and Marshes	1.2
Ringed Plover	*Charadrius hiaticula*	NB	North Norfolk Coast	1.3
Ringed Plover	*Charadrius hiaticula*	B	North Norfolk Coast	1.2
Ringed Plover	*Charadrius hiaticula*	NB	Teesmouth and Cleveland Coast	1.2
Ringed Plover	*Charadrius hiaticula*	NB	The Swale	1.2
Ringed Plover	*Charadrius hiaticula*	NB	The Wash	1.2
Golden Plover	*Pluvialis apricaria*	NB	Abberton Reservoir*	1.1
Golden Plover	*Pluvialis apricaria*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)*	1.1
Golden Plover	*Pluvialis apricaria*	NB	Colne Estuary (Mid-Essex Coast Phase 2)*	1.1
Golden Plover	*Pluvialis apricaria*	NB	Foulness (Mid-Essex Coast Phase 5)*	1.1
Golden Plover	*Pluvialis apricaria*	NB	Hamford Water*	1.1
Golden Plover	*Pluvialis apricaria*	NB	North Norfolk Coast*	1.1
Golden Plover	*Pluvialis apricaria*	NB	The Swale*	1.1
Golden Plover	*Pluvialis apricaria*	NB	The Wash*	1.1
Grey Plover	*Pluvialis squatarola*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3
Grey Plover	*Pluvialis squatarola*	NB	North Norfolk Coast	1.3
Grey Plover	*Pluvialis squatarola*	NB	Solent and Southampton Water	1.3
Lapwing	*Vanellus vanellus*	NB	Abberton Reservoir*	1.3
Lapwing	*Vanellus vanellus*	NB	Alde-Ore Estuary*	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Lapwing	*Vanellus vanellus*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)*	1.3
Lapwing	*Vanellus vanellus*	NB	Chichester and Langstone Harbours*	1.3
Lapwing	*Vanellus vanellus*	NB	Colne Estuary (Mid-Essex Coast Phase 2)*	1.3
Lapwing	*Vanellus vanellus*	NB	Dengie (Mid-Essex Coast Phase 1)*	1.3
Lapwing	*Vanellus vanellus*	NB	Exe Estuary*	1.3
Lapwing	*Vanellus vanellus*	NB	Foulness (Mid-Essex Coast Phase 5)*	1.3
Lapwing	*Vanellus vanellus*	NB	Hamford Water*	1.3
Lapwing	*Vanellus vanellus*	NB	Lindisfarne*	1.3
Lapwing	*Vanellus vanellus*	NB	Lower Derwent Valley*	1.3
Lapwing	*Vanellus vanellus*	NB	Medway Estuary and Marshes*	1.3
Lapwing	*Vanellus vanellus*	NB	Morecambe Bay and Duddon Estuary*	1.3
Lapwing	*Vanellus vanellus*	NB	Nene Washes*	1.3
Lapwing	*Vanellus vanellus*	NB	North Norfolk Coast*	1.3
Lapwing	*Vanellus vanellus*	NB	Ouse Washes*	1.3
Lapwing	*Vanellus vanellus*	NB	Poole Harbour*	1.3
Lapwing	*Vanellus vanellus*	NB	Rutland Water*	1.3
Lapwing	*Vanellus vanellus*	NB	Solent and Southampton Water*	1.3
Lapwing	*Vanellus vanellus*	NB	Teesmouth and Cleveland Coast*	1.3
Lapwing	*Vanellus vanellus*	NB	Thames Estuary and Marshes*	1.3
Lapwing	*Vanellus vanellus*	NB	The Swale*	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Lapwing	*Vanellus vanellus*	NB	The Wash*	1.3
Knot	*Calidris canutus*	NB	Chichester and Langstone Harbours	1.3
Knot	*Calidris canutus*	NB	Gibraltar Point	1.2
Knot	*Calidris canutus*	NB	Lindisfarne	1.2
Knot	*Calidris canutus*	NB	The Swale	1.2
Sanderling	*Calidris alba*	NB	North Norfolk Coast	1.3
Dunlin	*Calidris alpina schinzii*	B	North Pennine Moors*	1.2
Dunlin	*Calidris alpina schinzii*	B	Peak District Moors (South Pennine Moors Phase 1)*	1.2
Dunlin	*Calidris alpina schinzii*	B	South Pennine Moors Phase 2*	1.2
Dunlin	*Calidris alpina alpina*	NB	Alde-Ore Estuary	1.3
Dunlin	*Calidris alpina alpina*	NB	Breydon Water	1.3
Dunlin	*Calidris alpina alpina*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3
Dunlin	*Calidris alpina alpina*	NB	Dengie (Mid-Essex Coast Phase 1)	1.3
Dunlin	*Calidris alpina alpina*	NB	Foulness (Mid-Essex Coast Phase 5)	1.3
Dunlin	*Calidris alpina alpina*	NB	Hamford Water	1.3
Dunlin	*Calidris alpina alpina*	NB	North Norfolk Coast	1.3
Dunlin	*Calidris alpina alpina*	NB	Poole Harbour	1.3
Dunlin	*Calidris alpina alpina*	NB	Solent and Southampton Water	1.3
Ruff	*Calidris pugnax*	B	Lower Derwent Valley	1.1
Ruff	*Calidris pugnax*	B	Nene Washes	1.1

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Ruff	*Calidris pugnax*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.1
Ruff	*Calidris pugnax*	NB	Hamford Water	1.1
Ruff	*Calidris pugnax*	NB	Nene Washes	1.1
Ruff	*Calidris pugnax*	NB	North Norfolk Coast	1.1
Ruff	*Calidris pugnax*	NB	Ouse Washes	1.1
Black-tailed Godwit	*Limosa limosa*	NB	Abberton Reservoir	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Alde-Ore Estuary	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Breydon Water	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Chichester and Langstone Harbours	1.2
Black-tailed Godwit	*Limosa limosa*	NB	Colne Estuary (Mid-Essex Coast Phase 2)	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Dengie (Mid-Essex Coast Phase 1)	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Foulness (Mid-Essex Coast Phase 5)	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Nene Washes	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Ouse Washes	1.2
Black-tailed Godwit	*Limosa limosa*	NB	The Swale	1.2
Bar-tailed Godwit	*Limosa lapponica*	NB	Dengie (Mid-Essex Coast Phase 1)	1.1
Bar-tailed Godwit	*Limosa lapponica*	NB	North Norfolk Coast	1.1
Bar-tailed Godwit	*Limosa lapponica*	NB	The Swale	1.1
Whimbrel	*Numenius phaeopus*	NB	Chichester and Langstone Harbours	1.3
Whimbrel	*Numenius phaeopus*	NB	Exe Estuary	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Whimbrel	*Numenius phaeopus*	NB	Medway Estuary and Marshes	1.3
Whimbrel	*Numenius phaeopus*	NB	Morecambe Bay and Duddon Estuary	1.3
Whimbrel	*Numenius phaeopus*	NB	North Norfolk Coast	1.3
Whimbrel	*Numenius phaeopus*	NB	Somerset Levels and Moors	1.3
Whimbrel	*Numenius phaeopus*	NB	Thames Estuary and Marshes	1.3
Whimbrel	*Numenius phaeopus*	NB	The Wash	1.3
Curlew	*Numenius arquata*	B	North Pennine Moors*	1.2
Curlew	*Numenius arquata*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)*	1.3
Curlew	*Numenius arquata*	NB	Foulness (Mid-Essex Coast Phase 5)*	1.3
Curlew	*Numenius arquata*	NB	Poole Harbour*	1.3
Curlew	*Numenius arquata*	NB	Solent and Southampton Water*	1.3
Redshank	*Tringa totanus*	B	North Norfolk Coast	1.2
Redshank	*Tringa totanus*	NB	Blackwater Estuary (Mid-Essex Coast Phase 4)	1.2
Redshank	*Tringa totanus*	NB	North Norfolk Coast	1.2
Redshank	*Tringa totanus*	NB	Poole Harbour	1.3
Redshank	*Tringa tetanus*	NB	Solent and Southampton Water	1.3
Turnstone	*Arenaria interpres*	NB	Mersey Narrows and North Wirral Foreshore	1.2
Mediterranean Gull	*Ichthyaetus melano-cephalus*	B	North Norfolk Coast	1.1
Mediterranean Gull	*Ichthyaetus melano-cephalus*	B	The Swale	1.1
Black-headed Gull	*Chroico-cephalus ridibundus*	B	Alde-Ore Estuary	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Black-headed Gull	*Chroico-cephalus ridibundus*	B	Coquet Island	1.3
Herring Gull	*Larus argentatus*	B	Alde-Ore Estuary	1.3
Herring Gull	*Larus argentatus*	B	Flamborough and Filey Coast	1.3
Kittiwake	*Rissa tridactyla*	B	Farne Islands	1.3
Roseate Tern	*Sterna dougallii*	B	Farne Islands	1.1
Roseate Tern	*Sterna dougallii*	B	North Norfolk Coast	1.1
Guillemot	*Uria aalge*	B	Flamborough and Filey Coast	1.3
Razorbill	*Alca torda*	B	Flamborough and Filey Coast	1.3
Puffin	*Fratercula arctica*	B	Coquet Island	1.2
Puffin	*Fratercula arctica*	B	Farne Islands	1.2
Puffin	*Fratercula arctica*	B	Flamborough and Filey Coast	1.3
Short-eared Owl	*Asio flammeus*	B	Peak District Moors (South Pennine Moors Phase 1)	1.1
Short-eared Owl	*Asio flammeus*	B	South Pennine Moors Phase 2	1.1
Woodlark	*Lullula arborea*	B	Minsmere-Walberswick	1.1
Waterbird assemblage	-	NB	Broadland	1.3
Seabird assemblage	-	B	Alde-Ore Estuary	1.3
Seabird assemblage	-	B	Flamborough and Filey Coast	1.3
England/Scotland				
Great Crested Grebe	*Podiceps cristatus*	NB	Solway Firth	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Solway Firth	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Mallard	*Anas platyrhynchos*	NB	Solway Firth	1.3
Ringed Plover	*Charadrius hiaticula*	NB	Solway Firth	1.2
Lapwing	*Vanellus vanellus*	NB	Solway Firth*	1.3
England/Wales				
Cormorant	*Phalacrocorax carbo carbo*	NB	The Dee Estuary	1.3
Wigeon	*Mareca penelope*	NB	Severn Estuary	1.3
Wigeon	*Mareca penelope*	NB	The Dee Estuary	1.3
Teal	*Anas crecca*	NB	Severn Estuary	1.3
Teal	*Anas crecca*	NB	The Dee Estuary	1.2
Mallard	*Anas platyrhynchos*	NB	Severn Estuary	1.3
Mallard	*Anas platyrhynchos*	NB	The Dee Estuary	1.3
Pintail	*Anas acuta*	NB	Severn Estuary	1.2
Shoveler	*Spatula clypeata*	NB	Severn Estuary	1.3
Pochard	*Aythya ferina*	NB	Severn Estuary	1.3
Tufted Duck	*Aythya fuligula*	NB	Severn Estuary	1.3
Ringed Plover	*Charadrius hiaticula*	NB	Severn Estuary	1.2
Grey Plover	*Pluvialis squatarola*	NB	Severn Estuary	1.3
Lapwing	*Vanellus vanellus*	NB	Severn Estuary*	1.3
Lapwing	*Vanellus vanellus*	NB	The Dee Estuary*	1.3
Sanderling	*Calidris alba*	NB	The Dee Estuary	1.3
Dunlin	*Calidris alpina alpina*	NB	The Dee Estuary	1.2
Whimbrel	*Numenius phaeopus*	NB	Severn Estuary	1.3
Curlew	*Numenius arquata*	NB	Severn Estuary*	1.2

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Northern Ireland				
Little Grebe	*Tachybaptus ruficollis*	NB	Lough Neagh and Lough Beg	1.3
Little Grebe	*Tachybaptus ruficollis*	NB	Strangford Lough	1.3
Great Crested Grebe	*Podiceps cristatus*	B	Lough Neagh and Lough Beg	1.2
Great Crested Grebe	*Podiceps cristatus*	NB	Belfast Lough	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Lough Foyle	1.3
Great Crested Grebe	*Podiceps cristatus*	NB	Lough Neagh and Lough Beg	1.2
Great Crested Grebe	*Podiceps cristatus*	NB	Strangford Lough	1.3
Fulmar	*Fulmarus glacialis*	B	Rathlin Island	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Belfast Lough	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Lough Foyle	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Lough Neagh and Lough Beg	1.3
Cormorant	*Phalacrocorax carbo carbo*	NB	Strangford Lough	1.3
Bewick's Swan	*Cygnus columbianus*	NB	Lough Foyle	1.1
Icelandic Greylag Goose	*Anser anser*	NB	Lough Foyle*	1.3
Icelandic Greylag Goose	*Anser anser*	NB	Lough Neagh and Lough Beg*	1.3
Icelandic Greylag Goose	*Anser anser*	NB	Strangford Lough*	1.3
Shelduck	*Tadorna tadorna*	NB	Belfast Lough	1.3
Shelduck	*Tadorna tadorna*	NB	Lough Foyle	1.3
Shelduck	*Tadorna tadorna*	NB	Lough Neagh and Lough Beg	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Shelduck	*Tadorna tadorna*	NB	Strangford Lough	1.2
Wigeon	*Mareca penelope*	NB	Lough Foyle	1.3
Wigeon	*Mareca penelope*	NB	Lough Neagh and Lough Beg	1.3
Wigeon	*Mareca penelope*	NB	Strangford Lough	1.3
Gadwall	*Mareca strepera*	NB	Lough Neagh and Lough Beg	1.3
Gadwall	*Mareca strepera*	NB	Strangford Lough	1.3
Teal	*Anas crecca*	NB	Lough Foyle	1.3
Teal	*Anas crecca*	NB	Lough Neagh and Lough Beg	1.3
Teal	*Anas crecca*	NB	Strangford Lough	1.3
Mallard	*Anas platyrhynchos*	NB	Belfast Lough	1.3
Mallard	*Anas platyrhynchos*	NB	Lough Foyle	1.3
Mallard	*Anas platyrhynchos*	NB	Lough Neagh and Lough Beg	1.3
Mallard	*Anas platyrhynchos*	NB	Strangford Lough	1.3
Pintail	*Anas acuta*	NB	Strangford Lough	1.3
Shoveler	*Spatula clypeata*	NB	Lough Neagh and Lough Beg	1.3
Shoveler	*Spatula clypeata*	NB	Strangford Lough	1.3
Scaup	*Aythya marila*	NB	Belfast Lough	1.3
Scaup	*Aythya marila*	NB	Lough Neagh and Lough Beg	1.2
Eider	*Somateria mollissima mollissima*	NB	Belfast Lough	1.3
Eider	*Somateria mollissima mollissima*	NB	Lough Foyle	1.3
Goldeneye	*Bucephala clangula*	NB	Belfast Lough	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Goldeneye	*Bucephala clangula*	NB	Strangford Lough	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Belfast Lough	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Lough Foyle	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Strangford Lough	1.3
Coot	*Fulica atra*	NB	Lough Neagh and Lough Beg	1.3
Coot	*Fulica atra*	NB	Strangford Lough	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Belfast Lough	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Lough Foyle	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Strangford Lough	1.3
Ringed Plover	*Charadrius hiaticula*	NB	Belfast Lough	1.3
Ringed Plover	*Charadrius hiaticula*	NB	Strangford Lough	1.3
Golden Plover	*Pluvialis apricaria*	NB	Lough Foyle*	1.1
Golden Plover	*Pluvialis apricaria*	NB	Lough Neagh and Lough Beg*	1.1
Golden Plover	*Pluvialis apricaria*	NB	Strangford Lough*	1.1
Grey Plover	*Pluvialis squatarola*	NB	Strangford Lough	1.3
Lapwing	*Vanellus vanellus*	NB	Belfast Lough*	1.3
Lapwing	*Vanellus vanellus*	NB	Lough Foyle*	1.3
Lapwing	*Vanellus vanellus*	NB	Lough Neagh and Lough Beg*	1.3
Lapwing	*Vanellus vanellus*	NB	Strangford Lough*	1.3
Knot	*Calidris canutus*	NB	Belfast Lough	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Knot	*Calidris canutus*	NB	Lough Foyle	1.3
Dunlin	*Calidris alpina alpina*	NB	Belfast Lough	1.3
Dunlin	*Calidris alpina alpina*	NB	Lough Foyle	1.3
Dunlin	*Calidris alpina alpina*	NB	Strangford Lough	1.3
Black-tailed Godwit	*Limosa limosa*	NB	Belfast Lough	1.3
Bar-tailed Godwit	*Limosa lapponica*	NB	Belfast Lough	1.1
Bar-tailed Godwit	*Limosa lapponica*	NB	Strangford Lough	1.1
Curlew	*Numenius arquata*	NB	Belfast Lough*	1.3
Curlew	*Numenius arquata*	NB	Lough Foyle*	1.3
Curlew	*Numenius arquata*	NB	Strangford Lough*	1.3
Redshank	*Tringa totanus*	NB	Lough Foyle	1.3
Turnstone	*Arenaria interpres*	NB	Belfast Lough	1.2
Turnstone	*Arenaria interpres*	NB	Strangford Lough	1.3
Black-headed Gull	*Chroico-cephalus ridibundus*	B	Lough Neagh and Lough Beg	1.2
Common Gull	*Larus canus*	B	Lough Neagh and Lough Beg	1.3
Common Gull	*Larus canus*	B	Rathlin Island	1.3
Lesser Black-backed Gull	*Larus fuscus*	B	Lough Neagh and Lough Beg	1.3
Lesser Black-backed Gull	*Larus fuscus*	B	Rathlin Island	1.3
Herring Gull	*Larus argentatus*	B	Rathlin Island	1.3
Puffin	*Fratercula arctica*	B	Rathlin Island	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Waterbird assemblage	-	NB	Belfast Lough	1.3
Seabird assemblage	-	B	Lough Neagh and Lough Beg	1.3
Seabird assemblage	-	B	Rathlin Island	1.3
Scotland				
Slavonian Grebe	*Podiceps auritus*	B	Loch Ashie	1.1
Cormorant	*Phalacrocorax carbo carbo*	NB	Inner Moray Firth	1.3
Whooper Swan	*Cygnus cygnus*	NB	Loch of Skene	1.1
Svalbard Barnacle Goose	*Branta leucopsis*	NB	Loch of Strathbeg*	1.1
Shelduck	*Tadorna tadorna*	NB	Montrose Basin	1.3
Wigeon	*Mareca penelope*	B	Caithness and Sutherland Peatlands	1.4
Wigeon	*Mareca penelope*	B	River Spey - Insh Marshes	1.4
Wigeon	*Mareca penelope*	NB	Cromarty Firth	1.3
Wigeon	*Mareca penelope*	NB	Inner Moray Firth	1.3
Wigeon	*Mareca penelope*	NB	Montrose Basin	1.3
Wigeon	*Mareca penelope*	NB	Moray and Nairn Coast	1.3
Teal	*Anas crecca*	NB	Dornoch Firth and Loch Fleet	1.3
Teal	*Anas crecca*	NB	Inner Moray Firth	1.3
Pintail	*Anas acuta*	NB	Cromarty Firth	1.3
Scaup	*Aythya marila*	NB	Cromarty Firth	1.3
Scaup	*Aythya marila*	NB	Inner Moray Firth	1.4
Eider	*Somateria mollissima mollissima*	NB	Montrose Basin	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Eider	*Somateria mollissima mollissima*	NB	Ythan Estuary, Sands of Forvie and Meikle Loch	1.3
Long-tailed Duck	*Clangula hyemalis*	NB	Moray and Nairn Coast	1.3
Common Scoter	*Melanitta nigra*	B	Caithness and Sutherland Peatlands	1.4
Common Scoter	*Melanitta nigra*	NB	Moray and Nairn Coast	1.3
Velvet Scoter	*Melanitta fusca*	NB	Moray and Nairn Coast	1.3
Goldeneye	*Bucephala clangula*	NB	Inner Moray Firth	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Cromarty Firth	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Firth of Tay and Eden Estuary	1.3
Red-breasted Merganser	*Mergus serrator*	NB	Moray and Nairn Coast	1.3
Goosander	*Mergus merganser*	NB	Firth of Tay and Eden Estuary	1.3
Goosander	*Mergus merganser*	NB	Inner Moray Firth	1.3
Merlin	*Falco columbarius*	B	Ronas Hill - North Roe and Tingon	1.4
Oystercatcher	*Haematopus ostralegus*	NB	Cromarty Firth	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Dornoch Firth and Loch Fleet	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Inner Moray Firth	1.3
Oystercatcher	*Haematopus ostralegus*	NB	Moray and Nairn Coast	1.3
Ringed Plover	*Charadrius hiaticula*	B	Papa Stour	1.4
Lapwing	*Vanellus vanellus*	NB	Ythan Estuary, Sands of Forvie and Meikle Loch*	1.3
Knot	*Calidris canutus*	NB	Cromarty Firth	1.3
Knot	*Calidris canutus*	NB	Firth of Forth	1.2

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Purple Sandpiper	*Calidris maritima*	NB	North Uist Machair and Islands	1.4
Dunlin	*Calidris alpina alpina*	NB	Cromarty Firth	1.3
Dunlin	*Calidris alpina alpina*	NB	Dornoch Firth and Loch Fleet	1.3
Dunlin	*Calidris alpina alpina*	NB	Montrose Basin	1.3
Dunlin	*Calidris alpina alpina*	NB	Moray and Nairn Coast	1.3
Bar-tailed Godwit	*Limosa lapponica*	NB	East Sanday Coast	1.1
Bar-tailed Godwit	*Limosa lapponica*	NB	Moray and Nairn Coast	1.1
Curlew	*Numenius arquata*	NB	Cromarty Firth*	1.3
Curlew	*Numenius arquata*	NB	Dornoch Firth and Loch Fleet*	1.3
Curlew	*Numenius arquata*	NB	Inner Moray Firth*	1.3
Redshank	*Tringa totanus*	NB	Cromarty Firth	1.3
Redshank	*Tringa totanus*	NB	Ythan Estuary, Sands of Forvie and Meikle Loch	1.3
Greenshank	*Tringa nebularia*	B	Caithness and Sutherland Peatlands	1.4
Arctic Skua	*Stercorarius parasiticus*	B	Papa Westray (North Hill and Holm)	1.4
Waterbird assemblage	-	NB	Inner Moray Firth	1.3
Waterbird assemblage	-	NB	Muir of Dinnet	1.3
Wales				
Peregrine	*Falco peregrinus*	B	Elenydd – Mallaen	1.1
Black-tailed Godwit	*Limosa limosa*	NB	Burry Inlet	1.3
Whimbrel	*Numenius phaeopus*	NB	Burry Inlet	1.3
Kittiwake	*Rissa tridactyla*	B	Skomer, Skokholm and the Seas off Pembrokeshire/ Sgomer,	1.3

Common name	Scientific name	Population	Site name	SPA Selection Guideline
			Sgogwm a Moroedd Penfro	
Guillemot	*Uria aalge*	B	Skomer, Skokholm and the Seas off Pembrokeshire/ Sgomer, Sgogwm a Moroedd Penfro	1.3
Chough	*Pyrrhocorax pyrrhocorax*	NB	Castlemartin Coast*	1.1
Chough	*Pyrrhocorax pyrrhocorax*	NB	Ramsey and St David's Peninsula Coast*	1.1

Table 9: Additions to SPAs recommended in the Second Review that were listed in error as unclassified in the Third Review Phase 1 Report, i.e. they had already been classified.

Common name	Scientific name	Population	Site name	SPA Selection Guideline
England				
Ringed Plover	*Charadrius hiaticula*	NB	Thames Estuary and Marshes	1.2
Golden Plover	*Pluvialis apricaria*	B	South Pennine Moors	1.1
Ruff	*Calidris pugnax*	B	Ouse Washes	1.1
Ruff	*Calidris pugnax*	B	Ribble and Alt Estuaries	1.1
Redshank	*Tringa totanus*	NB	Foulness (Mid-Essex Coast Phase 5)	1.3
Little Tern	*Sternula albifrons*	B	Chesil Beach and The Fleet	1.1
Nightjar	*Caprimulgus europaeus*	B	Wealden Heaths	1.1
Woodlark	*Lullula arborea*	B	Wealden Heaths	1.1
Dartford Warbler	*Curruca undata*	B	Wealden Heaths	1.1
Wales				
Grey Plover	*Pluvialis squatarola*	NB	The Dee Estuary	1.2
Black-tailed Godwit	*Limosa limosa*	NB	The Dee Estuary	1.2

Common name	Scientific name	Population	Site name	SPA Selection Guideline
Curlew	*Numenius arquata*	NB	The Dee Estuary	1.2
Redshank	*Tringa totanus*	NB	The Dee Estuary	1.2
Sandwich Tern	*Thalasseus sandvicensis*	P	The Dee Estuary	1.1
Little Tern	*Sternula albifrons*	B	The Dee Estuary	1.1
Chough	*Pyrrhocorax pyrrhocorax*	B	Skomer, Skokholm and the Seas off Pembrokeshire/Sgomer, Sgogwm a Moroedd Penfro	1.1
Chough	*Pyrrhocorax pyrrhocorax*	NB	Glannau Ynys Gybi/Holy Island Coast	1.1

Table 10: Additions to SPAs recommended in the Second Review that are no longer valid because subsequent data suggest numbers may now not qualify (subject to further data checks).

Common name	Scientific name	Population	Site name	SPA Selection Guideline
England				
Common Snipe	*Gallinago gallinago*	NB	Somerset Levels and Moors	1.3
Aquatic Warbler	*Acrocephalus paludicola*	P	Poole Harbour	1.1

Appendix 9. Species/populations/assemblages recommended for deletion by the Second Review

Tables 11 to 20 list the remaining unimplemented Second Review recommendations for deletion from SPA Citations and SPA Standard Data Forms as of the end of May 2016. A number of these recommendations have since been implemented[46]. Note that Tables 15, 16, 18, 19 and 20 list species/populations/assemblages that subsequent review suggests should be retained (subject to further data checks). The implementation status of these recommendations will be further checked during Phase 3.

(B = breeding, NB = non-breeding)

Table 11: SPAs with species/populations that do not qualify because they are neither migratory nor listed on Annex I (Wild Birds Directive).

Common name	Scientific name	Population	Site name
Mute Swan	*Cygnus olor*	B	Hornsea Mere
Mute Swan	*Cygnus olor*	NB	Abberton Reservoir
Mute Swan	*Cygnus olor*	NB	Ouse Washes
Mute Swan	*Cygnus olor*	NB	Rutland Water
British/Irish Greylag Goose	*Anser anser*	B	South Uist Machair and Lochs
Moorhen	*Gallinula chloropus*	B	Ouse Washes
Moorhen	*Gallinula chloropus*	B	The Swale
Black Guillemot	*Cephus grylle*	B	Monach Isles

Table 12: SPAs with breeding bird assemblages – this is not a valid feature under any of the UK SPA Selection Guidelines.

Assemblage name	Population	Site name
Breeding bird assemblage	B	Medway Estuary and Marshes
Breeding bird assemblage	B	Ouse Washes
Breeding bird assemblage	B	South Pennine Moors Phase 2
Breeding bird assemblage	B	South Uist Machair and Lochs
Breeding bird assemblage	B	Stodmarsh
Breeding bird assemblage	B	The Swale

[46] For example, of the remaining unimplemented Second Review recommendations (i.e. deletions and additions), in Scotland these have been reviewed and most have been implemented as agreed between NatureScot and Scottish Government, and in Northern Ireland over two-thirds have been implemented by DAERA-NIEA.

Table 13: SPAs with migratory species that are not present in numbers approaching 1% biogeographic thresholds and with no justification under Stage 1.4 of the UK SPA Selection Guidelines (i.e. with low Site Provision Index values).

Common name	Scientific name	Population	Site name
Great Crested Grebe	*Podiceps cristatus*	B	Stodmarsh
Great Crested Grebe	*Podiceps cristatus*	NB	Traeth Lafan/Lavan Sands, Conway Bay
Shelduck	*Tadorna tadorna*	B	Ouse Washes
Shelduck	*Tadorna tadorna*	B	The Swale
Gadwall	*Mareca strepera*	B	Minsmere–Walberswick
Gadwall	*Mareca strepera*	B	Nene Washes
Gadwall	*Mareca strepera*	B	Stodmarsh
Teal	*Anas crecca*	NB	Burry Inlet
Teal	*Anas crecca*	B	Minsmere–Walberswick
Mallard	*Anas platyrhynchos*	B	Ouse Washes
Mallard	*Anas platyrhynchos*	B	The Swale
Garganey	*Spatula querquedula*	B	Nene Washes
Garganey	*Spatula querquedula*	B	Ouse Washes
Pochard	*Aythya ferina*	B	Blackwater Estuary (Mid-Essex Coast Phase 4)
Pochard	*Aythya ferina*	B	Colne Estuary (Mid-Essex Coast Phase 2)
Goldeneye	*Bucephala clangula*	B	Loch Vaa
Hobby	*Falco subbuteo*	B	New Forest
Hobby	*Falco subbuteo*	B	Salisbury Plain
Quail	*Coturnix coturnix*	B	Salisbury Plain
Water Rail	*Rallus aquaticus*	NB	Stodmarsh
Coot	*Fulica atra*	B	The Swale
Oystercatcher	*Haematopus ostralegus*	B	Ouse Washes
Lapwing	*Vanellus vanellus*	B	Ouse Washes
Lapwing	*Vanellus vanellus*	B	Peak District Moors (South Pennine Moors Phase 1)
Lapwing	*Vanellus vanellus*	B	South Pennine Moors Phase2
Lapwing	*Vanellus vanellus*	B	South Uist Machair and Lochs
Lapwing	*Vanellus vanellus*	B	Stodmarsh

Common name	Scientific name	Population	Site name
Lapwing	*Vanellus vanellus*	B	The Swale
Common Sandpiper	*Actitis hypoleucos*	B	Peak District Moors (South Pennine Moors Phase 1)
Common Sandpiper	*Actitis hypoleucos*	B	South Pennine Moors Phase 2
Whinchat	*Saxicola rubetra*	B	South Pennine Moors Phase 2
Wheatear	*Oenanthe oenanthe*	B	South Pennine Moors Phase 2
Grasshopper Warbler	*Locustella naevia*	B	Stodmarsh
Savi's Warbler	*Locustella luscinioides*	B	Stodmarsh
Sedge Warbler	*Acrocephalus schoenobaenus*	B	Stodmarsh
Wood Warbler	*Phylloscopus sibilatrix*	B	New Forest
Reed Warbler	*Acrocephalus scirpaceus*	B	Stodmarsh
Reed Warbler	*Acrocephalus scirpaceus*	B	The Swale
Reed Bunting	*Emberiza schoeniclus*	B	The Swale

Table 14: SPAs with species/populations with SPA suites where numbers did not qualify in the 1990s (Second Review) or 2000s (Third Review), and/or with low Site Provision Index values.

Common name	Scientific name	Population	Site name
Bewick's Swan	*Cygnus columbianus*	NB	Medway Estuary and Marshes
Bewick's Swan	*Cygnus columbianus*	NB	The Wash
European White-fronted Goose	*Anser albifrons albifrons*	NB	Minsmere–Walberswick
European White-fronted Goose	*Anser albifrons albifrons*	NB	Stodmarsh
Wigeon	*Mareca penelope*	B	South Tayside Goose Roosts
Wigeon	*Mareca penelope*	NB	Burry Inlet
Wigeon	*Mareca penelope*	NB	Stodmarsh
Gadwall	*Mareca strepera*	NB	Stodmarsh
Gadwall	*Mareca strepera*	NB	Minsmere–Walberswick

Common name	Scientific name	Population	Site name
Teal	*Anas crecca*	NB	Teesmouth and Cleveland Coast
Mallard	*Anas platyrhynchos*	NB	Stodmarsh
Mallard	*Anas platyrhynchos*	NB	Medway Estuary and Marshes
Shoveler	*Spatula clypeata*	B	Minsmere–Walberswick
Shoveler	*Spatula clypeata*	B	Nene Washes
Shoveler	*Spatula clypeata*	NB	Stodmarsh
Shoveler	*Spatula clypeata*	NB	Solway Firth
Shoveler	*Spatula clypeata*	NB	Minsmere–Walberswick
Tufted Duck	*Aythya fuligula*	NB	Stodmarsh
Goosander	*Mergus merganser*	NB	Loch of Skene
Ringed Plover	*Charadrius hiaticula*	B	Blackwater Estuary (Mid-Essex Coast Phase 4)
Ringed Plover	*Charadrius hiaticula*	B	Colne Estuary (Mid-Essex Coast Phase 2)
Golden Plover	*Pluvialis apricaria*	NB	Thanet Coast and Sandwich Bay
Lapwing	*Vanellus vanellus*	NB	Stodmarsh
Dunlin	*Calidris alpina alpina*	NB	Portsmouth Harbour
Common Snipe	*Gallinago gallinago*	NB	Stodmarsh
Common Snipe	*Gallinago gallinago*	B	Stodmarsh
Common Snipe	*Gallinago gallinago*	B	Ouse Washes
Common Snipe	*Gallinago gallinago*	B	South Uist Machair and Lochs
Black-tailed Godwit	*Limosa limosa*	NB	Portsmouth Harbour
Curlew	*Numenius arquata*	NB	Traeth Lafan/Lavan Sands, Conway Bay
Redshank	*Tringa totanus*	NB	Burry Inlet
Redshank	*Tringa totanus*	NB	Moray and Nairn Coast
Common Tern	*Sterna hirundo*	B	Chichester and Langstone Harbours
Common Tern	*Sterna hirundo*	B	Medway Estuary and Marshes
Common Tern	*Sterna hirundo*	B	Pagham Harbour
Short-eared Owl	*Asio flammeus*	B	Medway Estuary and Marshes

Table 15: SPAs with species/population with numbers that did not qualify in the 1990s (Second Review) or 2000s (Third Review), but subsequent data suggest numbers may now qualify and should therefore be retained (subject to further data checks).

Common name	Scientific name	Population	Site name
Red-throated Diver	*Gavia stellata*	NB	Medway Estuary and Marshes
Pochard	*Aythya ferina*	NB	Stodmarsh
Pochard	*Aythya ferina*	NB	Medway Estuary and Marshes
Long-tailed Duck	*Clangula hyemalis*	NB	Lindisfarne
Common Scoter	*Melanitta nigra*	NB	The Wash
Goldeneye	*Bucephala clangula*	NB	The Wash
Red-breasted Merganser	*Mergus serrator*	NB	Portsmouth Harbour
Ringed Plover	*Charadrius hiaticula*	B	Foulness (Mid-Essex Coast Phase 5)
Knot	*Calidris canutus*	NB	Medway Estuary and Marshes
Ruff	*Calidris pugnax*	NB	Alde–Ore Estuary
Redshank	*Tringa totanus*	B	Stodmarsh
Roseate Tern	*Sterna dougallii*	B	Lindisfarne
Little Tern	*Sternula albifrons*	B	Thanet Coast and Sandwich Bay

Table 16: SPAs with species/populations with SPA suites where numbers did not qualify in the 1990s (Second Review), but numbers in the 2000s (Third Review) were above qualifying thresholds for addition as a main component of the waterbird assemblage, which should therefore be retained (subject to further data checks).

Common name	Scientific name	Population	Site name
Gadwall	*Mareca strepera*	NB	The Wash
Teal	*Anas crecca*	NB	Solway Firth
Shoveler	*Spatula clypeata*	NB	Medway Estuary and Marshes
Shoveler	*Spatula clypeata*	NB	Teesmouth and Cleveland Coast
Grey Plover	*Pluvialis squatarola*	NB	Burry Inlet
Knot	*Calidris canutus*	NB	Thames Estuary and Marshes

Table 17: SPAs with waterbird assemblage numbers that did not qualify in either the 1990s (Second Review) or 2000s (Third Review).

Assemblage name	Population	Site name
Waterbird assemblage	NB	Gladhouse Reservoir

Table 18: SPAs with waterbird assemblage numbers that did not qualify in 1990s (Second Review), but which qualified in the 2000s (Third Review) and should therefore be retained (subject to further data checks).

Assemblage name	Population	Site name
Waterbird assemblage	NB	Crouch and Roach Estuaries (Mid-Essex Coast Phase 3)

Table 19: SPAs with species/population with numbers that did not qualify in the 1990s (Second Review), but which qualified or were near qualifying in the 2000s (Third Review) and should therefore be retained (subject to further data checks).

Common name	Scientific name	Population	Site name
Little Egret	*Egretta garzetta*	NB	Tamar Estuaries Complex
Shoveler	*Spatula clypeata*	B	Lower Derwent Valley
Red-breasted merganser	*Mergus serrator*	NB	Lindisfarne
Red Kite	*Milvus milvus*	B	Berwyn
Hen Harrier	*Circus cyaneus*	NB	Medway Estuary and Marshes
Merlin	*Falco columbarius*	NB	Medway Estuary and Marshes
Sanderling	*Calidris alba*	NB	Gibraltar Point
Sanderling	*Calidris alba*	NB	Lindisfarne
Sanderling	*Calidris alba*	NB	Solway Firth
Ruff	*Calidris pugnax*	NB	Breydon Water
Greenshank	*Tringa nebularia*	NB	Medway Estuary and Marshes
Turnstone	*Arenaria interpres*	NB	Chichester and Langstone Harbours
Kingfisher	*Alcedo atthis*	B	Medway Estuary and Marshes

Table 20: SPAs with species/populations recommended for deletion in the 1990s (Second Review), but subsequent data suggest numbers may now qualify and should therefore be retained (subject to further data checks).

Common name	Scientific name	Population	Site name
Dark-bellied Brent Goose	*Branta bernicla bernicla*	NB	Deben Estuary
Dark-bellied Brent Goose	*Branta bernicla bernicla*	NB	Pagham Harbour
Goosander	*Mergus merganser*	NB	Rutland Water
Redshank	*Tringa totanus*	B	Ouse Washes
Redshank	*Tringa totanus*	B	The Swale