



BTO Research Report 429

**Coverage of designated sites in
England by BTO bird monitoring
schemes: a review to 2005**

Authors

**G.J. Conway, H.Q.P. Crick, R.J. Fuller,
M. Handschuh, I.M.D. Maclean, J.H. Marchant,
A.J. Musgrove, S.E. Newson, D.G. Noble,
M.M. Rehfisch & R.M. Thewlis**

A report to English Nature

January 2006

© British Trust for Ornithology and English Nature

British Trust for Ornithology, The Nunnery, Thetford, Norfolk, IP24 2PU
Registered Charity No. 216652

CONTENTS

	Page No.
List of Tables	3
List of Figures.....	3
List of Appendices.....	3
1 INTRODUCTION	5
1.1 The concept of Common Standards Monitoring.....	5
1.2 Common Standards Monitoring of English ornithological sites.....	5
1.3 The objectives of this report.....	7
2 HOW THIS REVIEW HAS BEEN CONDUCTED	9
2.1 Wetland Bird Survey	9
2.2 Breeding Waders of Wet Meadows (BWWM).....	10
2.3 Heronries Census	11
2.4 Woodlark, Nightjar, Dartford Warbler and Peregrine surveys.....	11
2.5 BTO Register of Ornithological Sites.....	12
3 APPROACHES TO MONITORING THE QUALITY OF BREEDING BIRD ASSEMBLAGES AT SSSIs	13
3.1 Background	13
3.2 Requirements	14
3.3 Can existing schemes provide sufficient data?	14
3.3.1 BTO/JNCC/RSPB Breeding Bird Survey.....	15
3.3.2 BTO/RSPB/BWI BirdTrack.....	15
3.3.3 BTO/WWT/RSPB/JNCC Wetland Bird Survey.....	15
3.3.4 BTO/EN/RSPB Breeding Waders of Wet Meadows.....	16
3.3.5 Single species surveys (SCARABBS)	16
3.3.6 Atlas projects.....	16
3.3.7 Rare Breeding Birds Panel	16
3.3.8 Conclusion	16
3.4 A suggested approach to assembling lists of breeding species on SSSIs	17
3.5 Proposal for a pilot study in 2006.....	18
3.5.1 Field study design for timed lists.....	19
3.5.2 Synthesising data from timed lists and supplementary sources	19
3.5.3 Assessing potential coverage	19
3.5.4 Some general issues.....	20
3.6 Resource requirements.....	20
4 SUMMARY OF FINDINGS BY COUNTY AND BY SSSI.....	21
5 OVERVIEW OF FINDINGS.....	107
5.1 Wetland Bird Survey findings	107
5.1.1 Issues surrounding WeBS Core Counts carried out at low tide.....	109
5.2 Heronries Census findings	113
5.3 SCARABBS surveys	113
5.4 Ringed Plover survey findings	114
5.5 Breeding Waders of Wet Meadows findings	114

6	PRIORITIES AND RECOMMENDATIONS.....	115
6.1	Priorities and recommendations for waterbirds	115
6.1.1	Determining count area boundaries.....	116
6.1.2	Minor adjustments to count area boundaries	116
6.1.3	Extension of geographic coverage	116
6.1.4	Extension of temporal coverage.....	117
6.1.5	Sites not previously covered.....	117
6.1.6	Increasing volunteer or professional coverage.....	117
6.1.7	Specialist surveys and additional information for difficult species.....	120
6.1.8	Monitoring waterbirds during passage periods.....	122
6.2	Heronries Census	122
6.3	Future National Peregrine Surveys	123
6.4	Future SCARABBS surveys of heathland	123
6.5	Future national Ringed Plover surveys.....	128
6.6	Future surveys of species and assemblages of wet habitats.....	128
	Acknowledgements	134
	References.....	135

List of Tables

	Page No.
Table 1	Summary of coverage of sites differing in biological importance 107
Table 2	Summary of mean WeBS coverage of SSSIs by English Nature county 108
Table 3	SSSIs for designated for waterbird features for which action is most urgently required..... 115
Table 4	The 57 SSSIs where WeBS coverage may be attained relatively easily using volunteer counters..... 118
Table 5	The 29 SSSIs where WeBS coverage could perhaps be attained through volunteer counters..... 119
Table 6	Summary of coverage and recommendations for heathland SSSIs, categorised hierarchically by designation type 125
Table 7	Summary of coverage and recommendations for wet grassland SSSIs, categorised hierarchically by designation type 129

List of Figures

Figure 1	The location of SSSIs designated for waterbirds in England..... 109
Figure 2	Breakdown of counts of WeBS coastal sections by state of tide 110

List of Appendices

Appendix 1	How to use the English SSSIs CSM database 137
Appendix 2	The GIS project file and how to use it 139
Appendix 3	Coverage, importance and priority for each SSSI for which waterbirds are a designated feature..... 141
Appendix 4	Nationally and regionally important heronries 149
Appendix 5	Reports and other outputs from the BTO Register of Ornithological Sites 155

1 INTRODUCTION

A primary responsibility of the statutory nature conservation agencies in the UK is the identification and protection of a series of sites intended to conserve important wildlife and geological features. Such sites may be designated under national legislation (Sites of Special Scientific Interest (SSSIs) in Britain and Areas of Special Scientific Interest (ASSIs) in Northern Ireland), by European Directive (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)), or through international conventions (Ramsar sites).

The special interest features that can lead to the designation of a site are assessed according to published selection guidelines, such as those for biological SSSIs (Nature Conservancy Council 1989). The particular qualities for which each site has been designated are recorded at the time of notification and, for many sites, are a complex mixture of species, habitats and earth-science features. Once sites have been notified, the country agencies work with owners, occupiers and others to secure their management and protection. There is no mechanism for the denotification of SSSIs. A substantial proportion of each agency's resources is devoted to the selection, management and protection of statutory sites.

1.1 The concept of Common Standards Monitoring

Under the Environmental Protection Act 1990, one of the special functions to be undertaken through JNCC is the '*establishment of common standards throughout Great Britain for the monitoring of nature conservation*'. In the context of protected sites, the development of common standards for monitoring provides two major benefits:

- It provides country agency staff with a reliable method with which to assess the conservation status of key interest features on their sites. This enables assessments made by different people at different times to be compared with some confidence and enables staff to identify changes taking place on their sites.
- Assessments from different sites can be aggregated to produce summary reports at a range of geographical scales. This can identify priorities for action at the local and national level. Such aggregation is essential if the UK is to report on the condition of designated sites across the UK, for example to meet the reporting requirements of EU Directives.

Clearly, ongoing review is vital to ensure that the reasons for the original SSSI notification continue to apply, and that the sites most worthy of SSSI status are notified. This process is undertaken within the formal framework of Common Standards Monitoring (CSM), established by JNCC (1998). These common standards cover:

- Features to be monitored
- Conservation objectives
- Judging the condition of site features
- Recording threats and management measures
- Monitoring cycle
- Reporting arrangements

1.2 Common Standards Monitoring of English ornithological sites

English Nature champions the preservation for future generations of England's remaining natural heritage, in the face of relentless pressure from development, pollution, climate change and unsustainable land management. Protected sites are an important element of this process, as they support plants and animals that find survival more difficult in the wider countryside. There are over 4,000 SSSIs in England, covering around 7% of the country's land area.

Around 630 English SSSIs have been notified partly or solely on the grounds of ornithological interest. Their reasons for designation generally fall into one of three broad categories: an aggregation of a particular breeding species (usually over 1% of the total British population); an aggregation of a particular non-breeding species (overwintering or on passage, with a similar 1% criterion); or a notable assemblage of species that are known to be associated with a particular habitat. Assemblages are judged against a scale derived from the BTO's Register of Ornithological Sites, with criteria that differ by habitat and by region, according to the species expected to occur.

To follow the CSM protocol, English Nature is monitoring all interest features on all English SSSIs on a six-year cycle. Aggregations are to be monitored and assessed against baselines, usually determined at the time of notification, by counting birds and estimating population size within the SSSI. Assemblages are to be assessed simply by confirming presence or absence of the listed assemblage species for the relevant habitat and region, and comparing the assemblage score or index with that recorded at the time of notification.

The nature conservation agencies are also required to monitor qualifying bird populations on all SPAs, again on a six-year cycle. The majority of SPAs are designated under one or more of the three following criteria: regular use by 1% or more of the British population of a species listed in Annex I of the Birds Directive; regular use by 1% or more of the biogeographical population of a regularly occurring migratory species; and regular use by over 20,000 waterbirds or seabirds. All SPAs are underpinned by SSSIs and the monitoring of SPAs will normally be fully achieved through that of their constituent SSSIs. In practice, however, a species might need to be monitored because it is an interest feature of a larger SPA, yet not feature in the designation of any constituent SSSI.

The minimum data requirement for CSM is to have a single assessment (survey) of each feature in each six-year reporting cycle. For confidence in assessments of bird population size, however, it is recommended that population counts are obtained from a minimum of three relevant seasons within the six-year reporting cycle (JNCC 2004). In practical terms, few bird counts could be made more frequently than once in six years, unless they are derived from established surveys that are already regular and ongoing.

The British Trust for Ornithology (BTO), formed in 1933, is the UK's leading independent research organisation studying birds and their habitats. BTO has considerable expertise in the design, implementation and analysis of a range of projects from intensive studies to extensive surveys. It runs a number of national, annual surveys through its volunteer network to monitor the status of the UK's birds across a variety of habitats. BTO is also currently involved in a very wide range of research including work on wetland, farmland, woodland, urban and upland bird populations. All the surveys are organised and analysed by a team of professional scientists based at the Trust's headquarters in Thetford, Norfolk, and at BTO Scotland, Stirling.

BTO projects are important sources of data for this review. These existing national bird-monitoring schemes already meet many of the requirements set by CSM for ornithological interest features. For example, the great majority of wetland SSSIs (including estuaries, gravel pits and reservoirs) that support important populations of non-breeding waterbirds are covered by the BTO/WWT/RSPB/JNCC Wetland Bird Survey (WeBS). However, these schemes do not meet the monitoring requirements of all ornithological interest features on all SSSIs, or may not be sufficiently frequent. The present review aims to assess the current state of CSM, as applied to English SSSIs designated for bird populations, and to put forward feasible suggestions for improvement.

1.3 The objectives of this report

The objectives of this report can be summarised as follows:

- To review current national bird monitoring schemes to assess the extent of coverage of ornithological interest features on selected SSSIs and SPAs.
- To assess the feasibility of increasing coverage in order to monitor all relevant ornithological interest features annually or at least once every six years.
- To recommend appropriate methodologies for increasing coverage – in particular, to identify gap-filling survey work that can be undertaken, providing information on how the work should be done, and at approximately what cost.

The present report does not include any consideration of the spatial and temporal coverage of SSSIs by the WeBS Low Tide Count scheme. This survey is supplementary to WeBS Core Counts, aiming to measure the relative distribution of waterbirds within estuarine sites. All issues pertaining to WeBS Low Tide Counts are discussed in a separate, stand-alone report (Banks *et al.* 2005), and are not considered further in this review.

2 HOW THIS REVIEW HAS BEEN CONDUCTED

An MS Access database identifying all relevant SSSIs and their ornithological interest features (and where relevant, which SPA they contribute to) was provided to BTO by English Nature and was the starting point for this review. We identified the most relevant BTO scheme for each feature, and extended the database to include assessments, from that scheme, of recent monitoring coverage of the feature in question. Also, for each SSSI, we included a discussion that brought together the results for that site, across all the ornithological features for which it had been notified.

The extended database itself is the major product of this review, and is designed to allow straightforward and versatile interrogation by users, for example by feature or by region (see Appendix 1 for a more detailed guide to the database). The overall SSSI discussions, but not those relating to the 4,500 or so individual features of ornithological interest within SSSIs, are additionally presented here as part of this written report, under section 4.

The assessment of breeding bird assemblages at SSSIs could not be fully integrated within the database structure, and is included here as a separate chapter (section 3) within this report.

Further to this report and the Access database, another product of this review is a GIS project containing maps of English SSSIs alongside maps derived from WeBS Core Counts, the Heronries Census, and other monitoring schemes.

The following sections relate to existing monitoring schemes that contribute to this review.

2.1 Wetland Bird Survey

Through its Core Counts programme, WeBS collects monthly counts of wetland birds from a very wide selection of inland and coastal wetland sites throughout the UK. Larger sites are subdivided into sectors, each of which may require more than one volunteer counter.

Coverage of WeBS Core Counts for wetland SSSIs is generally very good, with WeBS data typically forming the basis for SSSI designation in the first place. However, there are examples of individual SSSIs important for waterbirds that are not currently counted (for example, many of the wetland SSSIs in the Norfolk Broads) or receive only partial coverage. This review identifies significant areas of SSSIs which are likely to support bird species for which sites have been designated (either directly as the SSSI, or via the SPA designation) but which are not currently counted sufficiently well to allow a complete and regular estimate of bird numbers for the entire site. Clearly, as WeBS provides annual data, it is preferable that all areas within sites have this level of temporal coverage. Many important sites for non-breeding waterbirds are counted on a monthly basis but, as an absolute minimum, each SSSI should be counted once per winter, preferably during January, the month of the International Waterbird Census. Where SSSIs are of importance to passage birds, more survey effort would be required during the spring, autumn or both. Even with increased survey effort, however, there would remain serious uncertainty regarding turnover and thus the total numbers of birds passing through the site (see ongoing English Nature project on generating a modelling framework for calculating turnover of birds from observations and mark-recapture).

Each of the 270 SSSIs with a waterbird interest that are not counted annually under the Core Count scheme has been identified. For those SSSIs with only partial Core Count geographic overlap, maps in the accompanying GIS file show uncounted areas. Information on the importance of the habitats within each uncounted area is provided, and a recommendation made as to whether or not the area is a priority for surveillance. Generally speaking, if an uncounted area supports individuals of a species for which a site has been designated, it should be included and counted. However, it is helpful to prioritise uncounted areas based on the numbers (and proportions at the SSSI level) of birds they are likely to support. This is necessary as it is unlikely to be possible to count all areas (at least in the

short term) and it will be important to organise counts on those areas holding the most significant numbers first. Moreover, great care needs to be taken when considering changes to coverage at a given site, to ensure that a) a comparable series of data is maintained through time, and b) that the volunteers are not asked to take on unreasonable extra commitments.

Options for increasing Core Count coverage have been explored and the best approach for each uncounted area is recommended. Ideally, all uncounted areas will be included within the normal Core Count approach relying on volunteer coverage. However, it will almost certainly be necessary to facilitate coverage on some sites through professional involvement. For each uncounted area we have identified, information is provided on the need for counting, priority for action and the recommended approach to achieve coverage. A proposed timetable of these priority actions, together with costings, is supplied a separate document.

It is apparent that WeBS is relatively poor at covering some waterbird species, especially those present offshore. For this reason a review is required of the coverage of particular bird populations for which SSSIs or SPAs have been designated. Particular attention has been paid to these species in the review of the relevant SSSIs and, where coverage is currently deemed insufficient, recommendations have been made for boosting it. This might require dedicated schemes for certain sites where the standard WeBS approach is unsuitable. The best approach for each site (and species, if appropriate) has been described. This task involved the assessment of 165 SSSIs or 2848 SSSI–species combinations.

As a separate element of this work, to be carried out under the general WeBS contract, English Nature is being provided with data for all WeBS sites which are nationally important for each species. This will include five-year mean peaks and five-year averages for each species at each site. This will allow a calculation of the proportion of the population within SSSIs for each species, as well as an indication of the adequacy of the geographical spread of SSSIs. Maps and tables will be produced for each species showing the location and population data for each nationally important site and identifying a) those sites which fall within SSSIs and b) where the species is an actual interest feature for that SSSI. The numbers of birds under both categories can then be compared with total numbers within all WeBS sites and the latest British population estimates.

2.2 Breeding Waders of Wet Meadows (BWWM)

These are UK-wide surveys of breeding waders of wet meadow habitats, broadly defined as any area of grassland below 183 m asl that is subject to freshwater flooding or waterlogging. This survey is a valuable means of monitoring a number of wader species, notably Lapwing, Redshank, Curlew and Snipe, for which this is an important habitat. It also provides good information for other breeding waders such as Avocet, and for wildfowl and Yellow Wagtail. Previous surveys were undertaken in 1982 and 2002, with a sample survey in 1989. The next full survey will be due in 2012–14.

A proportion of the lowland wet grassland SSSIs that are designated for nationally or regionally important aggregations of breeding waders, or for their breeding bird assemblages, are included in the BWWM surveys. Approaches to carrying out surveys of breeding waders on all relevant SSSIs at least once every six years, and how these could most effectively link with the national BWWM surveys, are described. The digitised boundaries of the BWWM sites that are inside, partly inside, or contain SSSIs have been compared with the boundaries of the designated sites to determine the level of overlap and thus the extent of additional survey coverage required. An approach to meeting additional survey requirements is recommended and a project proposal has been provided.

This task will involve assessing 78 SSSIs with important breeding aggregations of waders and wildfowl on wet grasslands and 55 SSSIs with lowland damp grassland or wet grassland breeding bird assemblages. Not all of these held waders or wildfowl and therefore not all were covered by BWWM.

2.3 Heronries Census

BTO runs an annual count of nests in as many heronries as possible across the UK. Beginning in 1928, this is the longest-running survey of any breeding bird in the world.

An estimated two-thirds of English heronries are surveyed annually, with national surveys of all known UK nests carried out every 10–20 years. In this study, we review coverage of heronries at all 24 SSSIs that have been notified for their aggregations of breeding Grey Herons. Cormorants often nest alongside herons and are counted by the same observers. Coverage of a small number of sites notified for Cormorant colonies is also reviewed.

A further output of this review is a list of other nationally and regionally important heronries in England (the largest in each county and government office region) for consideration for future SSSI notification (see Appendix 4).

2.4 Woodlark, Nightjar, Dartford Warbler and Peregrine surveys

SCARABBS is an agreement between RSPB, the statutory conservation organisations and other parties to run a rolling programme, currently on a 12-year cycle, to survey species not covered by generic schemes such as the BTO/JNCC/RSPB Breeding Bird Survey (BBS). Here we review coverage of SSSIs particularly for species monitored by BTO-led surveys. These include Woodlark, Nightjar and Peregrine, which are all relatively frequent on English SSSIs and have been censused in recent breeding seasons.

These surveys are typically intended to provide national estimates of population size and geographical range and do not necessarily provide comprehensive data for all birds present within designated sites. Coverage achieved under SCARABBS has been reviewed, and options are put forward, for increasing coverage to the level of comprehensive data collection for all SSSIs (including those within relevant SPAs).

Options are also provided for achieving full coverage in years that do not coincide with national surveys. These may differ from the approach used during SCARABBS years, where it is not considered feasible to draw upon voluntary assistance every six years rather than 12 years. We also consider the feasibility of undertaking combined surveys of all species occurring as part of important assemblages (such as Nightjar and Woodlark) in the same year (see section 3). It may also be most effective to combine surveys of lowland heathland breeding bird assemblages (see below) with the surveys of these individual species. We consider the feasibility and cost-effectiveness of meeting these monitoring requirements with a single survey approach.

For each SCARABBS species, the gaps in coverage have been determined using the most recent survey coverage compared with SSSI extent. For Woodlark and Dartford Warbler, a new survey is being prepared for 2006, and will take into account the requirements of CSM. The national survey coverage will first be determined before identifying which additional SSSIs need to be surveyed. Following the 2004 Nightjar Survey, the gaps in coverage are largely known, and have already been filled: for example, BTO was contracted to survey gaps in SSSI coverage in East Anglia during 2005. The national Peregrine survey data for 2002 were converted to GIS format to allow comparison with SSSI boundaries and to enable any gaps in coverage to be identified. Liaison with the raptor groups helped determine the feasibility of obtaining further counts of Peregrines in designated sites.

This task involved assessing 57, 53 and 22 SSSIs for Nightjar, Woodlark and Peregrine respectively; 47 SSSIs were also assessed for Dartford Warbler. Furthermore, Nightjar, Woodlark and Dartford Warbler are each interest features of the lowland heathland breeding bird assemblages of 34 SSSIs.

2.5 BTO Register of Ornithological Sites

Localities are eligible for selection as SSSIs if they contain an especially good range of bird species characteristic of the habitat, as defined by an assemblage index (Nature Conservancy Council 1989). The index was based on a method developed for assessing sites documented in the BTO Register of Ornithological Sites, which was compiled during the 1970s. Some data used in calculating the assemblage index for individual SSSIs were drawn from the BTO Sites Register.

Information was retrieved from the original BTO Sites Register for SSSIs designated for the quality of the breeding bird assemblage. The original list of species recorded for each SSSI has been tabulated. This required hand extraction and computerisation of the relevant records, as the species lists compiled in the Sites Register were never computerised. This task involved assessing 455 SSSI–species combinations and 389 SSSIs designated for their assemblages of breeding birds. For each site the extent of the original Sites Register has been visually compared with SSSI boundaries to give a broad categorical indication of the level of overlap; the quality of some of the original hand-drawn maps often do not warrant a higher level of precision. Not all SSSIs designated for the quality of the breeding bird assemblage were documented in the Sites Register. This is presumably because there was an approximately 10-year interval between completion of the Sites Register in the mid 1970s and the application of the assemblage index method to SSSIs in the 1980s. During this period many new bird surveys were carried out which would have generated new information on sites of importance; this would have been especially the case in upland regions. An annotated bibliography of contract reports produced as part of the original work on the Sites Register has been included.

A minimum standard is needed for future surveys of such assemblages. For each site, this will effectively require the compilation of a list of breeding species within a defined period, giving particular attention to all the ‘qualifying species’ appropriate to the habitat concerned. Devising such a standard is difficult because of the highly variable nature of SSSIs in terms of habitat composition and extent, and also because several potential sources of contributing data already exist.

A review has been made of existing schemes (for example Breeding Bird Survey, BirdTrack) and other potential sources of information (for example Rare Breeding Birds Panel) to determine the potential for these schemes to contribute to monitoring the breeding bird assemblages on SSSIs. An SSSI breeding bird assemblage monitoring scheme has been devised (including the use of voluntary support and of existing information sources, where feasible) and a pilot study aimed at establishing the effectiveness of the scheme is proposed for the 2006 breeding season. Full details appear in section 3 of this report, below.

3 APPROACHES TO MONITORING THE QUALITY OF BREEDING BIRD ASSEMBLAGES AT SSSIs

3.1 Background

In the 1970s the British Trust for Ornithology undertook *The Register of Ornithological Sites*, a major project that documented the ornithological interest of approximately 4,000 sites throughout Britain. A detailed account of the project was provided in Appendix 3 of Fuller (1982). The initial purpose of the Register was twofold: it would enable a conservation case to be rapidly constructed when an important site was threatened, and it would provide an input to conservation planning by identifying key sites that merited protection.

The sites were identified by both volunteers and professionals, who provided details of the habitats and the bird communities occurring at the site. Passage, breeding and wintering species were listed separately with estimated abundance recorded on an order-of-magnitude scale for each species in each season.

A requirement of the project, which was funded by the BTO and the then Nature Conservancy Council, was to develop an objective method of assessing the relative importance of sites for birds. A method was applied to all of the Register sites based on the assessment of three broad attributes, each of which was regarded as being of equal intrinsic conservation value (Fuller 1980):

- *Population size* – the size of aggregations in the case of gregarious species, such as seabird colonies, heronries, or wintering waterbirds.
- *Diversity* – two components of diversity were assessed:
 1. Species richness in different seasons
 2. The quality of the breeding community.
- *Rarity* – the number of nationally rare breeding species present.

In 1985, Dr M.W. Pienkowski of the Nature Conservancy Council enlisted one of us (Dr R.J. Fuller) to assist in developing draft revised guidelines for SSSI selection on ornithological grounds. In particular, RJF was requested to develop the methodology for assessing the quality of the breeding community specifically for application to SSSIs.

As originally described, the index that was used to assess quality of the breeding community for Register purposes was derived from the summation of individual species scores reflecting national abundance (Fuller 1980). Species with estimated British breeding populations of less than 100,000 breeding pairs were assigned a score of 5 to 1 as follows: 5 = 1–10 pairs; 4 = 11–100; 3 = 101–1000; 2 = 1,001–10,000; 1 = 10,001–100,000. In the original application the following set of unified threshold index values was used to assign the Register sites to four levels of importance: national (threshold index value of 60), regional (40–59), county (20–39), and local (10–19).

The development of the method for SSSI purposes involved, first, the establishment of the habitat-specific thresholds and, second, restructuring the index system to include a sixth category for species of 100,000–1,000,000 breeding pairs. This modified system is that described in Appendix C of *The Guidelines for selection of biological SSSIs* (Nature Conservancy Council 1989). The resulting attribute is subsequently referred to as the ‘quality of the breeding bird assemblage’ and is intended to identify sites that hold an especially good range of bird species characteristic of the habitat concerned. The measure used to assess this attribute is here termed the ‘assemblage index’.

3.2 Requirements

In order to assess whether an SSSI qualifies on the basis of its assemblage index, two new pieces of information are required:

1. A complete list of breeding species for the SSSI, by habitat.
2. An updated assessment of national breeding bird populations.

With regard to the species list, it is essential that this relates to the area of land defined by the SSSI boundary. It is also suggested that the list should be confined to species that are either confirmed or probable breeding on the site. Field methods for establishing this list of species are outlined in the following section. It is recommended that the criteria should be consistent with those likely to be used for the forthcoming 2007–11 national bird atlas being organised by the BTO. These criteria have yet to be finalised by the atlas working group but are likely to be similar to those adopted for the 1968–72 atlas (Sharrock 1976) rather than the much simplified criteria adopted for the 1988–91 atlas (Gibbons *et al.* 1993). The criteria used in the 1968–72 atlas can be summarised as:

Confirmed breeding:

- Distraction display or injury feigning
- Used nest found
- Recently fledged young
- Adult carrying faecal sac
- Adult with food for young
- Adult behaviour indicating occupied nest
- Nest found or eggshells found away from nest
- Downy young of precocial species (gamebirds, wildfowl, waders)

Probable breeding:

- Singing male present or breeding calls heard on more than one date
- Bird (or pair) apparently holding territory
- Courtship and display
- Alarm calling from adults suggesting nest or young nearby
- Brood patch on trapped female
- Visiting probable nest site
- Nest building

With regard to the national population estimates, the most recent published overview should be used as a basis for scoring individual species. The Avian Population Estimates Panel has recently completed an overview (Baker *et al.* 2006), revising that of Stone *et al.* (1997).

Changes in the estimated population sizes of birds could theoretically affect some of the habitat-specific threshold site-index values given by NCC (1989). It is suggested, therefore, that periodic review of these threshold values is desirable, ideally in step with the publication of revised national population estimates. However, it would not be desirable to review these thresholds too frequently, perhaps no more than once per decade.

3.3 Can existing schemes provide sufficient data?

The BTO runs several bird monitoring projects that have a long-term outlook in that they either collate data on an annual basis or at regular intervals. In association with staff responsible for running the projects, we reviewed each of these to assess whether they were potential sources of information that could be used to assess the quality of the breeding bird assemblage at individual SSSIs. The following projects were reviewed, and conclusions with respect to each are summarised below. The

principal criteria against which they were assessed was that they had the capacity to generate a comprehensive species list relating specifically to the land lying within the boundary of an SSSI.

3.3.1 BTO/JNCC/RSPB Breeding Bird Survey

This scheme is designed to monitor birds in the wider countryside rather than on specific sites (www.bto.org/bbs). The BBS sampling design is based on randomly selected 1-km squares within which birds are recorded in distance bands along two parallel transects. A total of 683 BBS squares covered at least once between 1994 and 2004 include land forming an SSSI, from a current UK total coverage of around 2500. Only 477 of these BBS squares had at least 5% SSSI land, 290 were at least 25% SSSI, 197 were at least 50%, 101 were >95% and 69 were 100% SSSI land. Thus the level of overlap varies greatly from cases where an SSSI forms a small part of the BBS square to those, most frequent in the uplands, where the BBS square forms just a part of a large SSSI. It is highly questionable whether BBS can actually provide comprehensive species lists at a site level partly because of problems with variable spatial overlap (see above) and partly because the field methods will seldom allow the compilation of a comprehensive species list for a site. The BBS transect method does not permit whole-area searches, nor does it capture information that relate to the breeding categories outlined in section 3.2. It is concluded that BBS is very unlikely to provide useful information for the current purpose except in a very small number of cases and even then it may be necessary to modify the data collected.

3.3.2 BTO/RSPB/BWI BirdTrack

This is an online bird-recording scheme launched in 2004. Observers submit species lists for any site they wish to register with the scheme. The lists can relate to any time of year and the main purpose of the project is to provide additional monitoring. The following is taken from the BirdTrack website (www.bto.org/birdtrack):

“The success of BirdTrack relies on your birdwatching lists. As a contributor you make a note of the birds you see each day, either out birdwatching, from the office or the garden and enter your daily observations on a simple-to-use web page. We need to gather a large number of lists at all times of the year from throughout Britain and Ireland. We prefer complete lists of birds (all species seen and heard) because the proportion of lists with a given species provides a good measure of frequency of occurrence that can be used for population monitoring.”

At present, therefore, the emphasis is on collection of large numbers of lists and their use in monitoring through the calculation of frequency indices. Volunteers select the locations. There is a reasonable overlap of registered BirdTrack locations with the list of SSSIs that have been notified for their breeding bird assemblage (120 sites). However, it is impossible to assess the exact extent of overlap. A key limitation of BirdTrack for the purposes of SSSI recording is that boundaries of locations are not mapped, and are possibly not constant, making it impossible to assess the level of overlap of existing information with SSSI boundaries. Furthermore, it is unclear how comprehensively observers cover their sites, and BirdTrack does not currently allow for recording breeding categories as defined in section 3.2.

The conclusion is that a major modification would be required to make BirdTrack immediately useful for SSSI monitoring. BirdTrack could become an extremely useful source of supplementary records, however. Also, it could help identify potential observers who might contribute to SSSI monitoring.

3.3.3 BTO/WWT/RSPB/JNCC Wetland Bird Survey

Although WeBS is primarily a scheme for recording numbers of waterbirds at wetland sites outside the breeding season, birds at some sites are counted in the breeding season also, though with emphasis on non-breeding birds (www.bto.org/survey/webs). A few observers provide fragmentary information

on the presence of breeding waterbirds, though this is seldom comprehensive in species coverage, even for this group. In its current form WeBS is not a useful source of information for assessing the quality of the breeding bird assemblage. In principle it could be extended to cover the breeding season but this is not one of the methodological developments proposed for the scheme.

3.3.4 BTO/EN/RSPB Breeding Waders of Wet Meadows

This survey concentrates on breeding waders but information is also recorded on wildfowl and Yellow Wagtails. Full surveys have been undertaken in 1982, and in 2002 (Wilson *et al.* 2005). Future surveys could be adapted to list all breeding species encountered, thus providing useful information for SSSI monitoring for this particular habitat.

3.3.5 Single species surveys (SCARABBS)

Four species are surveyed jointly by BTO at intervals under the SCARABBS scheme: Peregrine, Nightjar, Woodlark and Dartford Warbler. These surveys are of relevance to the assemblage index only in that they may provide supplementary information on these species for a given site. Single-species surveys do not have the capacity to provide comprehensive lists of species for sites, and to impose this requirement would jeopardise the primary goal of the survey.

3.3.6 Atlas projects

The BTO will be undertaking a combined winter and breeding atlas over a four-year period starting in winter 2007/08. It is the BTO's intention to repeat atlases on a 20-year cycle. The basis of breeding season work is the collection of species lists for a high proportion of tetrads throughout Britain. Do they provide an opportunity to collect additional lists of species for defined sites? All atlas work is undertaken on the basis of grid squares (either tetrads or 10-km squares). Therefore a special site-based module would need to be superimposed on the square-based work if atlas fieldworkers were to collect data relevant to SSSIs. The BTO is not keen for additional modules to be included on top of the routine atlas fieldwork. This is because completion of the atlas will require a massive volunteer effort and we do not wish observers to be detracted from the core atlas work, nor do we wish to make the instructions more complex.

3.3.7 Rare Breeding Birds Panel

Rare species contribute disproportionately to the assemblage index, so it is vital that these are included in the species lists for SSSIs. On the other hand, the need for confidentiality raises practical problems. It is suggested that RBBP data are included in this exercise, perhaps by providing the Panel with a list of relevant SSSIs which they can include within their database. Careful consideration between the various parties involved would be needed to determine exactly how this information would be made available for calculating assemblage indices for specific sites. It is worth pointing out that this could become a two-way process with additional relevant information being provided to RBBP.

3.3.8 Conclusion

No existing schemes provide comprehensive lists of breeding species that can be related reliably to SSSI boundaries. Only the Breeding Waders of Wet Meadows Survey could be readily adapted to generate suitable information and this would only be for wet meadows and grazing marshes. It is concluded therefore that some form of dedicated scheme is required. The following section outlines a possible field method for achieving this.

3.4 A suggested approach to assembling lists of breeding species on SSSIs

It is strongly recommended that a species list is compiled for the entire SSSI and not, in the case of sites with mixed habitats, just for the habitat/assemblage type for which the site is judged to be of SSSI quality. The reason is that the original data upon which the SSSI citation was based will, in many cases, have been drawn from the entire site – this is certainly the case where the data came from the Sites Register.

One approach to compiling a list of the breeding species of an SSSI would be merely to ask an observer or group of observers to make a series of random walks, visiting all the habitats, until they feel that a complete list has been made. This informal approach has the advantage of being simple but has the disadvantages of being weakly repeatable (in the absence of any measure of effort) and one cannot be sure that the list would be complete. Completeness is very important, especially for the scarcer species which make so large a contribution to the index. A systematic approach is highly desirable, to aid comparison across time; it would potentially also allow comparisons across sites, which may have future research value.

It is suggested that a timed species count (or timed list) method is considered as the basis of deriving species lists on the majority of sites. Exceptions are described at the end of this section. This class of methods offers a straightforward, but systematic, way of assessing species richness involving the compilation of successive lists of species in a fixed period of time (Bibby *et al.* 2000, Bibby 2004). The accumulation of a large number of these lists allows an assessment of the completeness of the measure of species richness through the compilation of cumulative species curves. Such methods have been mainly applied in the tropics and other areas where species lists need to be established over large areas. The reason such methods are seldom used in western Europe is that relatively sophisticated methods are the norm, with the typical aim being to make absolute counts or to estimate densities. In the present case, however, there is no requirement to count individuals. It should be noted, however, that the proportion of lists on which a species is recorded will give a relative measure of abundance similar to that obtained in the 1998–91 atlas (Gibbons *et al.* 1993). This method would be easy to apply in the field as it involves listing a species only once in each time period, together with its category of breeding evidence. It is suggested that observers record all species, rather than just the target list of species with national populations of less than a million pairs.

The application of a timed list method to SSSIs could be as follows, though various aspects would need to be trialled though a pilot study (see section 3.5):

1. Stratify the SSSI by its broad habitat types, considering all habitats of at least 2 ha in extent. Complex areas of diverse habitats, or intricate mosaics, could be treated as a single habitat type. Timed lists would be requested from each habitat separately. The number of lists from each habitat type would depend on its extent and species richness: the more species of birds in the habitat, the more lists would be needed to be reasonably sure they had all been detected.
2. Where a habitat was represented by only a small area (<2 ha), this would still need to be visited because some species may be confined to that habitat. In such cases a single list may be compiled for the habitat.
3. Individual species lists would be compiled during a 20-minute period during which the observer would walk at random in the habitat concerned, covering no more than 4 to 5 hectares in open terrain and 2 hectares in scrub or woodland. This method has the advantage that observers can spend more time in areas likely to yield more species and can pay special attention to areas likely to hold expected species that have yet to be recorded. On the smaller sites (perhaps those <100 ha), the entire area could be covered – reaching to within 50 m of all areas in woodland and scrub and to within 150 m in open habitats. Larger sites are likely to be sampled.
4. To allow for seasonal variation in detectability, lists should be compiled on at least two separate occasions ('early' and 'later' in the breeding season). On large sites it may be

- best to sample different areas on the two visits but on smaller sites it may be necessary to revisit areas on the second visit.
5. Lists could be compiled throughout the morning and early afternoon, allowing up to 15 per day per observer, depending on access, assuming a 20-minute list was used. There would be no 'dead time' because, once the observer had reached the recording area, fieldwork could be largely continuous – unlike point counts, for example, where time is spent moving from one point to another.
 6. In the case of the more extensive habitats, species accumulation curves could be compiled on a habitat-specific basis. In any case, species accumulation curves would also be compiled for the whole site in the order that the lists were made. A minimum of 12 lists (equivalent to 4 hours of fieldwork) would be needed for each site though in most cases the number of lists would be far larger.
 7. A stopping rule could be applied to allow an objective assessment of when sufficient lists had been established. Bibby (2004) suggests this could be when the number of double records (i.e. species recorded on two lists) exceeds single records. An alternative would be when two consecutive lists in the same habitat produce no new species.

There may be several exceptions to using a timed species list approach. First, this may not be a sensible method to use on the smallest sites (perhaps on those <30 ha, though this threshold may be habitat-specific being larger in predominantly open habitats). In these cases, it may be best to undertake a systematic timed search, on at least two different dates, of as much of the area as possible to accumulate a single list of species. Second, some sites may have been the subject of recent intensive surveys which may have generated sufficiently detailed information. Third, every 12 or so years, wet meadow sites may be fully covered by the Breeding Waders of Wet Meadows survey.

It is suggested that these data could be collected through a mixture of volunteer and professional observers. Especially in the lowlands, many SSSIs are already visited regularly by volunteers who may be prepared to take long-term responsibility for maintaining species lists on particular sites, and periodically to collect data more systematically using timed lists. For the more remote areas especially, it may be necessary to employ contract fieldworkers.

The timed list system could provide the core species list for many SSSIs but it would be unwise to rely solely on this, especially for very large or complex sites. There are several potential sources of supplementary data:

- Site managers – where they exist – may have records for crepuscular or nocturnal species and for rare or very inconspicuous species. They should also run a general check on the probable completeness of the final species lists.
- Rare Breeding Birds Panel should play an important role in providing data on rare species, as described in section 3.3.7.
- BirdTrack could perhaps provide other supplementary data, though this would require some modification of the current systems (see section 3.3.2).
- SCARABBS data are relevant in the case of Peregrine, Nightjar, Woodlark and Dartford Warbler (see section 3.3.5).
- Some sites will be regularly visited by birdwatchers with in-depth knowledge of the species present. Some of these people may be prepared to undertake timed lists but in any case, wherever possible, their expertise should be drawn upon in producing the final species list.

3.5 Proposal for a pilot study in 2006

A pilot project is needed to determine the feasibility of the above approach, to work out many of the finer details of the field method and to consider broader aspects of study design. It is assumed that a system for deriving an assemblage index would need to be applied only to those 389 SSSIs where quality of the breeding bird assemblage is a cited reason for notification.

It is suggested that a pilot project would need to address four broad areas. First, the details of the field study methods need to be worked out. Second, thought needs to be given to exactly how data from field lists can best be integrated with information from varied supplementary sources. Third, problems of coverage need to be assessed. Fourth, some, more general issues of co-ordination need consideration. The specific aims and approach for each of these are considered below.

3.5.1 Field study design for timed lists

To refine the timed list method, the following questions need to be addressed:

- Is 20 minutes a suitable duration for compiling lists?
- How should lists be apportioned between different habitats?
- How can we best include habitats with very small areas?
- What is the best stopping rule?
- Exactly which categories of breeding evidence should be used?
- What are the practicalities of producing a cumulative species curve in the field?
- What is the smallest size of site on which timed lists would work?
- How should sample areas be selected, within large sites?

Refining the study design and field methods for the timed lists would require fieldwork to be undertaken at a diverse sample of sites. It is suggested that professionals undertake surveys on 20 sites varying in size and habitat composition. This would enable problems with the field methods to be identified and resolved. Full instructions for the timed list method would follow from their field experience.

3.5.2 Synthesising data from timed lists and supplementary sources

The specific aims of this part of the pilot study would be to develop a system for integrating timed lists with supplementary records, and to discuss data exchange issues with RBBP.

Essentially this would involve designing, first, a data flow system from the various sources and, second, an Access database to hold and integrate information. To avoid compromising the future use of the systematically collected data, it would be essential to maintain timed list data separately within the database. The Rare Breeding Birds Panel is rather different to the other potential supplementary sources because, by definition, its data are sensitive. This issue needs to be explored in some detail with the Panel. We also need to consider how to use the SCARABBS data most effectively, given that there will be comprehensive surveys only every 12 years.

3.5.3 Assessing potential coverage

Specific problems of coverage could be addressed through the following questions:

- How many SSSIs are already studied in detail for birds?
- How many SSSIs could possibly be covered by volunteers?
- What would be the effort required from contract workers?

The first would be answered through discussions with regional staff of English Nature who may have particular knowledge of ongoing and recent bird work on SSSIs. In the case of reserves, site managers or other staff would be approached to discuss the availability of existing information. BTO Regional Representatives would be asked their opinion about likely levels of interest from volunteers. We would be keen to involve members of local bird clubs in this work; indeed some clubs already monitor sites of local importance.

3.5.4 Some general issues

Several issues, some overlapping with those considered under the previous heading, would need discussion with the appropriate staff of English Nature, to ensure the full integration of this work with CSM as applied to English SSSIs. These include:

- Should the survey take the form of a 'blitz survey' every six years, or would a rolling six-year programme be appropriate? This will have large implications for project design.
- How should the project be co-ordinated?

3.6 Resource requirements

A separate estimate has been supplied to English Nature of the likely costs of BTO carrying out the pilot work described above.

Breeding Waders of Wet Meadows: BWWM covers over half the SSSI within the SSSI boundary. Remainder of site contains potentially suitable habitat for ducks and waders, which could possibly be covered by extension to BWWM coverage.

Lowland damp grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: OUSE WASHES

ENSIS ID: 1000503

Species-specific features: 44

Assemblage features: 4

Sites Register sites: 2

WeBS: This SSSI shares most of its boundary with the Ouse Washes SPA (but also includes a small section of the Old Bedford River that is not part of the SPA). It therefore inherits wintering waterbird features, although most are designated features of the SSSI specifically. WeBS provides good geographic and temporal coverage of the site.

Breeding Waders of Wet Meadows: Coverage for breeding species is good. However, a small extension of BWWM would ensure complete coverage of the SSSI. Note Mallard is not comprehensively covered by BWWM.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

CHESHIRE

SSSI name: COMBER MERE

ENSIS ID: 1002472

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

Nesting Grey Herons: The heronry is important at county level and in 2003 was the sixth largest in North West region. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: GOYT VALLEY

ENSIS ID: 1002841

Species-specific features: 5

Assemblage features: 1

Sites Register sites: 1

Breeding Waders of Wet Meadows: Part of the Peak District Moors (South Pennine Moors Phase 1) SPA, which supports a number of upland wader species. No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

Peregrine: This SSSI is a constituent part of the Peak District Moors (South Pennine Moors Phase 1) SPA and as such inherits the breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

SSSI name: INNER MARSH FARM

ENSIS ID: 2000282

Species-specific features: 3

Assemblage features: 0

Sites Register sites: 0

WeBS: WeBS provides at least some coverage of this site. However because the boundaries of the area counted are unknown, the quality of this coverage cannot be assessed. Temporal coverage is good.

SSSI name: MERSEY ESTUARY

ENSIS ID: 1001398

Species-specific features: 22

Assemblage features: 1

Sites Register sites: 0

WeBS: The boundaries of this site correspond approximately to those of the Mersey Estuary SPA. Consequently several waterbird features are inherited, although in many instances these are also designated features of the SSSI specifically. WeBS provides partial coverage of this site, but for adequate monitoring, greater geographic coverage is needed. Temporal coverage of most of the areas counted is good.

SSSI name: OAK MERE **ENSIS ID:** 1002780
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

Nesting Grey Herons: The heronry had a low county ranking in 2003. Counts of active nests in the colony have been made annually by BTO volunteers for many years.

SSSI name: PECKFORTON WOODS **ENSIS ID:** 1002801
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ROSTHERNE MERE **ENSIS ID:** 1003353
Species-specific features: 3 Assemblage features: 0 *Sites Register* sites: 0

WeBS: WeBS provides an appropriate means of monitoring this site and provides full coverage for all the waterbird species that are designated features of this site.

SSSI name: SANDBACH FLASHES **ENSIS ID:** 1003540
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TABLEY MERE **ENSIS ID:** 1003567
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

Nesting Grey Herons: The heronry had a low county ranking in 2003. Counts of active nests in the colony have been made annually by BTO volunteers for many years.

CLEVELAND

SSSI name: COWPEN MARSH **ENSIS ID:** 1000036
Species-specific features: 12 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This SSSI is a constituent part of the Teesmouth & Cleveland Coast SPA and as such inherits waterbird features. It is well covered by WeBS. Ringed Plover and Sandwich Tern are designated features during the passage period. The total number of passage birds using the site cannot be estimated using WeBS methodology due to difficulties associated with assessing turnover.

SSSI name: REDCAR ROCKS **ENSIS ID:** 1000263
Species-specific features: 15 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This SSSI forms part of the Teesmouth & Cleveland Coast SPA and as such it inherits several designated features. However, Knot, Ringed Plover and Sanderling are all designated features of the SSSI specifically. Currently there is no WeBS coverage of this site and the extent to which these and other waders utilise the site is probably unknown, but worthy of investigation.

SSSI name: SEAL SANDS **ENSIS ID:** 1000141
Species-specific features: 18 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This SSSI forms part of the Teesmouth & Cleveland Coast SPA. Consequently several designated features are inherited, although in many instances these features are also specifically designated for the SSSI. This site has been fairly well covered by WeBS, although the geographical boundaries of the counted areas and those of the SSSI do not correspond exactly. Specialist surveys would be required to assess turnover if the importance of the site for passage Ringed Plover and Sandwich Tern is to be adequately assessed.

SSSI name: ARMBOTH FELLS ENSIS ID: 1003762
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BASSENTHWAITE LAKE ENSIS ID: 1003782
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BROTHERS WATER ENSIS ID: 1001381
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BUTTERMERE FELLS ENSIS ID: 1003922
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DRIGG COAST ENSIS ID: 1000077
Species-specific features: 1 Assemblage features: 1 Sites Register sites: 2

WeBS: Most of this SSSI has been covered by WeBS at one time or another, although not since 1993. WeBS would provide an appropriate means of monitoring Ringed Plover.

SSSI name: DRUMBURGH MOSS ENSIS ID: 1004036
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Nightjar surveys.

SSSI name: DUDDON ESTUARY ENSIS ID: 1000104
Species-specific features: 21 Assemblage features: 2 Sites Register sites: 1

WeBS: The boundaries of this SSSI correspond to those of the Duddon Estuary SPA and it therefore inherits waterbird features, although in most instances such features are also specifically notified features of the SSSI. Most species are well monitored by WeBS. For Ringed Plover and Sanderling, which are notified features during the passage period, specialist surveys to estimate turnover rates would be required.

SSSI name: DUDDON VALLEY WOODLANDS ENSIS ID: 1006835
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ESTHWAITE WATER ENSIS ID: 1003123
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WEDHOLME FLOW

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001295

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

DERBYSHIRE**SSSI name: ABNEY & BRETTON CLOUGHS**

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001834

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: COMBS RESERVOIR

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1000334

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DARK PEAK

Species-specific features: 8

Assemblage features: 1

ENSIS ID: 1003028

Sites Register sites: 2

Breeding Waders of Wet Meadows: Part of the Peak District Moors (South Pennine Moors Phase 1) SPA, which supports a number of upland wader species. No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

Peregrine: This SSSI is a constituent part of the Peak District Moors (South Pennine Moors Phase 1) SPA and as such inherits the breeding Peregrine features. Good coverage by Peregrine survey but requires coverage of all potential nesting sites.

SSSI name: DOVE VALLEY AND BIGGIN DALE

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002787

Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: EASTERN PEAK DISTRICT MOORS

Species-specific features: 7

Assemblage features: 1

ENSIS ID: 2000354

Sites Register sites: 1

WeBS: Most of this site consists of moorland and is thus not covered by WeBS. WeBS coverage is limited to two small reservoirs on the site, but these reservoirs are likely to host the vast majority of Goosander, the only designated feature of relevance to WeBS, occurring on the SSSI. One has been comprehensively covered since 1960, whereas the other used to be counted regularly, but has not been covered since 1998.

Peregrine: This SSSI is a constituent part of the Peak District Moors (South Pennine Moors Phase 1) SPA and as such inherits the breeding Peregrine features. Uncertain coverage by Peregrine survey, which requires coverage of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: HILTON GRAVEL PITS

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1000431

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LATHKILL DALE

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1003711

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: OGSTON RESERVOIR ENSIS ID: 1000538
Species-specific features: 0 Assemblage features: 5 *Sites Register* sites: 1

Lowland damp grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: SHINING CLIFF WOODS ENSIS ID: 1001215
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: YARNCLIFF WOOD, PADLEY ENSIS ID: 1003953
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

DEVON

SSSI name: BERRY HEAD TO SHARKHAM POINT ENSIS ID: 1001416
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BOLT HEAD TO BOLT TAIL ENSIS ID: 1002127
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BOVEY VALLEY WOODLANDS ENSIS ID: 1004519
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BRADIFORD VALLEY ENSIS ID: 1002186
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHUDLEIGH CAVES AND WOODS ENSIS ID: 1002465
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHUDLEIGH KNIGHTON HEATH ENSIS ID: 1002480
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Heathland assemblage: Nightjar and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: COOMBE MEADOW ENSIS ID: 1005797
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DAWLISH WARREN

ENSIS ID: 1003137

Species-specific features: 12

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Exe Estuary SPA and as such it inherits several waterbird features. Most are likely to occur. *WeBS* provides some coverage. The entire site is counted, but the counted areas include substantial areas outside the SSSI which are equally likely to contain the majority of the species. Temporal coverage is good.

SSSI name: DENDLES WOOD

ENSIS ID: 1003586

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DUNSDON FARM

ENSIS ID: 1000943

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: EAST DEVON PEBBLEBED HEATHS

ENSIS ID: 1004364

Species-specific features: 2

Assemblage features: 2

Sites Register sites: 1

Nightjar: This SSSI was almost completely covered in 2004, apart from four partial 1km squares containing potentially suitable habitat, which need to be included in future surveys.

Dartford Warbler: Full coverage is planned for 2006.

Heathland assemblage: *Nightjar*, *Dartford Warbler* and *Woodlark* surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: ERME ESTUARY

ENSIS ID: 1004385

Species-specific features: 1

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: EXE ESTUARY

ENSIS ID: 1002089

Species-specific features: 16

Assemblage features: 1

Sites Register sites: 0

WeBS: The boundaries of this SSSI correspond to those of the Exe Estuary SPA closely and therefore several waterbird features are inherited. *WeBS* provides fairly good coverage for most of these, but some parts of the estuary have not been counted.

SSSI name: GREAT HALDON HEATHS

ENSIS ID: 1001602

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future *Woodlark* and *Dartford Warbler* surveys.

SSSI name: HALDON FOREST

ENSIS ID: 1005936

Species-specific features: 3

Assemblage features: 1

Sites Register sites: 0

Nightjar: This site was completely covered during 2004.

SSSI name: HALSDON

ENSIS ID: 1002148

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HALSTOCK WOOD **ENSIS ID:** 1004464
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HOBBY TO PEPPERCOMBE **ENSIS ID:** 1002657
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HOLLOW MOOR & ODHAM MOOR **ENSIS ID:** 1000798
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: HOLNE WOODLANDS **ENSIS ID:** 1002515
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LUNDY **ENSIS ID:** 1001042
Species-specific features: 5 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MARSLAND TO CLOVELLY COAST **ENSIS ID:** 1006542
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: NORTH DARTMOOR **ENSIS ID:** 1001721
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: OTTER ESTUARY **ENSIS ID:** 1001733
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: PRAWLE POINT AND START POINT **ENSIS ID:** 1002757
Species-specific features: 1 Assemblage features: 1 *Sites Register* sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: RIVER LEMON VALLEY WOODS **ENSIS ID:** 1002412
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SAMPFORD SPINEY ENSIS ID: 1002063
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SLAPTON LEY ENSIS ID: 2000479
Species-specific features: 2 Assemblage features: 1 *Sites Register* sites: 1

WeBS: WeBS provides some coverage of Bitterns, the designated waterbird feature of interest on this site. However a specialist survey would provide a more appropriate means of monitoring this species.

SSSI name: SOUTH MILTON LEY ENSIS ID: 1002854
Species-specific features: 1 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: STOKE WOODS ENSIS ID: 1002920
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TAW–TORRIDGE ESTUARY ENSIS ID: 1002990
Species-specific features: 3 Assemblage features: 0 *Sites Register* sites: 0

WeBS: This site has been fairly well covered by WeBS. However, although the entire SSSI is covered, the counted areas include areas outside the SSSI. The extent to which such areas contain concentrations of waders not normally associated with the SSSI is unknown. Temporal coverage is fairly good. Most parts of the SSSI have been comprehensively covered since 1993, but some areas have only been covered sporadically.

SSSI name: TEIGN VALLEY WOODS ENSIS ID: 1003004
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WEMBURY POINT ENSIS ID: 1003903
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WEST EXMOOR COAST AND WOODS ENSIS ID: 1004224
Species-specific features: 2 Assemblage features: 1 *Sites Register* sites: 4

Heathland assemblage: Nightjar, Woodlark and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: YARNER WOOD & TRENDLEBERE DOWN ENSIS ID: 1002556
Species-specific features: 1 Assemblage features: 1 *Sites Register* sites: 1

Dartford Warbler: This SSSI is notified for Dartford Warbler under aggregations of breeding birds. Full coverage is planned for 2006.

DORSET

SSSI name: ARNE

Species-specific features: 24

Assemblage features: 1

ENSIS ID: 1000151

Sites Register sites: 0

WeBS: The boundaries of this SSSI partially overlap with the Poole Harbour SPA and therefore several designated features are inherited. In general the habitat is unsuitable for waterbirds, but it may be worth establishing whether areas lying adjacent to intertidal mudflats are used by waders as roost sites.

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: BLACK HILL HEATH

Species-specific features: 5

Assemblage features: 0

ENSIS ID: 1003753

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: BLUE POOL AND NORDEN HEATHS

Species-specific features: 6

Assemblage features: 0

ENSIS ID: 1000266

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: BOURNE VALLEY

Species-specific features: 6

Assemblage features: 0

ENSIS ID: 1000277

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: BRENSCOMBE HEATH

Species-specific features: 6

Assemblage features: 0

ENSIS ID: 1001657

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: CANFORD HEATH

Species-specific features: 6

Assemblage features: 1

ENSIS ID: 1000913

Sites Register sites: 1

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: CHESIL & THE FLEET

ENSIS ID: 1002654

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 4

WeBS: This site forms part of the Chesil Beach & the Fleet SPA and as such inherits Dark-bellied Brent Goose as a waterbird feature, which may occur. Wigeon is a designated feature of the SSSI specifically. WeBS provides fairly good coverage of this site. Although about a third of the site is not covered, the freshwater bodies, most likely to host these species, are.

Ringed Plover: This site would be covered by the next national survey, proposed for 2007.

SSSI name: CHRISTCHURCH HARBOUR

ENSIS ID: 1002678

Species-specific features: 0

Assemblage features: 4

Sites Register sites: 1

Heathland assemblage: Nightjar and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: CORFE & BARROW HILLS

ENSIS ID: 1001382

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: CRANBORNE COMMON

ENSIS ID: 1003391

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete during 2004 and 2005 surveys.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: FERNDOWN COMMON

ENSIS ID: 1001454

Species-specific features: 6

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: HAM COMMON

ENSIS ID: 1000273

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: HARTLAND MOOR

ENSIS ID: 1002993

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 1

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: HOLT AND WEST MOORS HEATHS

ENSIS ID: 1003738

Species-specific features: 7

Assemblage features: 1

Sites Register sites: 1

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature but is designated for Woodlark in its own right. Coverage for *Nightjar* was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: HOLTON AND SANDFORD HEATHS

ENSIS ID: 2000234

Species-specific features: 23

Assemblage features: 2

Sites Register sites: 1

WeBS: The boundaries of this site overlap slightly with those of the Poole Harbour SPA and therefore several waterbird features are inherited. The habitat is unlikely to be suitable for the majority of waterbird species, but roosting waders may occasionally use the site. This would need to be checked as currently there is no *WeBS* coverage of the site.

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: HORTON COMMON

ENSIS ID: 1001937

Species-specific features: 6

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: HURN COMMON

ENSIS ID: 2000439

Species-specific features: 5

Assemblage features: 1

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: ISLE OF PORTLAND

ENSIS ID: 1000128

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LIONS HILL

ENSIS ID: 1002708

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Coverage was complete in 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: LODMOOR

ENSIS ID: 1004374

Species-specific features: 2

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: RADIPOLE LAKE

ENSIS ID: 1000225

Species-specific features: 3

Assemblage features: 1

Sites Register sites: 1

WeBS: Although the precise boundary of the area covered by *WeBS* is unknown, it is the RSPB that undertakes counts and it is likely that the majority of Shoveler occurring on the SSSI are counted.

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: REMPSTONE HEATHS

ENSIS ID: 1002313

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: SLOP BOG AND UDDENS HEATH

ENSIS ID: 1001099

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: ST LEONARDS AND ST IVES HEATHS

ENSIS ID: 2000305

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future *Woodlark* and *Dartford Warbler* surveys.

SSSI name: STOBOROUGH & CREECH HEATHS

ENSIS ID: 1003232

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future *Woodlark* and *Dartford Warbler* surveys.

SSSI name: STOKEFORD HEATHS

ENSIS ID: 2000032

Species-specific features: 6

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the *Nightjar* interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: STUDLAND & GODLINGSTON HEATHS

ENSIS ID: 1003268

Species-specific features: 28

Assemblage features: 2

Sites Register sites: 3

WeBS: The boundaries of this site overlap with those of the Poole Harbour SPA and therefore several waterbird features are inherited. The freshwater body on the site is covered by *WeBS* and thus *WeBS* provides good coverage of freshwater-associated duck species. Few of the other species are likely to occur on the site, but roosting waders may occasionally use coastal parts.

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: STUDLAND CLIFFS

ENSIS ID: 1000898

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: THE MOORS

ENSIS ID: 1000240

Species-specific features: 23

Assemblage features: 1

Sites Register sites: 0

WeBS: This SSSI forms part of the Poole Harbour SPA and as such it inherits several designated features. The habitat is unsuitable for most waterbird species, but waders may use parts of the site adjacent to mudflats for roosting. WeBS would theoretically cover such roosts, but the area counted includes similar habitat outside the SSSI.

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: TOWN COMMON

ENSIS ID: 1002693

Species-specific features: 6

Assemblage features: 2

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Partial coverage was achieved during 2004. However, a local EN funded survey of the remainder of the site was planned for 2005.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: TURBARY AND KINSON COMMONS

ENSIS ID: 1001949

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Partial coverage was achieved during 2004, which excluded two partial 1km squares that should be included in future surveys.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: TURNERS PUDDLE HEATH

ENSIS ID: 1002320

Species-specific features: 5

Assemblage features: 1

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: UPTON HEATH

ENSIS ID: 1001003

Species-specific features: 6

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Near-complete coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: VERWOOD HEATHS

ENSIS ID: 1001978

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: WAREHAM MEADOWS

ENSIS ID: 1002338

Species-specific features: 19

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Poole Harbour SPA and as such several waterbird features are inherited. Most of these are likely to occur on the site. WeBS provides some coverage of the site. About 40% of the site is counted, but the count area includes a substantial area outside the SSSI. Temporal coverage of the area counted is good.

SSSI name: WARMWELL HEATH

ENSIS ID: 1002352

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Partial coverage was achieved during 2004, excluding two 1km squares, which would have received limited coverage from adjacent survey squares.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: WINFRITH HEATH

ENSIS ID: 1001067

Species-specific features: 7

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

SSSI name: WORGRET HEATH

ENSIS ID: 1003084

Species-specific features: 5

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Dorset Heathlands SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark, Dartford Warbler: Full coverage is planned for 2006.

DURHAM**SSSI name:** BACKSTONE BANK AND BAAL HILL WOODS

ENSIS ID: 1000322

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BOLLIHOPE, PIKESTONE, EGGLESTON AND WOODLAND FELLS

ENSIS ID: 2000133

Species-specific features: 8

Assemblage features: 1

Sites Register sites: 0

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Good coverage by Peregrine survey but requires coverage of all potential nesting sites.

Breeding Waders of Wet Meadows: Part of the North Pennine Moors SPA, which holds a variety of breeding upland waders. No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: BOWES MOOR

ENSIS ID: 1001397

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 0

Breeding Waders of Wet Meadows: Part of the North Pennine Moors SPA, which holds a variety of breeding upland waders. No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

SSSI name: COTHERSTONE MOOR

ENSIS ID: 1000598

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 0

Breeding Waders of Wet Meadows: Part of the North Pennine Moors SPA, which supports a number of upland wader species. No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

SSSI name: DURHAM COAST

ENSIS ID: 1000255

Species-specific features: 18

Assemblage features: 1

Sites Register sites: 0

WeBS: This SSSI forms part of the Teesmouth & Cleveland Coast SPA. Consequently several designated features are inherited, although in some instances these are specific features of the SSSI too. Geographically the site is well monitored by WeBS, although the boundaries of counted areas and those of the SSSI do not always match. Temporal coverage is much poorer with only about half the site counted continually for more than 10 years. Coverage during passage periods is particularly poor.

SSSI name: LUNE FOREST

ENSIS ID: 2000285

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 1

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: TEESDALE ALLOTMENTS

ENSIS ID: 1006958

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: UPPER TEESDALE

ENSIS ID: 1003630

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 0

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Good coverage by Peregrine survey but requires coverage of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: WITTON-LE-WEAR **ENSIS ID:** 1001310
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

EAST SUSSEX

SSSI name: ARLINGTON RESERVOIR **ENSIS ID:** 1001891
Species-specific features: 1 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site is well covered by WeBS. Although the precise boundaries of the counted area are unknown, they are not likely to extend to land surrounding the reservoir which also forms part of the SSSI. Nevertheless the majority of Wigeon are likely to occur on the reservoir, although this, along with the precise count boundaries, needs to be checked.

SSSI name: ASHBURNHAM PARK **ENSIS ID:** 1001964
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ASHDOWN FOREST **ENSIS ID:** 1001983
Species-specific features: 2 Assemblage features: 1 *Sites Register* sites: 1

Nightjar: This site was completely covered in 2004.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

Dartford Warbler: Full coverage is planned for 2006.

Heathland assemblage: Nightjar and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: BRIGHTON TO NEWHAVEN CLIFFS **ENSIS ID:** 1003033
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CAMBER SANDS AND RYE SALTINGS **ENSIS ID:** 1003178
Species-specific features: 6 Assemblage features: 0 *Sites Register* sites: 0

WeBS: This site forms part of the Dungeness to Pett Level SPA and as such it inherits several waterbird features. Most are likely to occur. WeBS provides minimal coverage of the site as only about one third of the site has been covered and even this has only been counted in two winters since 1995.

SSSI name: CLAYTON TO OFFHAM ESCARPMENT **ENSIS ID:** 1002124
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: COMBE HAVEN **ENSIS ID:** 1001853
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DARWELL WOOD ENSIS ID: 1002162
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ERIDGE PARK ENSIS ID: 1003196
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LEASAM HERONRY WOOD ENSIS ID: 1002938
Species-specific features: 1 Assemblage features: 0 Sites Register sites: 0

Nesting Grey Herons: The heronry is important at county level. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: PETT LEVEL ENSIS ID: 1002775
Species-specific features: 8 Assemblage features: 1 Sites Register sites: 1

WeBS: This site forms part of the Dungeness to Pett Level SPA and as such several waterbird features are inherited. Most are likely to occur. Until 1996, WeBS provided fairly good coverage of this site. However, due to the mismatch between the boundaries of the SSSI and those of the counted area, significant numbers of some species may occur on parts of the SSSI not covered, or within the counted area but outside the SSSI. This would need to be checked.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: PEVENSEY LEVELS ENSIS ID: 1000914
Species-specific features: 1 Assemblage features: 0 Sites Register sites: 0

WeBS: Only about one fifth of the site is covered regularly by WeBS. Given the likely mobile nature of Lapwing flocks it is unlikely that this provides an adequate means of monitoring this species.

SSSI name: PLASHETT PARK WOOD ENSIS ID: 1002205
Species-specific features: 1 Assemblage features: 1 Sites Register sites: 1

Woodlark: This SSSI is designated for breeding Woodlark. Full coverage is planned for 2006.

SSSI name: RYE HARBOUR ENSIS ID: 1001954
Species-specific features: 8 Assemblage features: 2 Sites Register sites: 1

WeBS: This site forms part of the Dungeness to Pett Level SPA and as such it inherits several waterbird features. WeBS provides some coverage of this site, but parts of the SSSI are not covered and the counted area includes a substantial area outside the SSSI. Furthermore, although the site was comprehensively covered between 1977 and 1996, it has only been covered sporadically since then.

Wet grassland assemblage (mixed): Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: SEAFORD TO BEACHY HEAD ENSIS ID: 1002008
Species-specific features: 0 Assemblage features: 2 Sites Register sites: 3

Heathland assemblage: Nightjar surveys will make a minimal contribution to assemblage monitoring. A specialist survey will be required.

SSSI name: WEIR WOOD RESERVOIR ENSIS ID: 1003219
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

ESSEX

SSSI name: ABBERTON RESERVOIR ENSIS ID: 1001904
Species-specific features: 28 Assemblage features: 1 Sites Register sites: 0

WeBS: The boundaries of this site correspond to those of the Abberton Reservoir SPA. Consequently several waterbird features are inherited, but in most instances these are designated features of the SSSI specifically. WeBS provides good coverage of this site. Currently the extent to which land surrounding the site is counted is unknown. This may have implications for some species, notably waders and dabbling ducks.

Nesting Cormorants: The Cormorant colony is of national importance. There is a long history of annual counting, currently maintained by BTO volunteers. No current heronries are known within the SSSI.

SSSI name: BENFLEET AND SOUTHEND MARSHES ENSIS ID: 1004414
Species-specific features: 13 Assemblage features: 1 Sites Register sites: 0

WeBS: The boundaries of this site and those of the Benfleet and Southend Marshes SPA correspond closely and therefore several waterbird features are inherited. Most are designated features of the SSSI specifically and the others are likely to occur in significant numbers. WeBS provides some coverage of this site. Temporal coverage is not complete and it is probable that geographic coverage is also incomplete, although the boundaries of the counted areas are not known.

SSSI name: BLACKWATER ESTUARY ENSIS ID: 1004426
Species-specific features: 38 Assemblage features: 1 Sites Register sites: 0

WeBS: The boundaries of this site follow those of the Blackwater Estuary SPA very closely. Consequently several waterbird features are inherited. Many are designated features of the SSSI specifically and the others are likely to occur. WeBS provides fairly good coverage of this site. The boundaries of most of the counted areas are known and the remainder can be assessed fairly accurately, but do not match those of the SSSI precisely. Nevertheless, the majority of birds are likely to be concentrated in the overlapping areas. Temporal coverage is good.

Breeding Waders of Wet Meadows: Good coverage of potentially suitable habitat. However, there are other areas, which could be included by extending BWWM coverage.

SSSI name: CATTAWADE MARSHES ENSIS ID: 1002194
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

Lowland damp grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: COLNE ESTUARY ENSIS ID: 1000666
Species-specific features: 24 Assemblage features: 1 Sites Register sites: 0

WeBS: There is considerable geographical overlap between this SSSI and the Colne Estuary SPA and therefore several waterbird features are inherited, although many of these are specific features of the SSSI too. The site has been fairly well monitored by WeBS, but some parts are not counted regularly. There may also be some problems associated with the mismatch between the boundaries of the areas counted and those of the SSSI.

Breeding Waders of Wet Meadows: Little of the suitable breeding habitat for Ringed Plover is covered by BWWM.

Ringed Plover: This site would be covered by the next national survey, proposed for 2007.

Wet grassland assemblage (mixed): Partial coverage of wet grassland by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: CROUCH AND ROACH ESTUARIES **ENSIS ID:** 1002160
Species-specific features: 20 Assemblage features: 2 *Sites Register* sites: 0

WeBS: The boundaries of this site overlap with those of the Dengie and the Crouch and Roach SPAs and therefore waterbird features are inherited from both SPAs. Most of these species are likely to occur or are in fact designated features of the SSSI specifically. WeBS provides fairly good coverage of the site, but adequate monitoring is hampered by the lack of counts on some parts in recent years.

SSSI name: DENGIE **ENSIS ID:** 1000735
Species-specific features: 21 Assemblage features: 1 *Sites Register* sites: 0

WeBS: There is considerable overlap between this SSSI and the Dengie SPA. Consequently several waterbird features are inherited. WeBS provides fairly good coverage of wetland areas, but parts of the Blyth River/Estuary have not been covered recently. The monitoring of Bitterns would require specialist surveys.

Ringed Plover: This site would be covered by the next national survey, proposed for 2007.

SSSI name: EPPING FOREST **ENSIS ID:** 1001814
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: FOULNESS **ENSIS ID:** 1002984
Species-specific features: 35 Assemblage features: 1 *Sites Register* sites: 0

WeBS: The boundaries of this site correspond quite closely to those of the Foulness SPA and therefore several waterbird features are inherited. Many of these are designated features of the SSSI specifically and the remainder are likely to occur. WeBS provides fairly good coverage of this site. The parts of the SSSI not covered generally consist of intertidal mudflats, not used by birds at high tide. The count area boundaries do not match those of the SSSI, but bird movements during the course of the tidal cycle are such that most of the birds counted are likely to be associated with the SSSI at some point in the tidal cycle. This would need to be checked however.

Breeding Waders of Wet Meadows: This site is only partially covered by BWWM. There are other areas of potentially suitable habitat, which would need to be monitored by an extension of existing BWWM coverage.

SSSI name: HAMFORD WATER **ENSIS ID:** 1001010
Species-specific features: 29 Assemblage features: 1 *Sites Register* sites: 0

WeBS: The boundaries of the SSSI and the Hamford Water SPA correspond exactly. Therefore several waterbird features are inherited, although the majority of these are also designated features of the SSSI specifically. WeBS provides good coverage of the site during winter, but there might be some problems associated with the parts of the SSSI not covered and the mismatch between the boundaries of the areas counted and those of the SSSI.

Breeding Waders of Wet Meadows: No coverage by BWWM, specialist survey required.

Ringed Plover: This site would be covered by the next national survey, proposed for 2007.

SSSI name: HANNINGFIELD RESERVOIR ENSIS ID: 1003253
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

WeBS: This site is well covered by WeBS. Temporal coverage is very good and the boundaries of the counted area, although not known with certainty, almost certainly ensure coverage of waterbirds hosted by this site.

SSSI name: HATFIELD FOREST ENSIS ID: 1003932
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HOLEHAVEN CREEK ENSIS ID: 2000467
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

WeBS: WeBS provides fairly good coverage of this site. Temporal coverage has been comprehensive since 1993. Geographic coverage is fairly good in that the majority of birds are likely to occur in the areas of the SSSI and counted area that overlap, but it is possible that significant numbers may occur in non-overlapping areas.

SSSI name: MUCKING FLATS AND MARSHES ENSIS ID: 1006131
Species-specific features: 22 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Thames Estuary & Marshes SPA and as such it inherits several waterbird features. Most are designated features of the SSSI specifically or likely to occur in significant numbers. WeBS provides fairly good coverage of this site. However the area counted includes suitable habitat outside the SSSI, which may host significant numbers of some species. Temporal coverage is fairly good, but not complete. Counts have been made in about two-thirds of years since 1960.

SSSI name: ROMAN RIVER ENSIS ID: 1002950
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SANDBEACH MEADOWS ENSIS ID: 1001191
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

WeBS: Although the entire site is almost certainly encompassed by a section of the Dengie Coastline counted as part of WeBS, there is a difficulty associated with distinguishing birds within the SSSI from those outside it elsewhere in that count section.

SSSI name: WALTHAM ABBEY ENSIS ID: 1004291
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

Nesting Grey Herons: The heronry is important at county level. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: WEST THURROCK LAGOON & MARSHES ENSIS ID: 1006132
Species-specific features: 2 Assemblage features: 0 *Sites Register* sites: 0

WeBS: This site has been covered by WeBS on a few occasions and geographic coverage is adequate in that the majority of birds are likely to occur in the overlapping areas of the SSSI and the counted area. However temporal coverage is insufficient for meaningful monitoring purposes.

SSSI name: BRENT RESERVOIR ENSIS ID: 1003322
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHINGFORD RESERVOIRS ENSIS ID: 1001912
Species-specific features: 2 Assemblage features: 0 Sites Register sites: 0

WeBS: WeBS has provided comprehensive coverage of this site since 1960.

SSSI name: DOWNE BANK AND HIGH ELMS ENSIS ID: 1003420
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HAINAULT FOREST ENSIS ID: 1004044
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: INGREBOURNE MARSHES ENSIS ID: 1001842
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: INNER THAMES MARSHES ENSIS ID: 1001732
Species-specific features: 1 Assemblage features: 1 Sites Register sites: 1

WeBS: WeBS would provide an appropriate means of monitoring Teal on this site. However, the mismatch between the counted areas and that of the SSSI, the proportion of the SSSI not covered and the sporadic nature of counts is such that the WeBS coverage is currently unlikely to be adequate for effective monitoring purposes.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: MID COLNE VALLEY ENSIS ID: 1003469
Species-specific features: 0 Assemblage features: 2 Sites Register sites: 1

Lowland damp grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: RUISLIP WOODS ENSIS ID: 1003633
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: RUXLEY GRAVEL PITS ENSIS ID: 1003658
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WALTHAMSTOW RESERVOIRS

ENSIS ID: 1004304

Species-specific features: 9

Assemblage features: 1

Sites Register sites: 1

WeBS: This site forms part of the Lee Valley SPA and as such it inherits several waterbird features. Most are likely to occur and several other waterbirds are designated features of the SSSI specifically. *WeBS* provides fairly good coverage of this site. However the area counted includes significant suitable habitat outside the SSSI. Temporal coverage of the site is good.

Breeding Waders of Wet Meadows: No coverage by BWWM. A specialist survey would be required to monitor breeding duck species at this site.

Nesting Grey Herons: The heronry is of national importance and is regularly the largest in London region. Counts of active nests in the colony have been made annually by BTO volunteers for many years. A very large Cormorant colony is also present at the site.

GREATER MANCHESTER**SSSI name: ABRAM FLASHES**

ENSIS ID: 1005699

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

Lowland damp grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: BRYN MARSH & INCE MOSS

ENSIS ID: 1005647

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MARTON MERE, BLACKPOOL

ENSIS ID: 1001795

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: RISLEY MOSS

ENSIS ID: 1001838

Species-specific features: 0

Assemblage features: 2

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WOOLSTON EYES

ENSIS ID: 1000106

Species-specific features: 7

Assemblage features: 1

Sites Register sites: 0

WeBS: This site has been well covered by *WeBS*. However currently, the area counted by *WeBS* includes and does not distinguish the Manchester Ship Canal from the SSSI.

Breeding Waders of Wet Meadows: Poor coverage, need to extend BWWM coverage or use specialist survey.

HAMPSHIRE**SSSI name: AVON VALLEY (BICKTON TO CHRISTCHURCH)**

ENSIS ID: 1006622

Species-specific features: 12

Assemblage features: 1

Sites Register sites: 1

WeBS: This site forms part of the Avon Valley SPA and as such inherits several waterbird features. All are designated features of the site specifically and the site also has some additional waterbird features associated with it. *WeBS* provides some coverage of this site. Geographic coverage is fairly good, but counts have been undertaken on a rather sporadic basis.

SSSI name: HYTHE TO CALSHOT MARSHES **ENSIS ID:** 1001035
Species-specific features: 31 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Solent & Southampton SPA. Consequently several waterbird features are inherited, although some of these are designated features of the SSSI specifically. WeBS provides good coverage of this site although there may be minor problems associated with the mismatch between the boundaries of the areas counted and those of the SSSI.

SSSI name: LANGSTONE HARBOUR **ENSIS ID:** 1001182
Species-specific features: 33 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Chichester and Langstone Harbours SPA. Consequently several waterbird features are inherited although in most instances these are designated features of the SSSI specifically. WeBS provides good coverage of this site, although there may be some minor problems associated with the mismatch between the areas counted and the boundaries of the SSSI.

SSSI name: LEE-ON-THE-SOLENT TO ITCHEN ESTUARY **ENSIS ID:** 1005846
Species-specific features: 32 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such it inherits several waterbird features. Many are also designated features of the SSSI specifically and most of the others are likely to occur. WeBS provides some coverage of this site. About two-thirds of the area is counted and monitoring has been fairly comprehensive since 1995 and almost as good prior to that.

SSSI name: LINCEGROVE AND HACKETT'S MARSHES **ENSIS ID:** 1001217
Species-specific features: 23 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such it inherits several waterbird features. Some are likely to occur on the SSSI. The entire site is covered by WeBS, but, due to the substantial area included within the area counted that lies outside this SSSI, interpreting count information is problematic.

SSSI name: LOWER TEST VALLEY **ENSIS ID:** 1001282
Species-specific features: 23 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such several waterbird features for which the SPA is designated are inherited. Many of these are likely to occur. WeBS has provided comprehensive coverage of this site since 1989.

SSSI name: LYMINGTON RIVER REEDBEDS **ENSIS ID:** 1001294
Species-specific features: 23 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such it inherits several waterbird features. Some of these almost certainly occur on the site. Currently there is no WeBS coverage of the site.

SSSI name: MARTIN AND TIDPIT DOWNS **ENSIS ID:** 1001661
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Wet grassland assemblage (mixed): Not covered by BWWM, specialist survey required to monitor assemblage species.

SSSI name: NORTH SOLENT

ENSIS ID: 1001355

Species-specific features: 35

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA. Therefore several waterbird features are inherited, but some of these are also designated for the SSSI specifically. *WeBS* provides some coverage but there is a need to extend *WeBS* coverage to parts of the SSSI not currently counted if adequate monitoring is to be achieved. Temporal coverage of the parts counted is good.

Breeding Waders of Wet Meadows: There is no BWWM coverage for this SSSI.

Ringed Plover: This site would be covered by the next national survey, proposed for 2007.

SSSI name: PAMBER FOREST AND SILCHESTER COMMON

ENSIS ID: 1002748

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Dartford Warbler, Woodlark and Nightjar surveys.

SSSI name: PORTSMOUTH HARBOUR

ENSIS ID: 1003174

Species-specific features: 7

Assemblage features: 0

Sites Register sites: 0

WeBS: *WeBS* provides good coverage of this site. Temporal coverage has been complete in all winter months since 1993 and although the precise boundaries of the counted areas are not known with certainty, they are likely to match those of the SSSI fairly closely.

SSSI name: RIVER ITCHEN

ENSIS ID: 2000227

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: RIVER TEST

ENSIS ID: 2000170

Species-specific features: 1

Assemblage features: 1

Sites Register sites: 1

WeBS: A few sectors of the river have been counted, but generally on a sporadic basis. However the specialist surveys would probably provide the most appropriate means of monitoring Bitterns, the only designated feature of the site of relevance to *WeBS*.

SSSI name: SOWLEY POND

ENSIS ID: 1003387

Species-specific features: 24

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such it inherits several waterbird features. Most are unlikely to occur, but some ducks, associated with freshwater are likely to do so. Up until 1998, when counting ceased, *WeBS* provided good coverage of this site, as the parts of the SSSI not counted are unlikely to contain waterbirds.

Nesting Grey Herons: The heronry had a low county ranking in 2003. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years. Substantial numbers of Little Egrets have begun to nest in recent years.

SSSI name: TITCHFIELD HAVEN

ENSIS ID: 1004072

Species-specific features: 25

Assemblage features: 2

Sites Register sites: 1

WeBS: This site forms part of the Solent & Southampton Water SPA and as such it inherits several waterbird features. Some are designated features of the SSSI specifically and others are likely to occur. Temporal coverage of the site is good. Geographically, *WeBS* provides some coverage, but only of the southern parts of the site.

SSSI name: TOYD DOWN AND QUARRY
Species-specific features: 1 Assemblage features: 0 ENSIS ID: 1000446
Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: UPPER HAMBLE ESTUARY AND WOODS
Species-specific features: 23 Assemblage features: 1 ENSIS ID: 1004525
Sites Register sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such it inherits several waterbird features. Some are likely to occur in significant numbers; others are unlikely to do so. WeBS provides good temporal coverage and adequate geographic coverage, although there is some mismatch between the boundaries of the site and the area counted.

SSSI name: WOOLMER FOREST
Species-specific features: 3 Assemblage features: 1 ENSIS ID: 1004188
Sites Register sites: 1

Nightjar: This SSSI was completely covered during 2004.
Woodlark, Dartford Warbler: Full coverage is planned for 2006.
Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

HEREFORDSHIRE

SSSI name: BERRINGTON POOL
Species-specific features: 1 Assemblage features: 1 ENSIS ID: 1001356
Sites Register sites: 1

Nesting Grey Herons: The heronry is important at county level. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: BLACK MOUNTAINS
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1001635
Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BRAMPTON BRYAN PARK
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1001473
Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: EASTNOR PARK
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1000829
Sites Register sites: 0

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: FLINTSHAM & TITLEY POOLS
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1004445
Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HAUGH WOOD
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1004355
Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

HERTFORDSHIRE

SSSI name: AMWELL QUARRY

Species-specific features: 6

Assemblage features: 1

ENSIS ID: 2000384

Sites Register sites: 1

WeBS: This site forms part of the Lee Valley SPA and as such it inherits several waterbird features. All are also designated features of the SSSI specifically. WeBS provides good temporal and geographic coverage of these, but specialist surveys would be required to monitor Bitterns.

SSSI name: ASHRIDGE COMMONS AND WOODS

Species-specific features: 0

Assemblage features: 2

ENSIS ID: 1000452

Sites Register sites: 9

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: RYE MEADS

Species-specific features: 9

Assemblage features: 0

ENSIS ID: 1005497

Sites Register sites: 0

WeBS: This site forms part of the Lee Valley SPA and as such it inherits several waterbird features. All are designated features of the SSSI specifically and Tufted Duck is an additional designated feature of the SSSI. WeBS provides good coverage both in geographic and temporal terms for waterbird species associated with the site, other than Bittern.

Breeding Waders of Wet Meadows: Good coverage by BWWM. However, coverage of the southern half of the site could be included by an extension to BWWM.

SSSI name: TRING RESERVOIRS

Species-specific features: 1

Assemblage features: 1

ENSIS ID: 1004159

Sites Register sites: 2

WeBS: WeBS provides good coverage of this site. Although the boundaries of the counted area and SSSI do not match precisely, non-overlapping areas do not contain water bodies and are thus unlikely to host waterbird species.

SSSI name: TURNFORD & CHESHUNT PITS

Species-specific features: 6

Assemblage features: 1

ENSIS ID: 2000066

Sites Register sites: 1

WeBS: This site forms part of the Lee Valley SPA and as such inherits several waterbird features. All are also designated features of the SSSI specifically. WeBS currently provides good temporal and geographic coverage for most species, but does not provide the most appropriate means of monitoring Bitterns.

HUMBERSIDE

SSSI name: FLAMBOROUGH HEAD

Species-specific features: 13

Assemblage features: 1

ENSIS ID: 1002289

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HORNSEA MERE

Species-specific features: 8

Assemblage features: 0

ENSIS ID: 1002380

Sites Register sites: 0

WeBS: The boundaries of the SSSI and those of the SPA match precisely. Gadwall is therefore inherited as a waterbird feature, although this, along with additional features, are designated features of the SSSI specifically. WeBS provides good coverage. Although the boundaries of the SSSI and those of the counted area do not match precisely, the majority of counted birds are likely to be on the water body, which forms part of the SSSI. Temporal coverage has been close to complete in winter months since 1960.

SSSI name: THE LAGOONS

Species-specific features: 1

Assemblage features: 0

ENSIS ID: 1003124

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TOPHILL LOW

Species-specific features: 3

Assemblage features: 0

ENSIS ID: 1000978

Sites Register sites: 0

WeBS: This site has been fairly well monitored by *WeBS*. The SSSI consists of two reservoirs, whereas the area counted by *WeBS* includes a number of smaller pools and ditches. Consequently there may be some problems arising as a result of mismatch between the area counted and the SSSI.

ISLE OF WIGHT**SSSI name: BRADING MARSHES TO ST HELEN'S LEDGES**

Species-specific features: 23

Assemblage features: 3

ENSIS ID: 2000221

Sites Register sites: 1

WeBS: This site forms part of the Solent & Southampton Water SPA and as such inherits several waterbird features. Many of these are likely to occur. *WeBS* provides good coverage of the site. Temporal coverage is very good and, although geographic coverage is not entirely complete, it is adequate for monitoring purposes.

Wet grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: KING'S QUAY SHORE

Species-specific features: 23

Assemblage features: 1

ENSIS ID: 1000559

Sites Register sites: 0

WeBS: This SSSI forms part of the Solent & Southampton Water SPA and as such inherits wintering waterbird features. Some of these such as ducks and grebes are unlikely to occur in any significant numbers on the site. Others such as waders may occur, but probably occur in greater numbers elsewhere on the SPA. This site has only been counted once as part of *WeBS*.

SSSI name: MEDINA ESTUARY

Species-specific features: 23

Assemblage features: 1

ENSIS ID: 1000578

Sites Register sites: 0

WeBS: This SSSI forms part of the Solent & Southampton Water SPA and as such inherits wintering waterbird features. Some of these such as ducks and grebes are unlikely to occur in any significant numbers on the site. Others such as waders may occur, but probably occur in greater numbers elsewhere on the SPA. *WeBS* provides fairly good coverage of this site although the boundaries of the SSSI and those of the counted areas do not match precisely.

SSSI name: NEWTOWN HARBOUR

Species-specific features: 29

Assemblage features: 1

ENSIS ID: 1004233

Sites Register sites: 0

WeBS: This site forms part of the Solent & Southampton Water SPA and as such inherits several waterbird features. Some of these are designated features of the SSSI specifically and many of the others are likely to occur in significant numbers. *WeBS* provides fairly good coverage of this site. About half the site, that which is likely to contain the majority of birds, has been counted in every year bar one since 1960. The remainder of the site has never been covered.

KENT

SSSI name: CHEQUER'S WOOD AND OLD PARK ENSIS ID: 1003485
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHEYNE COURT ENSIS ID: 2000432
Species-specific features: 8 Assemblage features: 1 Sites Register sites: 0

WeBS: WeBS provides some coverage of this site. However temporal coverage has only been complete since 1996 and the boundaries of the areas counted and those of the SSSI do not match.
Breeding Waders of Wet Meadows: Approximately half the SSSI is covered. An extension to existing BWWM coverage would be required to monitor the whole site.

SSSI name: CHURCH WOODS, BLEAN ENSIS ID: 1004055
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: COBHAM WOODS ENSIS ID: 1003501
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DOVER TO KINGSDOWN CLIFFS ENSIS ID: 1003577
Species-specific features: 3 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DUNGENESS ENSIS ID: 1002834
Species-specific features: 16 Assemblage features: 3 Sites Register sites: 1

WeBS: This site forms part of the Dungeness to Pett Level SPA and as such inherits Bewick's Swan as a waterbird feature, although this, along with other features, are designated features of the SSSI specifically. WeBS provides some coverage of the site. Further assessment of the count area boundaries and the distribution of waterbirds within and around the site is needed to establish whether significant numbers occur on parts of the SSSI not covered or within counted areas that lie outside the SSSI.

Breeding Waders of Wet Meadows: There is no BWWM coverage for this SSSI. A specialist survey would be required for Tufted Duck.

SSSI name: ELLENDEN WOOD ENSIS ID: 1003597
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HAM STREET WOODS ENSIS ID: 1001531
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HOAD'S WOOD ENSIS ID: 1003885
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HOLBOROUGH TO BURHAM MARSHES ENSIS ID: 1003909
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 3

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HOTHFIELD COMMON ENSIS ID: 1001480
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ILEDEN AND OXENDEN WOODS ENSIS ID: 1004508
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MEDWAY ESTUARY AND MARSHES ENSIS ID: 1000244
Species-specific features: 50 Assemblage features: 2 Sites Register sites: 3

WeBS: The boundaries of this SSSI correspond closely to those of the Medway Estuary & Marshes SPA. Consequently several designated features are inherited although in most instances these are specific features of the SSSI too. Geographically the site is well monitored by WeBS as the boundaries of the areas counted match those of the SSSI fairly well. Temporal coverage is much poorer with only about half the site counted continually for more than 10 years. A small part of the SSSI has never been counted.

Breeding Waders of Wet Meadows: BWWM will cover much of the wet grassland but extended coverage would be required to cover all the potentially suitable Avocet breeding habitat.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: NORTHWARD HILL ENSIS ID: 1003887
Species-specific features: 1 Assemblage features: 1 Sites Register sites: 1

Nesting Grey Herons: The heronry is of national importance and is regularly the largest in South East region. Counts of active nests in the colony have been made annually by BTO volunteers (RSPB staff) for many years. Substantial numbers of Little Egrets have begun to nest in recent years.

SSSI name: ORLESTONE FOREST ENSIS ID: 1003149
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SANDWICH BAY TO HACKLINGE MARSHES ENSIS ID: 1001128
Species-specific features: 6 Assemblage features: 1 Sites Register sites: 1

WeBS: The boundaries of this SSSI and the Thanet Coast & Sandwich Bay SPA overlap to some degree and therefore some waterbird features are inherited. The site also has some designated waterbird features associated with its SSSI status. WeBS provides some coverage, but counts of some areas are sporadic and other parts are not covered.

SSSI name: SEVENOAKS GRAVEL PITS

ENSIS ID: 1001202

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SOUTH THAMES ESTUARY AND MARSHES

ENSIS ID: 1003874

Species-specific features: 33

Assemblage features: 4

Sites Register sites: 1

WeBS: This site forms part of the Thames Estuary & Marshes SPA and as such it inherits several waterbird features. All are either designated features of the SSSI specifically or are likely to occur in significant numbers. WeBS provides good coverage of this site. The boundaries of the counted areas and the SSSI do not match precisely but they are likely to do so sufficiently to ensure good coverage for most species. Most parts of the site have been comprehensively covered since 1993, but some sectors have been covered only sporadically.

Breeding Waders of Wet Meadows: Good coverage of wet grassland by BWWM. However, a number of large water bodies are not covered, which are likely to be used by the breeding duck species. Some extensions to BWWM coverage could be made but much of the open water would need to be covered under a specialist survey.

Wet grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: STODMARSH

ENSIS ID: 1003639

Species-specific features: 22

Assemblage features: 1

Sites Register sites: 2

WeBS: WeBS provides fairly good coverage of this site. However, Bittern, the designated feature of relevance to WeBS, is likely to require specialist surveys if adequate monitoring is to be achieved.

Breeding Waders of Wet Meadows: Partial coverage of wet grassland by BWWM. However, a number of large water bodies and other wet grassland/marsh areas are not covered, which are likely to be used by the breeding Shoveler. Some extensions to BWWM coverage could be made but much of the open water would need to be covered under a specialist survey.

SSSI name: THANET COAST

ENSIS ID: 1003560

Species-specific features: 8

Assemblage features: 0

Sites Register sites: 0

WeBS: This site forms part of the Thanet Coast & Sandwich Bay SPA and as such inherits waterbird features. All are designated features of the SSSI specifically, which also has some additional features associated with it. WeBS provides some coverage for this species. However adequate monitoring is hampered by the mismatch between the boundaries of the areas counted and those of the SSSI, lack of coverage of some parts of the site and lack of coverage in some years.

SSSI name: THE SWALE

ENSIS ID: 1003678

Species-specific features: 33

Assemblage features: 2

Sites Register sites: 5

WeBS: The boundaries of this SSSI correspond exactly with those of the SPA and therefore several waterbird features are inherited. WeBS provides fairly good coverage of this site. Small areas towards the east and west of the SSSI are not covered. Although the boundaries of the SSSI and those of the counted areas do not match precisely, the majority of birds are likely to be located within the overlapping area. Temporal coverage is good.

Breeding Waders of Wet Meadows: Good coverage by BWWM. Extend current BWWM coverage for Luddenham Marshes and use a specialist survey for the water bodies.

SSSI name: MARTIN MERE, BURSCOUGH

ENSIS ID: 1001769

Species-specific features: 19

Assemblage features: 3

Sites Register sites: 0

WeBS: The boundaries of this SSSI match those of the Martin Mere SPA precisely and therefore several waterbird features are inherited. Many of these are designated features of the SSSI specifically and there are also additional waterbird features for which the SSSI is designated. The entire site is counted by WeBS, but the counted area includes a significant area outside the SSSI. The majority of birds are probably concentrated in the SSSI, but this would need to be checked and if necessary the count area subdivided.

Breeding Waders of Wet Meadows: This SSSI is completely covered by BWWM. However Greylag Goose is not recorded by this survey. A specialist survey such as a naturalised goose survey would be required.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: MORECAMBE BAY

ENSIS ID: 1001807

Species-specific features: 45

Assemblage features: 3

Sites Register sites: 5

WeBS: This site forms part of the Morecambe Bay SPA. Consequently several waterbird features are inherited, although many of these are also designated features of the SSSI specifically. WeBS provides good coverage for most species, although those occurring offshore or those undergoing flock movements to adjacent farmland may require specialist surveys.

SSSI name: NEWTON MARSH

ENSIS ID: 1001819

Species-specific features: 2

Assemblage features: 0

Sites Register sites: 0

WeBS: The entire site is encompassed by an area counted by WeBS, but the area counted also includes a large area outside the SSSI. Therefore, distinguishing between birds within the SSSI from those outside it is problematic. It is likely that the majority are present within the SSSI, but this would need to be checked. Temporal coverage is good.

SSSI name: RIBBLE ESTUARY

ENSIS ID: 1004299

Species-specific features: 41

Assemblage features: 2

Sites Register sites: 0

WeBS: This site forms part of the Ribble & Alt Estuary SPA and as such inherits a number of waterbird features. Many are designated features of the SSSI specifically, and the majority of others are likely to occur. WeBS provides good coverage of this site. Although the boundaries of the counted areas and the SSSI do not match precisely, the overlap zones are likely to contain the majority of birds at high tide. Temporal coverage is good.

Breeding Waders of Wet Meadows: Very good coverage of all potentially suitable habitat within SSSI. As the breeding Ruff interest feature is derived from the Ribble & Alt Estuaries SPA, this breeding species may not be relevant to the SSSI.

SSSI name: ROUGH HEY WOOD

ENSIS ID: 1002587

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

Nesting Grey Herons: The heronry is important at county level and in 2003 was the fifth largest in North West region. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: WYRE ESTUARY

Species-specific features: 33

Assemblage features: 2

ENSIS ID: 2000199

Sites Register sites: 0

WeBS: This site forms part of the Morecambe Bay SPA and as such it inherits several waterbird features. Some are designated features of the SSSI specifically and many of the others are likely to occur in significant numbers. *WeBS* provides some coverage of this site. A small part of the estuary was counted between 1993 and 2003.

LEICESTERSHIRE**SSSI name: BEACON HILL, HANGINGSTONE AND OUT WOODS**

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002689

Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BRADGATE PARK AND CROPSTON RESERVOIR

Species-specific features: 0

Assemblage features: 2

ENSIS ID: 1003431

Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BRIERY WOOD HERONRY, BELVOIR

Species-specific features: 1

Assemblage features: 0

ENSIS ID: 1003465

Sites Register sites: 0

Nesting Grey Herons: The heronry had a low county ranking in 2003. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: BUDDON WOOD AND SWITHLAND RESERVOIR

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1003516

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BURLEY AND RUSHPIT WOODS

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1006390

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHARNWOOD LODGE

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1003563

Sites Register sites: 1

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: CLIPSHAM OLD QUARRY AND PICKWORTH GREAT WOOD

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1003654

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CROXTON PARK

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1003785

Sites Register sites: 1

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

Breeding Waders of Wet Meadows: Good coverage of the majority of potentially suitable habitat for breeding Avocets within SSSI. However, a 3km-long area of pools on the south side of the estuary would need to be covered to fully monitor this species. This could be achieved by a small extension to existing BWWM coverage and a specialist survey to cover the pools.

SSSI name: KIRKBY MOOR **ENSIS ID:** 1003968
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Heathland assemblage: Nightjar and Woodlark surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: MAVIS ENDERBY VALLEY **ENSIS ID:** 1002947
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MOOR FARM **ENSIS ID:** 1004114
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Lowland damp grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: SALTFLEETBY – THEDDLETHORPE DUNES **ENSIS ID:** 1002613
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: THE WASH **ENSIS ID:** 1002591
Species-specific features: 56 Assemblage features: 1 *Sites Register* sites: 0

WeBS: The boundaries of this SSSI match those of the SPA and therefore several waterbird features are inherited. WeBS provides good coverage of this site. Currently the counted areas do not include extensive areas of intertidal mud and extend further inland than the boundaries of the SSSI. This is to ensure inclusion of high-tide roosting waders, but may pose problems for monitoring ducks. Temporal coverage is good, but not all sectors have been counted in every year.

Breeding Waders of Wet Meadows: No part of this SSSI is covered by any BWWM site. Therefore a specialist survey would be required.

SSSI name: TORTOISESHELL WOOD **ENSIS ID:** 1003723
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TROY WOOD **ENSIS ID:** 1000647
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

Nesting Grey Herons: The heronry is important at county level and in 2003 was the third largest in East Midlands region. Counts of active nests in the colony have been made annually by BTO volunteers for many years.

MERSEYSIDE

SSSI name: DEE ESTUARY

Species-specific features: 38

Assemblage features: 1

ENSIS ID: 1000595

Sites Register sites: 0

WeBS: This SSSI forms part of the Dee Estuary SPA and as such inherits several wintering waterbird features, although many are features of the SSSI specifically. WeBS provides fairly good coverage of this site although the boundaries of the SSSI and those of the areas counted do not correspond precisely. Temporal coverage is fairly good.

Breeding Waders of Wet Meadows: Not covered by BWWM so specialist survey required for breeding Redshank.

SSSI name: DIBBINSDALE

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002884

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MERSEY NARROWS

Species-specific features: 3

Assemblage features: 0

ENSIS ID: 2000436

Sites Register sites: 0

WeBS: WeBS provides little in the way of coverage. The site covered, which is regularly counted, also contains suitable habitat outside the SSSI and is only a very small proportion of the SSSI.

SSSI name: NEW FERRY

Species-specific features: 16

Assemblage features: 1

ENSIS ID: 2000435

Sites Register sites: 0

WeBS: This site forms part of the Mersey SPA and as such inherits several waterbird features. Some are designated features of the SSSI specifically and some of the others are likely to occur. Currently there is no WeBS coverage of this site.

SSSI name: NORTH WIRRAL FORESHORE

Species-specific features: 4

Assemblage features: 0

ENSIS ID: 1003676

Sites Register sites: 0

WeBS: WeBS provides fairly good coverage of this site. A small part to the east of the site is not covered and a small part to the west of the site is encompassed by a count area which includes a significant area outside the SSSI. Aside from this the boundaries of the counted areas and those of the SSSI match closely. Temporal coverage has been complete in winter months since 1993.

SSSI name: SEFTON COAST

Species-specific features: 35

Assemblage features: 2

ENSIS ID: 2000426

Sites Register sites: 0

WeBS: This site forms part of the Ribble & Alt Estuaries SPA and as such inherits several waterbird features. Some are designated features of the SSSI specifically and many of the others are likely to occur. WeBS provides fairly good coverage of the site. Temporally, coverage has been comprehensive since 1990 and geographic coverage is probably fairly good. However as the precise boundaries of the areas counted are unknown this cannot be assessed with certainty.

Breeding Waders of Wet Meadows: Poor coverage by BWWM. As the breeding Ruff interest feature is derived from the Ribble & Alt Estuaries SPA, this breeding species may not be relevant to the SSSI. Also, there appears to be little potentially suitable breeding habitat. Unless this site is used by breeding Ruff there would appear to be no need to cover this SSSI.

NORFOLK

SSSI name: ALDERFEN BROAD

Species-specific features: 19

Assemblage features: 2

ENSIS ID: 1000463

Sites Register sites: 1

WeBS: This SSSI is a constituent part of the Broadland SPA and as such inherits wintering waterbird features. Most species are unlikely to occur in large numbers on the SSSI, but would be well covered by WeBS. The fen/carr area not covered by WeBS may contain a nocturnal Cormorant roost and the SSSI may contain habitat suitable for Bittern – this would need to be checked.

SSSI name: ALDERFORD COMMON

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1000483

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ANT BROADS AND MARSHES

Species-specific features: 19

Assemblage features: 2

ENSIS ID: 1000501

Sites Register sites: 2

WeBS: This SSSI is a constituent part of the Broadland SPA and as such inherits wintering waterbird features. Some species, such as swans and geese are unlikely to occur in large numbers on the SSSI, but others such as ducks are probably fairly abundant. WeBS provides fairly good coverage for species associated with open water bodies, but poorer coverage of species, such as dabbling ducks, that are associated with smaller water bodies. The fen/carr area not covered by WeBS may contain a nocturnal Cormorant roost and the SSSI is likely to contain habitat suitable for Bittern – this would need to be checked.

SSSI name: BREYDON WATER

Species-specific features: 15

Assemblage features: 1

ENSIS ID: 1000454

Sites Register sites: 0

WeBS: This SSSI is a constituent part of the Breydon Water SPA, which also includes Berney and Havergate Marshes, and as such inherits wintering waterbird features. In many instances these are also specific features of the SSSI or likely to occur in greatest numbers on the SSSI. Others such as Lapwing and Golden Plover occur in greater numbers on Berney Marshes. The site has been relatively well monitored by WeBS, but in recent years no distinction between counts conducted at Berney Marshes and those at Breydon has been drawn.

SSSI name: BRIDGHAM & BRETtenham HEATHS

Species-specific features: 1

Assemblage features: 0

ENSIS ID: 1003078

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BROAD FEN, DILHAM

Species-specific features: 20

Assemblage features: 1

ENSIS ID: 1000759

Sites Register sites: 0

WeBS: This site forms part of the Broadland SPA and as such it inherits several waterbird features. Several of these waterbird features are likely to occur on the site. WeBS currently provides no coverage for this site. Monitoring Bitterns would require a specialist survey.

SSSI name: BURE BROADS AND MARSHES

Species-specific features: 19

Assemblage features: 2

ENSIS ID: 1000880

Sites Register sites: 2

WeBS: This site forms part of the Broadland SPA and as such it inherits several waterbird features. Several of these waterbird features are likely to occur on the site. WeBS currently provides good coverage of open water bodies on the site, but the smaller water bodies and remaining habitat are not monitored. Specialist surveys would be required to adequately monitor Bitterns.

SSSI name: DUCAN'S MARSH, CLAXTON

ENSIS ID: 1000294

Species-specific features: 19

Assemblage features: 1

Sites Register sites: 0

WeBS: This SSSI is a constituent part of the Broadland SPA and as such inherits wintering waterbird features. However, the marsh/carr habitat on the SSSI is unsuitable for most of the listed wintering waterbird species, whilst those potentially present are unlikely to be accurately counted using standard methods. Assessment of any wintering ducks, geese or swans is thus likely to require specialist survey.

SSSI name: GELDESTON MEADOWS

ENSIS ID: 1001931

Species-specific features: 19

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Broadland SPA and as such it inherits several waterbird features. Some may occur, but others are unlikely to occur. Currently WeBS provides no coverage for this site.

SSSI name: GREAT YARMOUTH NORTH DENES

ENSIS ID: 1006347

Species-specific features: 2

Assemblage features: 0

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: GUNTON PARK LAKE

ENSIS ID: 1001287

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: This site, when counts were conducted, was fairly well monitored. However it has not been counted since 1994 and, to monitor the site adequately, temporal coverage should be increased.

SSSI name: HALL FARM FEN, HEMSBY

ENSIS ID: 1002215

Species-specific features: 19

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Broadland SPA and as such several waterbird features are inherited. Some of these may occur, whereas others are unlikely to occur. WeBS would provide an appropriate means of monitoring waterbird species on the site, but currently, there is no WeBS coverage.

SSSI name: HALVERGATE MARSHES

ENSIS ID: 1002542

Species-specific features: 41

Assemblage features: 3

Sites Register sites: 2

WeBS: The boundaries of this site overlap with those of both the Broadland SPA and the Breydon Water SPA. Waterbird features are inherited from both SPAs. Some of these are designated features of the site specifically and others are likely to occur. WeBS provides little in the way of effective coverage of the site due to the mismatch between count area and the SSSI boundaries and the small percentage of the site covered.

Breeding Waders of Wet Meadows: The entire site is covered by BWWM.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: HARDLEY FLOOD

ENSIS ID: 1000432

Species-specific features: 23

Assemblage features: 2

Sites Register sites: 1

WeBS: This SSSI is a constituent part of the Broadland SPA and as such inherits wintering waterbird features, although in many instances these are also specific features of the SSSI. The site has been relatively well monitored by WeBS except for a few years in which no counts were conducted. Specialist surveys may be required to establish the presence or abundance of Bitterns on the site.

Breeding Waders of Wet Meadows: This site is not covered by BWWM. A specialist survey would be required.

SSSI name: HILGAY HERONRY

ENSIS ID: 1001293

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

Nesting Grey Herons: The heronry is important at county level. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: HUNSTANTON CLIFFS

ENSIS ID: 1002810

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: ISLINGTON HERONRY

ENSIS ID: 1000618

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

Nesting Grey Herons: The heronry is important at county level and in 2003 was the second largest in East of England region. Counts of active nests in the colony have been made annually by BTO volunteers for many years.

SSSI name: LIMPENHOE MEADOWS

ENSIS ID: 1000609

Species-specific features: 19

Assemblage features: 1

Sites Register sites: 0

WeBS: This SSSI forms part of the Broadland SPA and as such inherits wintering waterbird features. The site probably hosts wintering Bean and White-fronted Geese and is likely to host significant numbers of dabbling duck species. *WeBS* currently provides no coverage of this site.

SSSI name: LUDHAM – POTTER HEIGHAM MARSHES

ENSIS ID: 1002865

Species-specific features: 19

Assemblage features: 2

Sites Register sites: 0

WeBS: This site forms part of the Broadland SPA and as such inherits a number of waterbird features. Most are unlikely to occur, but dabbling ducks may occur in small numbers. Currently there is no *WeBS* coverage for the site, but a preliminary visit to assess whether significant numbers of any species occur is advisable prior to trying to ensure *WeBS* coverage.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: NORTH NORFOLK COAST

ENSIS ID: 1001342

Species-specific features: 57

Assemblage features: 3

Sites Register sites: 10

WeBS: The boundaries of the SSSI correspond precisely with those of the North Norfolk Coast SPA. Consequently several waterbird features are inherited although in many instances these are designated features of the SSSI specifically. *WeBS* provides good coverage for most species, although some minor sub-division of count sections may be required. For Lapwing, Golden Plover and Pink-footed Geese, flock movements may be such that specialist surveys are required. For waterbirds that occur offshore, aerial surveys may provide a more effective means of monitoring.

Breeding Waders of Wet Meadows: Coverage of all marsh habitat is required to monitor breeding Avocet and Redshank. A combination of extending BWWM coverage together with a specialist survey may be needed to fully monitor this site.

Ringed Plover: This site would be covered by the next national survey, proposed for 2007.

SSSI name: POPLAR FARM MEADOWS, LANGLEY

ENSIS ID: 1003638

Species-specific features: 19

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Broadland SPA and as such inherits a number of waterbird features. Currently there is no *WeBS* coverage. However, the small size of the site is such that large numbers of birds are unlikely to occur. This would need to be checked however.

SSSI name: WRETHAM PARK MERES

ENSIS ID: 1002144

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: WeBS provides an effective means of monitoring this site. The site was counted between 1960 and 1970, but has not been covered since. The precise area covered by counts is unknown.

SSSI name: YARE BROADS AND MARSHES

ENSIS ID: 1001231

Species-specific features: 25

Assemblage features: 2

Sites Register sites: 5

WeBS: This site forms part of the Broadland SPA and as such several waterbird features are inherited. Some of these are also designated features of the SSSI specifically. WeBS provides fairly good coverage of this site, although some parts have not been counted regularly and the precise boundaries of counted areas are not known. For some species, notably Swans, Geese and Bittern alternative information sources or specialist surveys are likely to be required for effective monitoring.

Breeding Waders of Wet Meadows: Good coverage of the sites by BWWM apart from one small area which could be covered by extending current BWWM coverage.

NORTH YORKSHIRE

SSSI name: ARKENGARThDALE, GUNNERSIDE AND REETH MOORS

ENSIS ID: 2000333

Species-specific features: 6

Assemblage features: 1

Sites Register sites: 2

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: BREIGHTON MEADOWS

ENSIS ID: 1002003

Species-specific features: 13

Assemblage features: 2

Sites Register sites: 0

WeBS: This site forms part of the Lower Derwent Valley SPA and as such it inherits several waterbird features. Most of these are likely to occur. WeBS would provide an appropriate means of monitoring most species on the site and the entire SSSI is covered by WeBS, but the counted area includes a significant area outside the SSSI and in recent years the site has not been counted. Other, more mobile species may require specialist surveys.

Breeding Waders of Wet Meadows: Much of the suitable habitat in this SSSI is covered by BWWM but extension of coverage is required to fully monitor the whole site. Breeding Ruff is noted at the Lower Derwent Valley SPA level and it is not apparent that the species does actually occur at this SSSI.

Wet grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: CAYTON, CORNELIAN AND SOUTH BAYS

ENSIS ID: 1004165

Species-specific features: 2

Assemblage features: 0

Sites Register sites: 0

WeBS: WeBS does not provide adequate coverage of this site. Temporal coverage is poor and it is likely that much of the SSSI has never been counted.

SSSI name: DERWENT INGS

ENSIS ID: 1002114

Species-specific features: 27

Assemblage features: 2

Sites Register sites: 2

WeBS: This site forms part of the Lower Derwent Valley SPA and as such inherits several waterbird features. Most are likely to occur or are in fact designated features of the SSSI specifically as well. WeBS provides some coverage. However the area counted includes areas which lie outside the SSSI and no counts have been received since 2000.

Breeding Waders of Wet Meadows: The SSSI is well covered by BWWM with the exception of a few small areas and the BWWM sites do extend outside the SSSI boundary to a limited extent. All duck and wader species are well monitored by BWWM. However, a slight extension of the current BWWM coverage would cover all potentially suitable habitat of the whole SSSI.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: EAST NIDDERDALE MOORS (FLAMSTONE PIN – HIGH RUCKLES)

ENSIS ID: 2000106

Species-specific features: 7

Assemblage features: 1

Sites Register sites: 1

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: FILEY BRIGG

ENSIS ID: 1002497

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: WeBS provides some coverage of this site. Almost the entire SSSI is covered by WeBS. Although the area counted encompasses a large area not part of the SSSI, the habitat outside the SSSI is unlikely to host any Purple Sandpipers (the only designated waterbird feature associated with the site).

SSSI name: GOUTHWAITE RESERVOIR

ENSIS ID: 1002575

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HAY-A-PARK

ENSIS ID: 2000044

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: This site is well covered by WeBS. Although the boundary of the area counted and that of the SSSI do not match precisely, waterbirds are unlikely to occur in the non-overlapping areas. Temporal coverage is good in that counts have been conducted in most winters since 1975.

SSSI name: HESLINGTON TILLMIRE

ENSIS ID: 1006072

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

Lowland damp grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: RIVER DERWENT

ENSIS ID: 1003398

Species-specific features: 14

Assemblage features: 3

Sites Register sites: 0

WeBS: The boundaries of this site overlap with those of the Lower Derwent Valley SPA and therefore several waterbird features are inherited. Most are likely to occur in greater numbers on other parts of the SPA, but some may nevertheless occur in significant numbers. *WeBS* provides little effective coverage as the area counted includes substantial areas outside the SSSI which are suitable for this species and much of the SSSI has not been counted. Adequate monitoring is further hampered by the lack of counts in recent years.

Breeding Waders of Wet Meadows: The breeding Ruff interest feature is derived from the Lower Derwent Valley SPA and is probably not relevant to this SSSI, as minimal potential breeding habitat is present. However, BWWM covered virtually all of the potentially suitable breeding habitat.

SSSI name: RIVER RIBBLE (LONG PRESTON DEEPS)

ENSIS ID: 1003025

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SKIPWITH COMMON

ENSIS ID: 1003243

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SLEIGHTHOLME DALE

ENSIS ID: 1004302

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

Nesting Grey Herons: The heronry had a low county ranking in 2003. Counts of active nests in the colony have been made annually by BTO volunteers for many years.

SSSI name: SWALE LAKES

ENSIS ID: 1003166

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WEST NIDDERDALE, BARDEN AND BLUBBERHOUSES MOORS

ENSIS ID: 2000321

Species-specific features: 7

Assemblage features: 1

Sites Register sites: 2

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

NORTHAMPTONSHIRE**SSSI name: HIGHAM FERRERS GRAVEL PITS**

ENSIS ID: 1004195

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: *WeBS* provides good coverage of this site. Long-term monitoring is hampered by the lack of fine resolution counts in former years and consequential mismatch between the boundaries of the site and those of the counted area. However, since 2002, the site has been counted at the level of individual pits, and non-overlapping areas of the site and count area do not contain suitable habitat for waterbirds.

SSSI name: PITSFORD RESERVOIR ENSIS ID: 1003637
Species-specific features: 1 Assemblage features: 1 *Sites Register* sites: 1

WeBS: WeBS provides an appropriate means of monitoring waterbirds on this site and currently provides very good coverage.

SSSI name: TITCHMARSH DUCK DECOY ENSIS ID: 1001782
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

Nesting Grey Herons: The heronry is important at county level. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: YARDLEY CHASE ENSIS ID: 1004179
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

NORTHUMBERLAND

SSSI name: ALLENDALE MOORS ENSIS ID: 2000292
Species-specific features: 6 Assemblage features: 1 *Sites Register* sites: 1

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: COQUET ISLAND ENSIS ID: 1004492
Species-specific features: 12 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: FARNE ISLANDS ENSIS ID: 1000660
Species-specific features: 15 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HARBOTTLE MOORS ENSIS ID: 1000844
Species-specific features: 2 Assemblage features: 1 *Sites Register* sites: 3

Peregrine: The majority of the SSSI is covered by the Peregrine survey. However, full coverage of the site will be required in future surveys.

SSSI name: HEXHAMSHIRE MOORS ENSIS ID: 2000293
Species-specific features: 6 Assemblage features: 1 *Sites Register* sites: 1

Peregrine: This SSSI is a constituent part of the North Pennine Moors SPA and as such inherits breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: RIVER IDLE WASHLANDS

ENSIS ID: 1001749

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: WeBS is likely to have provided some coverage for Bewick's Swan, the designated waterbird feature associated with this site. However, currently, without knowing the count area boundaries the quality of this coverage is hard to assess. Furthermore, the mobile nature and habitat use of this species is likely to be such that WeBS may not provide the most appropriate means of monitoring this species. More data are likely to be available from WWT.

SSSI name: SUTTON AND LOUND GRAVEL PITS

ENSIS ID: 2000458

Species-specific features: 1

Assemblage features: 2

Sites Register sites: 1

WeBS: WeBS provides fairly good coverage of this site. However there is some mismatch between the boundaries of the areas counted and those of the SSSI and no counts have been received since 2002.

SSSI name: THORESBY LAKE

ENSIS ID: 1001902

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WELBECK LAKE

ENSIS ID: 1001932

Species-specific features: 1

Assemblage features: 1

Sites Register sites: 1

Nesting Grey Herons: The heronry for which this SSSI was designated now appears to be extinct. The reason for desertion is unknown.

OXFORDSHIRE**SSSI name: ASTON ROWANT**

ENSIS ID: 1002737

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BIX BOTTOM

ENSIS ID: 1001558

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BLENHEIM PARK

ENSIS ID: 1001566

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

WeBS: The main water body in the park has been comprehensively covered by WeBS since the 1960s. The SSSI includes a series of much smaller water bodies, not currently covered by WeBS, which may host small numbers of Gadwall.

SSSI name: OTMOOR

ENSIS ID: 1002962

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 1

Wet grassland assemblage (mixed): Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: NORTH EXMOOR

Species-specific features: 0

Assemblage features: 2

ENSIS ID: 1006541

Sites Register sites: 8

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Dartford Warbler surveys.

SSSI name: NORTH MOOR

Species-specific features: 1

Assemblage features: 1

ENSIS ID: 1002395

Sites Register sites: 0

WeBS: WeBS provides an appropriate means of monitoring this site. Currently, there is very good coverage. The boundaries of the SSSI and the counted area match exactly and the site has been counted in every winter since 1991 and sporadically prior to that.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: SEVERN ESTUARY

Species-specific features: 24

Assemblage features: 1

ENSIS ID: 1002284

Sites Register sites: 0

WeBS: This site forms part of the Severn Estuary SPA and as such inherits several waterbird features. Some of these are likely to occur and in fact many are designated features of the SSSI specifically. WeBS provides fairly good coverage for most species, but adequate monitoring is hampered by lack of knowledge of count area boundaries and poor temporal coverage.

SSSI name: SHAPWICK HEATH

Species-specific features: 9

Assemblage features: 2

ENSIS ID: 1000667

Sites Register sites: 1

WeBS: This site forms part of the Somerset Levels & Moors SPA and as such it inherits several waterbird features. The site contains suitable habitat for most of the waterbird features for which the SPA is designated. The site has been fairly well monitored by WeBS, but counts have not been conducted in some years. The monitoring of Snipe would require specialist surveys.

Heathland assemblage: Nightjar surveys will make a partial contribution to assemblage monitoring. However, a specialist survey will be required.

Wet grassland assemblage (mixed): Partial coverage of wet grassland by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: SOUTH EXMOOR

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002269

Sites Register sites: 1

Heathland assemblage: Nightjar and Dartford Warbler surveys will make a partial contribution to assemblage monitoring. However, a specialist survey will be required.

SSSI name: SOUTHLAKE MOOR

Species-specific features: 11

Assemblage features: 1

ENSIS ID: 1002426

Sites Register sites: 0

WeBS: This site forms part of the Somerset Levels and Moors SPA and as such inherits several waterbird features. Some are designated features of the SSSI specifically, and the others are likely to occur. WeBS currently provides good coverage of this site. The boundaries of the SSSI and those of the counted area match exactly and counts have been conducted in every winter since 1987.

SSSI name: TEALHAM AND TADHAM MOORS

ENSIS ID: 1001081

Species-specific features: 15

Assemblage features: 2

Sites Register sites: 1

WeBS: This site forms part of the Somerset Levels & Moors. Consequently several waterbird features are inherited, although many of these are designated features of the SSSI specifically. WeBS provides good geographical coverage of this site, but it has only been counted in about half of the winters since 1991. Specialist surveys may be required for some species.

Wet grassland assemblage (mixed): Good coverage of wet grassland by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: THE QUANTOCKS

ENSIS ID: 1000310

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 6

Heathland assemblage: Nightjar and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: WEST MOOR

ENSIS ID: 1002677

Species-specific features: 9

Assemblage features: 1

Sites Register sites: 0

WeBS: This site forms part of the Somerset Levels & Moors SPA and as such inherits several waterbird features. Most of these are likely to occur. The entire SSSI is counted, but the counted area includes a substantial area outside the SSSI, which may contain significant numbers of waterbirds. Temporal coverage is good.

SSSI name: WEST SEDGEMOOR

ENSIS ID: 1004511

Species-specific features: 9

Assemblage features: 2

Sites Register sites: 1

WeBS: This site forms part of the Somerset Levels & Moors SPA and as such it inherits several waterbird features. All are likely to occur in significant numbers. WeBS provides good coverage of this site both in geographic terms and temporally.

SSSI name: WESTHAY HEATH

ENSIS ID: 1000032

Species-specific features: 11

Assemblage features: 2

Sites Register sites: 1

WeBS: This SSSI is a constituent part of the Somerset Levels and Moors SPA and as such inherits wintering waterbird features. However, the fen/reedbed habitat on the SSSI is unlikely to contain large concentrations for most of the listed wintering waterbird species, whilst those potentially present may not be fully detected using standard WeBS methodology. Lapwings, Golden Plover and swans would be adequately surveyed, but assessment of any wintering ducks, Snipe or Bitterns would require specialist survey.

SSSI name: WESTHAY MOOR

ENSIS ID: 1001181

Species-specific features: 9

Assemblage features: 2

Sites Register sites: 1

WeBS: This site forms part of the Somerset Levels and Moors SPA and as such it inherits several waterbird features. Some of these are likely to occur on the site on a regular basis. WeBS provides good coverage of most of the site.

Wet grassland assemblage (mixed): Partial coverage of wet grassland by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: WET MOOR
Species-specific features: 10

Assemblage features: 2

ENSIS ID: 1004500
Sites Register sites: 1

WeBS: This site forms part of the Somerset Levels and Moors SPA and as such it inherits several waterbird features. Bewick's Swan is a designated feature of the SSSI itself and the other inherited features are likely to occur. WeBS provides some coverage of this site. There is a minor mismatch between the boundaries of the site and those of the counted area and no counts have been conducted in recent years.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SOUTH YORKSHIRE

SSSI name: DENABY INGS
Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1004401
Sites Register sites: 1

Wet grassland assemblage (mixed): Good coverage of wet grassland by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species

SSSI name: ECCUP RESERVOIR
Species-specific features: 1

Assemblage features: 0

ENSIS ID: 1003837
Sites Register sites: 0

WeBS: This site is well covered by WeBS. Although the narrow fringe of land surrounding the reservoir, which is part of the SSSI, is not counted this area is unlikely to contain waterbirds. The site has been counted regularly since 1960.

SSSI name: HATFIELD MOORS
Species-specific features: 2

Assemblage features: 1

ENSIS ID: 1000536
Sites Register sites: 1

Nightjar: This site is a constituent part of the Thorne and Hatfield Moors SPA, from which it inherits the Nightjar interest feature. Coverage of suitable habitat was complete in 2004.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Nightjar surveys.

SSSI name: MESSINGHAM SAND QUARRY
Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001209
Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: NORTH KILLINGHOLME HAVEN PITS
Species-specific features: 2

Assemblage features: 0

ENSIS ID: 2000089
Sites Register sites: 0

WeBS: WeBS provides fairly good coverage for Black-tailed Godwit on this site and incidental records of Bitterns (the two waterbird features associated with the site of relevance to WeBS). The boundaries of the SSSI and those of the area counted do not match precisely, but do so sufficiently for monitoring purposes. Temporal coverage, while lacking counts in a few years, has been relatively good.

SSSI name: POTTERIC CARR
Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1000669
Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: THORNE, CROWLE AND GOOLE MOORS
Species-specific features: 1 Assemblage features: 1 ENSIS ID: 1001467
Sites Register sites: 1

Nightjar: This site is a constituent part of the Thorne and Hatfield Moors SPA, from which it inherits the Nightjar interest feature. Coverage of all suitable habitat was achieved in 2004.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Nightjar surveys.

STAFFORDSHIRE

SSSI name: AQUALATE MERE
Species-specific features: 4 Assemblage features: 2 ENSIS ID: 1003807
Sites Register sites: 1

WeBS: WeBS provides good coverage of this site, as the part of the SSSI where Shoveler are likely to be present in greatest numbers is counted and temporal coverage is good.

Breeding Waders of Wet Meadows: Covers the majority of the suitable habitat. A slight extension of BWWM coverage may be required to cover the whole site.

Nesting Grey Herons: The heronry is important at county level and in 2003 was the fifth largest in West Midlands region. Counts of active nests in the colony have been made annually for many years.

SSSI name: BASWICH MEADOWS
Species-specific features: 1 Assemblage features: 0 ENSIS ID: 1003845
Sites Register sites: 0

Breeding Waders of Wet Meadows: The SSSI is well covered by BWWM. However, an extension of BWWM coverage will be required to monitor the whole site.

SSSI name: BELVIDE RESERVOIR
Species-specific features: 1 Assemblage features: 1 ENSIS ID: 1003826
Sites Register sites: 0

WeBS: WeBS provides an appropriate means of monitoring waterbirds on this site. Currently coverage is very good as the site has been counted since 1960 and the boundaries of the site match those of the counted area.

SSSI name: BETLEY MERE
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1002384
Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BLITHFIELD RESERVOIR
Species-specific features: 1 Assemblage features: 1 ENSIS ID: 1003858
Sites Register sites: 0

WeBS: WeBS provides good coverage of this site. Although the boundaries of the SSSI and the counted area do not match exactly, they do so closely, and waterbirds are only likely to occur in the overlapping area. The site has been comprehensively covered since 1960.

SSSI name: CANNOCK CHASE
Species-specific features: 1 Assemblage features: 0 ENSIS ID: 1004497
Sites Register sites: 0

Nightjar: Full coverage of site was achieved during 2004. However, details of territory data have not yet been made available.

SSSI name: CHURNET VALLEY
Species-specific features: 0 Assemblage features: 1 ENSIS ID: 1007135
Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: COMBES VALLEY ENSIS ID: 1000026
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DOXEY AND TILLINGTON MARSHES ENSIS ID: 1001006
Species-specific features: 1 Assemblage features: 0 Sites Register sites: 0

Breeding Waders of Wet Meadows: Snipe were recorded on this SSSI during the 2002 BWWM survey, which only covered about one quarter of the site. A specialist survey or extension of BWWM would be required to cover the whole site.

SSSI name: GOAT LODGE ENSIS ID: 1000165
Species-specific features: 1 Assemblage features: 0 Sites Register sites: 0

Nesting Grey Herons: The heronry is of national importance and in 2003 was the second largest in West Midlands region. Counts of active nests in the colony have been made annually by BTO volunteers for many years.

SSSI name: LEEK MOORS ENSIS ID: 1003770
Species-specific features: 5 Assemblage features: 1 Sites Register sites: 2

Peregrine: This SSSI is a constituent part of the Peak District Moors (South Pennine Moors Phase 1) SPA and as such inherits the breeding Peregrine features. Peregrine Survey obtained good coverage but coverage is required of all potential nesting sites.

Breeding Waders of Wet Meadows: No coverage by BWWM. Specialist survey required, which could be linked to proposed Golden Plover survey or Peregrine survey.

SSSI name: RAWBONES MEADOW ENSIS ID: 1001338
Species-specific features: 2 Assemblage features: 0 Sites Register sites: 0

Breeding Waders of Wet Meadows: This is an isolated SSSI which is completely covered by BWWM.

SUFFOLK

SSSI name: ALDE-ORE ESTUARY ENSIS ID: 1003208
Species-specific features: 26 Assemblage features: 3 Sites Register sites: 3

WeBS: The boundaries of this SSSI correspond closely to those of the Alde-Ore Estuary SPA and therefore several waterbird features are inherited. Most are designated features of the SSSI specifically or are likely to occur in significant numbers. WeBS provides fairly good coverage of this site for these species. Although the area covered includes a considerable area outside the SSSI this is primarily to ensure that high tide roosts are covered. Nevertheless, there may be some problems associated with birds counted that are not normally associated with the SSSI. Temporal coverage by WeBS is good.

Breeding Waders of Wet Meadows: Small area of potentially suitable habitat covered within site. Extended BWWM coverage needed but a specialist survey may also be required.

Wet grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: DEBEN ESTUARY

Species-specific features: 6

Assemblage features: 0

ENSIS ID: 1006262

Sites Register sites: 0

WeBS: The boundaries of this site match those of the Deben Estuary SPA exactly and therefore several waterbird features are inherited. *WeBS* provides fairly good coverage of this site. However, the boundaries of the areas counted and those of the SSSI do not match precisely and significant numbers of some species may occur in non-overlapping areas. This would need to be checked. Temporal coverage is adequate.

SSSI name: FOXHOLE HEATH, ERISWELL

Species-specific features: 2

Assemblage features: 0

ENSIS ID: 1004145

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: FRITHY AND CHADACRE WOODS

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001098

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HINTLESHAM WOODS

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1004386

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LACKFORD LAKES

Species-specific features: 2

Assemblage features: 2

ENSIS ID: 2000068

Sites Register sites: 1

WeBS: *WeBS* provides some coverage of this site. Adequate monitoring is hampered, however, by the lack of full temporal coverage.

SSSI name: LAKENHEATH WARREN

Species-specific features: 1

Assemblage features: 1

ENSIS ID: 1004467

Sites Register sites: 1

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark surveys.

SSSI name: LEISTON – ALDEBURGH

Species-specific features: 8

Assemblage features: 3

ENSIS ID: 2000370

Sites Register sites: 1

WeBS: *WeBS* provides fairly good coverage of this site. Although much of the site is not counted, the areas likely to contain the majority of waterbirds have been counted regularly since 1991.

Nightjar: This site is a constituent part of the Sandlings SPA, from which it inherits the *Nightjar* interest feature but is designated for Woodlark in its own right. Coverage was complete during 2004/05.

Woodlark: Full coverage is planned for 2006.

Breeding Waders of Wet Meadows: Good coverage by BWWM but the main water body, which would be most relevant to breeding Gadwall, is not covered. An extension to BWWM coverage or a specialist survey would be required to monitor this species.

Wet grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: LITTLE HEATH, BARNHAM

Species-specific features: 1

Assemblage features: 0

ENSIS ID: 1000636

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MAIDSCROSS HILL

ENSIS ID: 1000672

Species-specific features: 1

Assemblage features: 0

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MINSMERE – WALBERSWICK HEATHS AND MARSHES

ENSIS ID: 1000721

Species-specific features: 19

Assemblage features: 4

Sites Register sites: 4

WeBS: There is considerable overlap between this SSSI and the Minsmere-Walberswick SPA and therefore several waterbird features are inherited. *WeBS* provides fairly good coverage of wetland areas, but parts of the Blyth River/Estuary have not been covered recently. The monitoring of Bitterns would require specialist surveys.

Breeding Waders of Wet Meadows: Much of the wet grassland and marsh is covered by BWWM. However, other extensive wet and open water areas are not covered, which are where Avocet and Garganey are likely to breed. An extension to BWWM coverage and a specialist survey may be required.

Nightjar: Full coverage of all suitable habitat was achieved by a Nightjar survey in 2004 and 2005.

Woodlark: Full coverage is planned for 2006.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: ORWELL ESTUARY

ENSIS ID: 1002511

Species-specific features: 28

Assemblage features: 2

Sites Register sites: 5

WeBS: This site forms part of the Stour and Orwell Estuaries SPA and as such it inherits several waterbird features. The majority of these are also designated features of the SSSI specifically and the others are likely to occur. *WeBS* provides fairly good geographic and temporal coverage, although some parts of the SSSI have only been counted sporadically.

Breeding Waders of Wet Meadows: Almost the entire area of potentially suitable habitat is covered by BWWM. However, remaining areas could be included by extending BWWM coverage.

Nesting Cormorants: The Cormorant colony, at Loompit Lake, is of national importance. There is a history of annual counting, but this has lapsed since 2003. No heronries are known within the SSSI.

SSSI name: SANDLINGS FOREST

ENSIS ID: 2000433

Species-specific features: 4

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Sandlings SPA, from which it inherits the Nightjar interest feature but is designated for breeding Woodlark in its own right. Complete coverage of suitable habitat for Nightjar was achieved during 2004/05.

Woodlark: Full coverage is planned for 2006.

SSSI name: SIZEWELL MARSHES

ENSIS ID: 1003416

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

Lowland damp grassland assemblage: Partial coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: SNAPE WARREN

ENSIS ID: 1000928

Species-specific features: 2

Assemblage features: 0

Sites Register sites: 0

Nightjar: This site is a constituent part of the Sandlings SPA, from which it inherits the Nightjar interest feature. Complete coverage of suitable habitat was achieved during 2004/05.

Woodlark: Full coverage is planned for 2006.

SSSI name: SPRAT'S WATER AND MARSHES, CARLTON COLVILLE ENSIS ID: 1000972
Species-specific features: 19 Assemblage features: 2 *Sites Register* sites: 1

WeBS: This site forms part of the Broadland SPA and as such inherits several waterbird features. Some of these are likely to occur on the site. Currently WeBS provides no coverage, but would provide an appropriate means of monitoring many of the waterbird features associated with this site.

SSSI name: STALLODE WASH, LAKENHEATH ENSIS ID: 1000993
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: STOUR ESTUARY ENSIS ID: 1004172
Species-specific features: 30 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Stour and Orwell Estuaries SPA and as such it inherits several waterbird features. Most are also designated features of the SSSI specifically and the remainder are likely to occur. WeBS provides good coverage of this site. It has been comprehensively counted at the sector level since 1993 and, although the boundaries of the SSSI and the counted area do not match precisely, the non-overlapping areas are unlikely to hold significant numbers of waterbirds.

Breeding Waders of Wet Meadows: Poor coverage by BWWM. Two large areas of tidal marsh may hold breeding Avocet but would probably need to be covered under a specialist survey rather than an extension of BWWM coverage.

SSSI name: SUTTON AND HOLLESLEY HEATHS ENSIS ID: 1001701
Species-specific features: 3 Assemblage features: 1 *Sites Register* sites: 1

Nightjar: This site is a constituent part of the Sandlings SPA, from which it inherits the Nightjar interest feature but is designated for breeding Woodlark in its own right. Full coverage was achieved during 2004 and 2005.

Woodlark: Full coverage is planned for 2006.

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark surveys.

SSSI name: THETFORD HEATHS ENSIS ID: 1004102
Species-specific features: 2 Assemblage features: 0 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TUNSTALL COMMON ENSIS ID: 1001812
Species-specific features: 2 Assemblage features: 0 *Sites Register* sites: 0

Nightjar: This site is a constituent part of the Sandlings SPA, from which it inherits the Nightjar interest feature. Full coverage was achieved during 2004.

Woodlark: Full coverage is planned for 2006.

SURREY

SSSI name: ASH TO BROOKWOOD HEATHS ENSIS ID: 1000009
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: BANSTEAD DOWNS ENSIS ID: 1004416
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: BLACKHEATH ENSIS ID: 1000869
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

Heathland assemblage: Nightjar, Dartford Warbler and Woodlark surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: BOOKHAM COMMONS ENSIS ID: 1004456
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 3

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: CHIPSTEAD DOWNS ENSIS ID: 1004534
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 2

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHOBHAM COMMON ENSIS ID: 1004332
Species-specific features: 3 Assemblage features: 2 Sites Register sites: 1

Nightjar: This SSSI was completely covered during 2004.
Woodlark, Dartford Warbler: Full coverage is planned for 2006.
Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: DEVIL'S PUNCH BOWL ENSIS ID: 1000109
Species-specific features: 0 Assemblage features: 2 Sites Register sites: 0

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: EPSOM AND ASHTEAD COMMONS ENSIS ID: 1000129
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: GODSTONE PONDS ENSIS ID: 1000828
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HEDGECOURT ENSIS ID: 1000860
Species-specific features: 0 Assemblage features: 2 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HORSELL COMMON ENSIS ID: 1000870
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: KEMPTON PARK RESERVOIRS ENSIS ID: 2000385
Species-specific features: 3 Assemblage features: 0 Sites Register sites: 0

WeBS: This site forms part of the South West London Waterbodies SPA and as such inherits two waterbird features. One is a designated feature of the SSSI specifically and the other is likely to occur. WeBS provides good geographic coverage of the site, but adequate counts have only been conducted in two winters.

SSSI name: KNIGHT & BESSBOROUGH RESERVOIRS ENSIS ID: 2000383
Species-specific features: 3 Assemblage features: 0 Sites Register sites: 0

WeBS: This site forms part of the South West London Waterbodies SPA and as such inherits two waterbird features. One is a designated feature of the SSSI specifically and the other is likely to occur. WeBS provides good temporal and geographic coverage of this site.

SSSI name: LANGHAM POND ENSIS ID: 1000918
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LEITH HILL ENSIS ID: 1000922
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MOLE GAP TO REIGATE ESCARPMENT ENSIS ID: 1000977
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 4

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: PAPER COURT ENSIS ID: 1001037
Species-specific features: 1 Assemblage features: 4 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: PUTTENHAM & CROOKSBURY COMMONS ENSIS ID: 1001070
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

Heathland assemblage: Nightjar, Woodlark and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: RANMORE COMMON ENSIS ID: 1001108
Species-specific features: 0 Assemblage features: 1 Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: STAINES MOOR

Species-specific features: 6

Assemblage features: 0

ENSIS ID: 1001792

Sites Register sites: 0

WeBS: This site forms part of the South West London Waterbodies SPA and as such it inherits several waterbird features. Several additional designated features are specific to the SSSI. The precise boundaries of counted areas are unknown and not all areas have been counted regularly. However it is probable that those areas counted regularly contain the majority of the waterbirds present and thus WeBS provides good coverage of this site.

SSSI name: THORPE PARK NO 1 GRAVEL PIT

Species-specific features: 3

Assemblage features: 0

ENSIS ID: 2000382

Sites Register sites: 0

WeBS: This site forms part of the South West London Waterbodies SPA and as such inherits two waterbird features. One is a designated feature of the SSSI specifically and the other is likely to occur. WeBS provides good temporal coverage of this site and fairly good geographic coverage. One of the areas counted includes suitable habitat outside the SSSI. Nevertheless, the majority of birds are likely to be concentrated in the overlapping areas.

SSSI name: THURSLEY, HANKLEY & FRENHAM COMMONS

Species-specific features: 3

Assemblage features: 1

ENSIS ID: 1004371

Sites Register sites: 1

Nightjar: This SSSI received full coverage for Nightjar in 2004.
Woodlark, Dartford Warbler: Full coverage is planned for 2006.
Heathland assemblage: Nightjar, Woodlark and Dartford Warbler surveys will contribute to assemblage monitoring. However, a specialist survey will be required.

SSSI name: VANN LAKE AND OCKLEY WOODS

Species-specific features: 0

Assemblage features: 2

ENSIS ID: 1001820

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WRAYSBURY RESERVOIR

Species-specific features: 5

Assemblage features: 0

ENSIS ID: 2000374

Sites Register sites: 0

WeBS: This site forms part of the South West London Waterbodies SPA and as such two waterbird features are inherited. Both are designated features of the SSSI specifically, which also has some additional waterbird features associated with it. WeBS provides good coverage of this site, although no counts have been received since 2003.

TYNE AND WEAR**SSSI name:** BIG WATERS

Species-specific features: 1

Assemblage features: 0

ENSIS ID: 1000832

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: THORNLEY WOOD

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001279

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

WARWICKSHIRE

SSSI name: ALVECOTE POOLS

Species-specific features: 1

Assemblage features: 1

ENSIS ID: 1003784

Sites Register sites: 1

Breeding Waders of Wet Meadows: The BWWM survey area covers the entire SSSI together with an area outside the boundary.

SSSI name: BRANDON MARSH

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001151

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CLOWES WOOD & NEW FALLINGS COPPICE

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001494

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: COMBE POOL

Species-specific features: 2

Assemblage features: 1

ENSIS ID: 1001242

Sites Register sites: 1

WeBS: WeBS provides good geographic coverage of this site, but counts have not been conducted in every year.

Nesting Grey Herons: The heronry is important at county level and in 2003 was the third largest in West Midlands region. Counts of active nests in the colony have been made almost annually for many years.

SSSI name: KINGSBURY WOOD

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1001991

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: MIDDLETON POOL

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002103

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: OXHOUSE FARM

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002143

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WHITACRE HEATH

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002177

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WOLFORD WOOD AND OLD COVERT

Species-specific features: 0

Assemblage features: 1

ENSIS ID: 1002375

Sites Register sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CHANCTONBURY HILL **ENSIS ID:** 1004144
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Wet grassland assemblage (mixed): No coverage by BWWM. A specialist survey will be needed to fully assess the assemblage species.

SSSI name: CHAPEL COMMON **ENSIS ID:** 2000329
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark surveys.

SSSI name: CHICHESTER HARBOUR **ENSIS ID:** 1003245
Species-specific features: 39 Assemblage features: 1 *Sites Register* sites: 0

WeBS: This site forms part of the Chichester and Langstone Harbours SPA and as such it inherits several waterbird features. Most are designated features of the SSSI specifically and the others are likely to occur. WeBS provides fairly good coverage. Part of the mouth of the estuary is not covered and the boundaries of the areas counted and those of the SPA do not match precisely. However, the majority of birds are likely to be present in the overlap zone. Temporal coverage is very good.

SSSI name: CHIDDINGFOLD FOREST **ENSIS ID:** 1005561
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CISSBURY RING **ENSIS ID:** 1004162
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: CLIMPING BEACH **ENSIS ID:** 1004174
Species-specific features: 1 Assemblage features: 0 *Sites Register* sites: 0

WeBS: WeBS provide some coverage of this site. Although temporal coverage is good, adequate monitoring is hampered by the mismatch between the boundaries of the area counted and those of the SSSI.

SSSI name: COW WOOD AND HARRY'S WOOD **ENSIS ID:** 1004219
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: EBERNOE COMMON **ENSIS ID:** 1004246
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: FOREST MERE **ENSIS ID:** 1004277
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HARTING DOWNS **ENSIS ID:** 1000415
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: IPING COMMON **ENSIS ID:** 1000461
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

Lowland heathland assemblage: Specialist survey required for assemblage monitoring, which could be combined with future Woodlark and Dartford Warbler surveys.

SSSI name: KINGLEY VALE **ENSIS ID:** 1002819
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: PAGHAM HARBOUR **ENSIS ID:** 1000620
Species-specific features: 12 Assemblage features: 3 *Sites Register* sites: 1

WeBS: The boundaries of this SSSI match those of the Pagham Harbour SPA precisely and thus several waterbird features are inherited. In addition, the SSSI has some additional designated waterbird features. The site has been monitored by WeBS since the early 1960s, but there may be some minor problems associated with the mismatch between the boundaries of the areas counted and those of the SSSI.

Wet grassland assemblage: Good coverage of wet grassland by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: PULBOROUGH BROOKS **ENSIS ID:** 2000316
Species-specific features: 8 Assemblage features: 2 *Sites Register* sites: 1

WeBS: This site forms part of the Arun Valley SPA and as such inherits several waterbird features. Most are designated features of the SSSI specifically and the others are likely to occur. WeBS provides fairly good coverage of the site. Temporal coverage has been comprehensive since 1993, but one of the areas counted traverses the boundaries of the SSSI.

Wet grassland assemblage: Good coverage by BWWM, which will contribute to assemblage monitoring. However, a specialist survey will be needed to fully assess the assemblage species.

SSSI name: ST LEONARD'S FOREST **ENSIS ID:** 1000700
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SULLINGTON WARREN **ENSIS ID:** 1001370
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: THE MENS **ENSIS ID:** 1000537
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: DUMBLETON DINGLE ENSIS ID: 1004366
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: GRIMLEY BRICK PITS ENSIS ID: 1004509
Species-specific features: 1 Assemblage features: 1 *Sites Register* sites: 1

Nesting Grey Herons: The heronry is important at county level. Counts of active nests in the colony have been made almost annually by BTO volunteers for many years.

SSSI name: HEWELL PARK LAKE ENSIS ID: 1000092
Species-specific features: 0 Assemblage features: 2 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: HURCOTT AND PODMORE POOLS ENSIS ID: 1000702
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: LEIGH BROOK VALLEY ENSIS ID: 1000821
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: OAKLEY POOL ENSIS ID: 1001802
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: SHRAWLEY WOOD ENSIS ID: 1002918
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: THE MALVERN HILLS ENSIS ID: 1001017
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TIDDESLEY WOOD ENSIS ID: 1003066
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: TRENCH WOOD ENSIS ID: 1004181
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: UPTON WARREN POOLS ENSIS ID: 1003130
Species-specific features: 0 Assemblage features: 1 *Sites Register* sites: 1

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WYLDE MOOR, FECKENHAM

ENSIS ID: 1000459

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 0

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

SSSI name: WYRE FOREST

ENSIS ID: 1004198

Species-specific features: 0

Assemblage features: 1

Sites Register sites: 4

There are no species-specific features at this SSSI that are covered by standard BTO surveys.

5 OVERVIEW OF FINDINGS

5.1 Wetland Bird Survey findings

This overview of the findings of this review relating to WeBS makes use of categories of coverage and of biological importance that are described fully in Appendix 3. Coverage of SSSIs by WeBS is generally fairly good, with 78% of all SSSIs receiving at least moderate coverage. More important sites are generally better covered. Almost 95% of sites regularly hosting more than 10,000 waterbirds are at least moderately covered. Table 1 gives an overview of coverage of sites by biological importance. Only two SSSIs, Derwent Ings and Halvergate Marshes are thought to regularly host over 20,000 waterbirds but receive only poor coverage by WeBS.

Table 1. Summary of coverage of sites differing in biological importance. The more important sites are generally fairly well covered. For definitions of categories, see the end of Appendix 3.

Biological importance	Coverage				
	0 very poor	1 poor	2 moderate	3 good	4 very good
0 not important	24 (23.3%)	7 (6.8%)	15 (14.6%)	35 (34.0%)	22 (21.4%)
1 some	3 (7.5%)	5 (12.5%)	13 (32.5%)	15 (37.5%)	4 (10.0%)
2 fair	1 (4.5%)	2 (0.1%)	9 (40.9%)	8 (36.4%)	2 (9.1%)
3 important	0	0	12 (60.0%)	8 (40.0%)	0
4 international	0	2 (5.4%)	11 (29.7%)	22 (59.5%)	2 (5.4%)

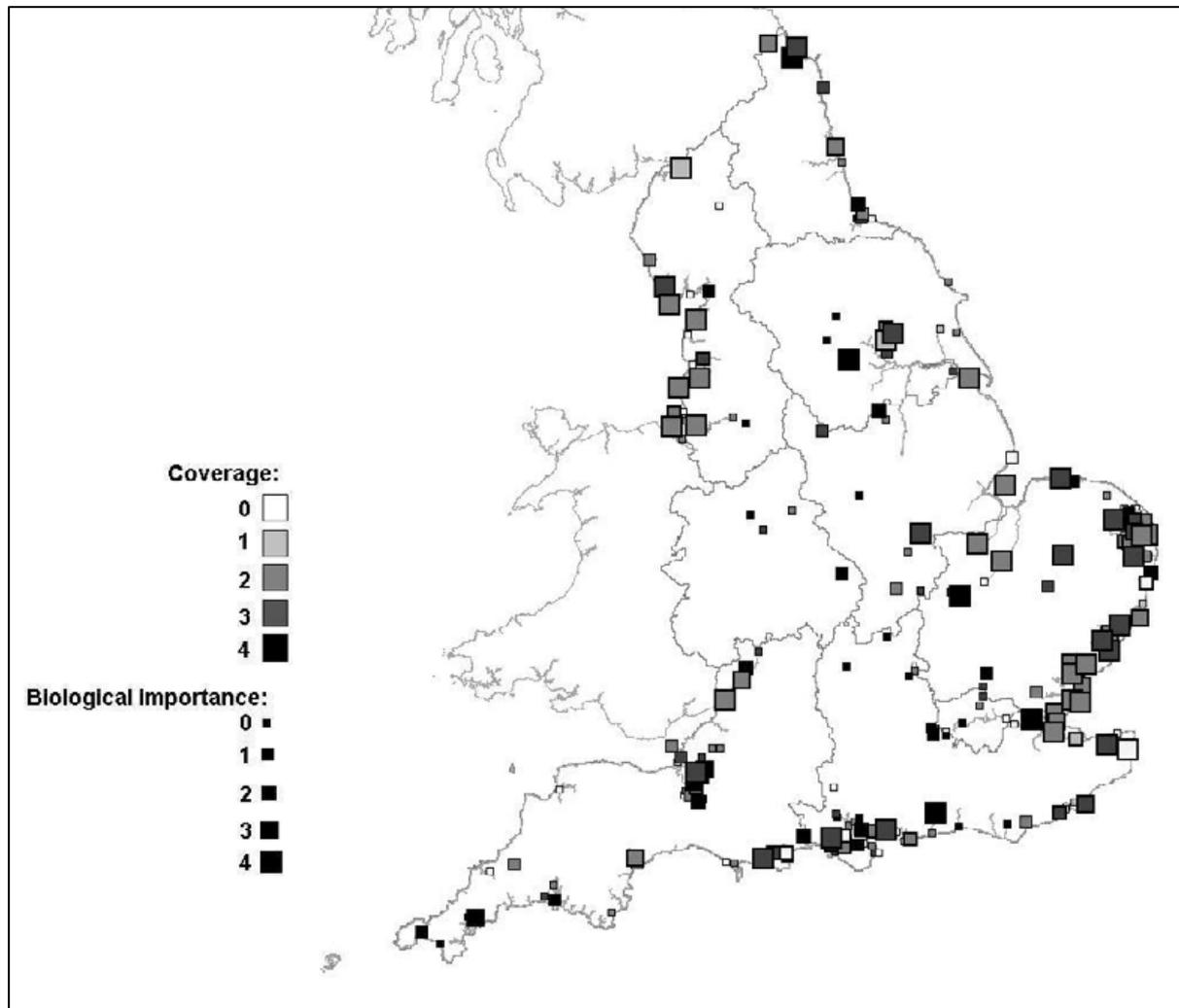
The degree of coverage varies by county, as does the number of SSSIs designated for waterbird features for each county is responsible. The county with the greatest responsibility for maintaining SSSIs designated for waterbirds is Norfolk, with responsibility for 29 SSSIs (Table 2). Coverage of most of the internationally important sites in this county is good. Halvergate Marshes is covered poorly, but the remainder have at least moderate coverage. Aside from Ducan's Marsh, Claxton, the sites with virtually no coverage are likely to host fewer than 2,500 waterbirds on a regular basis (see Appendix 3). Seven counties have mean coverage scores of 2 or less. However, the poorly covered SSSIs within these countries are mostly unimportant for waterbirds. The exceptions are Derwent Ings in North Yorkshire, the Exe Estuary in Devon, and as mentioned previously, Halvergate Marshes in Norfolk.

Table 2. Summary of mean WeBS coverage of SSSIs by English Nature county, ranked by completeness of coverage. For an explanation of the scoring system, see Appendix 3.

County	Number of SSSIs	Mean coverage
Oxfordshire	1	4.0
Staffordshire	3	4.0
Berkshire	2	3.5
Buckinghamshire	2	3.5
Leicestershire	2	3.5
Northamptonshire	2	3.5
South Yorkshire	2	3.5
Hertfordshire	4	3.3
Cheshire	3	3.0
Derbyshire	1	3.0
Greater Manchester	1	3.0
Humberside	2	3.0
Nottinghamshire	3	3.0
Warwickshire	1	3.0
Cornwall	9	2.9
Surrey	5	2.8
Avon	3	2.7
Gloucestershire	3	2.7
Lancashire	7	2.7
Lincolnshire	3	2.7
Dorset	7	2.6
Northumberland	5	2.6
West Sussex	8	2.6
Greater London	4	2.5
Hampshire	15	2.5
Somerset	17	2.5
Cambridgeshire	5	2.4
Cleveland	6	2.3
Essex	13	2.3
Suffolk	10	2.2
Kent	8	2.1
Durham	1	2.0
West Yorkshire	1	2.0
Isle of Wight	8	1.9
Cumbria	5	1.8
Devon	4	1.8
Merseyside	5	1.8
North Yorkshire	7	1.6
Norfolk	29	1.4
East Sussex	5	1.2

Figure 1 maps the locations of each SSSI. The size of symbol is proportional to the number of waterbirds hosted by that site and a greyscale is used to indicate the degree of coverage. Most of the important SSSIs for waterbirds are situated in East Anglia, but coverage of these is generally fairly good.

Figure 1. The location of SSSIs designated for waterbirds in England. The size of symbols is proportional to the number of waterbirds hosted at the site and the colour scheme indicates the degree of coverage. For explanation of scoring system used for coverage and biological importance, see Appendix 3.



5.1.1 Issues surrounding WeBS Core Counts carried out at low tide

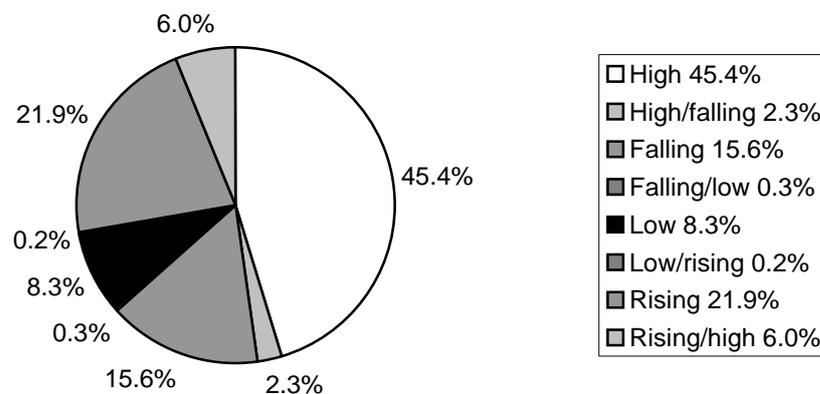
WeBS Core Counts take place at all types of wetland habitat, both inland and coastal. Core Counts on the coast have sometimes been termed 'high tide counts', to differentiate them from the WeBS Low Tide Counts. However, this is a misnomer as Core Counts can be carried out at any state of the tide. The main requirement of the Core Counts is to make an assessment of the numbers of birds present on a site. Counters on the coast are left to decide upon the most suitable state of tide at which they should achieve this aim. Such assessments are very site-specific, and counters base them on a combination of factors, including not only the topography of the site (*e.g.* visibility of roosts *vs.* feeding areas) but also such issues as the time of day *vs.* the direction of viewing (*i.e.* to avoid glare, particularly with a low winter sun), local disturbance patterns, and volunteer availability (*i.e.* if counters are not available on the preferred date they may well be able to provide data on another date). Whilst counters will tend to cover most sites on a similar state of tide each month, there may well be factors that mean that tidal state at the time of the counts will vary a little between months.

Since 1995, coastal WeBS Core Counters have been asked to record the state of tide during their count. Counters are asked to define the state of tide as one or more of the following: Rising, High,

Falling, Low. They are given no strict definition of these tidal states; what one counter refers to as ‘falling’ could conceivably be what another counter might call ‘low’. Inevitably for a volunteer-based survey, this information is not provided for every visit, but analysis of the data set shows that a respectable 85% of the 65,000 coastal visits since July 1995 have been assigned a state of tide.

Of the visits to coastal sections where state of tide was recorded, the breakdown was as in Figure 2. Combinations of three states of tide were noted only rarely and have been assigned to the “middle” of the three states in question – *i.e.* high/falling/low was assigned to falling. The concentration around the high-tide period was not surprising as, in general, counts made at high tide tend to record consistently higher numbers of waterbirds (particularly of wildfowl) than those at low tide at the same site (Musgrove 1998). The pattern appears to be strongest for larger sites however.

Figure 2. Breakdown of counts of WeBS coastal sections by state of tide.



Since so few counts were recorded in the ‘Falling/low’ and ‘Low/rising’ categories, they have been lumped with ‘Low’ in the discussion that follows.

Analysis of the database shows that a total of 250 English coastal count units from 80 sites have been counted at least once at low tide since July 1995. For most of these, the visits at low tide were few and not the norm. All or part of the following English sites, however, have been counted on over 20 occasions at low tide:

- | | |
|--------------------------------|---------------------------------|
| Gannel Estuary (Cornwall) | Poole Harbour (Dorset) |
| Hayle Estuary (Cornwall) | Northwest Solent (Hampshire) |
| Fal Complex (Cornwall) | Foreland (Isle of Wight) |
| Helford Estuary (Cornwall) | Blyth Estuary (Suffolk) |
| Looe Estuary (Cornwall) | Humber Estuary |
| Tamar Complex (Cornwall/Devon) | (Yorkshire/Lincolnshire) |
| Yealm Estuary (Devon) | Tyne Estuary |
| Erme Estuary (Devon) | (Durham/Northumberland) |
| Avon Estuary (Devon) | Blyth Estuary (Northumberland) |
| Kingsbridge Estuary (Devon) | Coquet Estuary (Northumberland) |
| Taw–Torrige Estuary (Devon) | Alnmouth (Northumberland) |
| Plym Estuary (Devon) | |

The preponderance of sites in southwest England is striking. The reason for this is that many estuaries in the southwest are long and narrow, being submerged river valleys. This means that birds feeding at low tide are seldom very far from the counters and can thus be counted more easily than when roosting in saltmarsh. Elsewhere in the UK, it tends to be easier to count birds at around the

high-tide period as the birds congregate around roost sites, as opposed to low tide when the birds can become very distant.

Having identified these sites, it is important to determine whether carrying out Core Counts at low tide is likely to lead to double-counting. Firstly, this could only happen on multi-part sites; smaller sites are counted as a single unit and thus double-counting does not occur. The list above includes the following nine multi-unit sites:

Hayle Estuary	Poole Harbour
Fal Complex	Northwest Solent
Tamar Complex	Blyth Estuary (Suffolk)
Kingsbridge Estuary	Humber Estuary
Taw–Torridge Estuary	

The counts submitted from these nine sites in recent years were examined, and the following conclusions drawn:

Hayle Estuary

This site is split into two count sections, both covered by the same counter, always on the same day and one section immediately after the other. Whilst the two sections are not counted synchronously, it is only a few minutes' drive between them. Furthermore, the fact that only a single counter is involved means that it can be assumed that the chance of double-counting is very low, as his local knowledge would mean he would make allowances for short-term movements of birds between sections. Double-counting at this site is therefore likely to be rare.

Fal Complex

The Fal Complex is currently counted as six sections. The majority of the site tends to be counted on the falling tide, but one section, Restrouguet Creek, is regularly counted at low tide. Given that most other sections are counted on the falling tide (*i.e.* not high tide), and given that Restrouguet Creek is geographically quite distinct and isolated from the other sections, double-counting seems likely to be infrequent.

Tamar Complex

The Tamar Complex is currently counted as 12 sections. Three of these sections are regularly counted at low tide: these comprise two on the Tavy, and the uppermost part of the Tamar. Most other visits tend to occur around the falling tide, although the tidal state was not always recorded. However, counts have been made here at all tidal states.

The count team at the Tamar has become better organised in recent years. We therefore plan to encourage its local organiser to promote count synchronicity.

Moreover, given the importance of the site in a UK context, and its being counted largely at low tide, we will pursue the possibility of using one set of counts to feed into both Core and Low Tide Counts (see Poole Harbour below). This would provide the added checking against potential double-counting that is currently undertaken as part of the Low Tide Counts process.

Kingsbridge Estuary

This site is currently counted as 18 sections. There is excellent synchronicity between sections, with all sections generally covered at the same state of the tide. Given good local organisation, it is unlikely that any substantial degree of double-counting occurs.

Taw–Torridge Estuary

Eleven sections now make up this site, although at least three are currently vacant. Some sections are counted frequently at low tide whereas others are not. The level of synchronisation needs improvement, and appears to be suffering from a shortage of counters. We feel that this site would

benefit from a visit this year by WeBS staff to discuss any counting issues they may have, and during this visit the issue of synchronisation and double-counting would be brought up. Additionally, we could encourage them to submit a combined Core/Low Tide count.

Poole Harbour

Poole Harbour is currently counted as 29 sections. Although there is some variation, the great majority of sections are counted at low tide, with most of the remainder on the falling tide. Counts in the Harbour are well synchronised. However, the relatively large size of the site, with some wide areas of intertidal flats, brings into question whether double-counting resulting from movements of birds during the low-tide period would be picked up.

In this respect, it is worth noting that the Poole Harbour count team has started to submit its counts to both the Core and Low Tide Count schemes. This is something we wish to encourage at other sites (notably the Tamar Complex). When counts are submitted to the Low Tide Count scheme, organisers are now asked to pay particular attention to synchronicity and avoiding double-counting. This is as a result of the criticism that the incorporation of Low Tide Count site totals into the species tables of *Wildfowl & Wader Counts* could inflate the species totals due to possible double-counting. Recent Low Tide Count totals from Poole have not been considered to include double-counts, in the opinion of the local organiser. It should be noted that many sections are large, meaning that movements are probably more significant within than between sections.

In summary, there is no evidence of any particular problems with Poole Harbour totals at present, but we are continuing to monitor the situation through the Low Tide Count protocols.

Northwest Solent

A small, well-organised team counts the three sections at this site. The team appears to spend a great deal of time over each count, as most span several tidal states; indeed some individual visits span the entire tidal cycle. The counters appear to be using this effort to make the best assessment of site numbers and are removing double-counts from their submissions.

Blyth Estuary (Suffolk)

Most recent counts from the Blyth were split into four sections, counted at low tide by a single observer on a single day. The observer was the English Nature site warden and would have been very aware of the need to remove any double-counts. Unfortunately, there is a current hiatus in submission of counts for this site, as a new warden has taken over. We are assured counts are being made and will be submitted, but until they are forthcoming we cannot assess issues of tidal state and synchronicity. However, we will continue to pursue a dialogue with the warden and stress the need to avoid double-counting.

Humber Estuary

This is a very large site with many sections and four separate local organisers. However, only parts of the outer southern shoreline, particularly around Saltfleet, are regularly counted at low tide. This area, which has large areas of saltmarsh and wide intertidal flats, is particularly problematic to count. Counters clearly consider that birds are best recorded here around low tide. Counts are generally well synchronised within the outer south Humber, but not necessarily with more distant sections within the wider estuary. However, given the size of the site, the potential for double-counting is low. More recently, there has been an increased emphasis on coordination at an estuary-wide scale.

Overall conclusions

This analysis indicates that double-counting resulting from Core Counts being made at low tide is unlikely to be a major issue. Most of the sites where Core Counts are regularly undertaken at low tide are small and are counted by a single observer, as a single count unit and on a single day, with little risk of double-counting.

There appears to be no wide-scale requirement for additional professional input to boost the synchronicity of counts. However, local help would be potentially useful at the Taw–Torrige Estuary to improve both coverage and synchronicity, were there any professional wardens in the area able to provide support each month. Additionally, an EN warden has traditionally covered the Blyth Estuary in Suffolk but, despite assurances, to date we have been unable to obtain any recent data.

We also plan to visit southwest England this summer, to discuss coverage and count synchronicity issues with the Tamar and Taw–Torrige teams in particular. We also wish to encourage counts at these sites that will feed into both Core and Low Tide Count schemes.

Finally, most local organisers look carefully at their returns and remove likely double-counting before submitting the forms. However, it is always worthwhile reinforcing this message and we will cover it in future WeBS Newsletters.

5.2 Heronries Census findings

Coverage of the heronries for which English SSSIs have been designated has been exceptionally thorough. All were counted in 2003 as part of that year’s special survey, and most have been counted annually or near-annually for several decades. The sole exception is the heronry at Welbeck Lake, ENSIS ID 1001932, Nottinghamshire, which was last observed in 1997 and is recorded as extinct.

Counts made in 2003 at these sites are listed in Table A4.1 in Appendix 4. The table also gives rankings of heronries, from largest to smallest, based on the count of nests in 2003. Sites are ranked within England as a whole, within their government office region (London linked with South East to make seven regions in total), and within their county. The year 2003 was chosen for calculating rankings because a high proportion of known heronries in England were counted in that year. While most large heronries persist for many decades, or even centuries, the count of nests, and therefore the values of rankings, may change markedly between years. The rankings in 2003 are only a guide therefore to the rankings in any other year. This set of heronries includes many of the largest in England, although only four of 2003’s top ten are here – the rest being away from SSSIs. All the heronries are among the largest ten in their counties, but several have rather low regional rankings, perhaps after a decrease in the number of nests since SSSI notification.

5.3 SCARABBS surveys

This section covers single-species surveys covered as part of the SCARABBS programme (see section 2.4). Recent single-species surveys have contributed strongly to this review.

The national Peregrine surveys attempt to establish the occupancy of Peregrine territories through the checking of known and suspected Peregrine territories throughout the breeding season (Banks *et al.* 2003). In England, the survey is carried out by locally coordinated groups of volunteer fieldworkers. The methods specify that all potentially suitable nesting locations (e.g. cliffs, crags, quarries, tall buildings and their vicinities) should be checked for signs of Peregrine occupation where possible, even if the site was previously unknown as a breeding location. Recorders are asked to visit potential sites early in the season, preferably March or early April, and to return to unoccupied sites one month after the first visit, to check for new signs of occupancy. In 2003 a methodological validation exercise was carried out in Scotland that showed that, for sites where occupation is irregular between years, there was about a 50–60% chance of detecting occupancy at an occupied territory on a single visit. Recorded occupancy increased markedly (to between 60–80%) with two visits to a territory, and then by lesser amounts with subsequent visits (Wilson & Crick 2004). For regularly occupied sites, it is assumed that occupancy will be determined from a single visit.

Coverage in 2002 varied across the country but, in the Pennines, where there is the greatest overlap between Peregrine sites and English SSSIs, all known sites were visited (Banks *et al.* 2003). It is possible that a small number of Peregrines might have used sites on the moors that are not traditional

cliff-type sites, but are either on small or apparently unsuitable rocks (“third-class cliffs”), on broken banks, or even on nearly level ground. This is especially so in the Pennines area because considerable population expansion (of about 80%) occurred between the 1991 and 2002 surveys. Such sites might have been missed, and more systematic survey of apparently unsuitable ground may be required to ensure that all are included. Numbers involved are likely to be small, however; currently there are approximately 25 such sites in the UK, representing around 2% or less of the total population (Crick & Ratcliffe 1995, Banks *et al.* 2003).

A national Nightjar survey was completed in 2004, using 1-km squares as the sampling unit. Two visits were made between late May and early August. All registrations of males and other individuals were mapped and summarised on count forms. A number of key sites (mainly in the New Forest, Breckland and Sandlings SPAs) did not receive full coverage but were covered in a follow-up survey during 2005.

Woodlarks were last surveyed nationally in 1997 and Dartford Warblers in 1994. A new national survey of Woodlark and Dartford Warbler is being planned for 2006. This will involve a minimum of two visits to each 1-km square and all breeding birds will be mapped.

5.4 Ringed Plover survey findings

A national Ringed Plover survey is provisionally planned for 2007. Previous surveys were undertaken in 1973–74 and 1984, which showed an increase in England from 1,878 to 2,389 ‘territorial pairs’. However, due to problems of coverage within counties, numbers were not directly comparable between the two surveys.

5.5 Breeding Waders of Wet Meadows findings

The majority of relevant SSSIs received some coverage by BWWM in 1982 and 2002. Breeding waders are mapped and counts are summarised within predefined count units, but in many cases the BWWM count units do not correspond with the SSSI boundary. This should not pose a problem as all records of breeding birds are mapped. It has not been possible to use BWWM as a direct means of assessing assemblages on SSSIs. This survey, which has revealed significant declines in many of the UK’s breeding waders, is likely to be repeated in a future year, but plans for this are not yet finalised.

Past surveys of breeding waders in the UK have tended to be piecemeal and restricted to certain countries, landscapes, or habitat types. Obtaining a national overview of population sizes and trends for these species involves compiling results from a variety of surveys with no common focus (O’Brien 2005). A unified framework for periodic wader monitoring in the UK, covering all landscapes and countries, is recommended for the future. Because of the expense involved, this may be a rolling programme.

6 PRIORITIES AND RECOMMENDATIONS

This section contains a variety of proposals for future work. The estimated costs of the various tasks have been presented in a separate covering letter to English Nature. Headings in that letter refer closely to this section of the review.

6.1 Priorities and recommendations for waterbirds

Table 3 lists the 25 sites for which obtaining coverage of the waterbird features associated with the site is most desirable. The coverage could be obtained in a number of ways and an overview is given here. The types of action appropriate for each site are listed in Appendix 3, where the precise definitions of the categories used in this table are also set out.

Table 3. SSSIs designated for waterbird features for which action is most urgently required. For definitions of categories, see the end of Appendix 3.

SSSI name	Coverage	Biological importance	Ease of coverage	Priority for action
Derwent Ings	poor	international	moderate	urgent
Ducan's Marsh Claxton	very poor	fair	easy	urgent
Halvergate Marshes	poor	international	hard	very high
Severn Estuary	moderate	international	easy	very high
Breydon Water	moderate	international	easy	very high
Fairburn and Newton Ings	moderate	international	easy	very high
Medway Estuary and Marshes	moderate	international	easy	very high
South Walney and Piel Channel Flats	moderate	international	easy	very high
Stodmarsh	moderate	international	easy	very high
Colne Estuary	moderate	international	easy	very high
Mucking Flats and Marshes	moderate	international	easy	very high
Crouch and Roach Estuaries	moderate	international	easy	very high
Sandwich Bay to Hacklinge Marshes	moderate	international	easy	very high
Upton Broad & Marshes	very poor	some	easy	very high
Upper Solway Flats & Marshes	moderate	international	moderate	high
Steep Holm	very poor	some	moderate	high
Bridgwater Bay	poor	fair	easy	high
Moorlinch	moderate	important	easy	high
Alde-Ore Estuary	moderate	important	easy	high
Abberton Reservoir	moderate	important	easy	high
Exe Estuary	moderate	important	easy	high
Upper Fal Estuary and Woods	moderate	important	easy	high
Benfleet and Southend Marshes	moderate	important	easy	high
Limpenhoe Meadows	very poor	some	easy	high
Wareham Meadows	poor	fair	moderate	high

6.1.1 Determining count area boundaries

Although the process of determining count area boundaries and mapping these using GIS is largely complete, there are still a number of sites for which the boundaries of counted areas are not known. Most of these have not been counted for some time, and it is therefore not possible to determine the boundaries because contact with the counter has been lost. There are still a small number of currently counted sites, however, that potentially overlap with SSSIs, for which the boundaries of counted areas are not known. The boundaries of these areas should be determined by re-supplying counters with relevant copies of OS maps and asking them to delineate the site boundaries on these maps. This task is being progressed under the WeBS work programme.

6.1.2 Minor adjustments to count area boundaries

Many of the areas surveyed during WeBS 'Core Counts' match designated site boundaries fairly accurately, but in other cases correspondence is less good. Often there may be practical reasons for a discrepancy. For example, most WeBS counts of estuaries are made at high tide, because birds can be more reliably counted as they arrive or when they settle at roost, but where the statutory site boundaries encompass only the intertidal habitat they may exclude the adjoining areas where such roosts form. Although technically in such cases the spatial overlap between the SSSI and the area counted is rather low, for the purposes of this report geographic coverage would be recorded as adequate, on the grounds that the majority of birds using the SSSI at low tide are counted. Where an SSSI contains a few water bodies surrounded by a large expanse of other habitat unsuitable for waterbirds, WeBS may often provide coverage of the water bodies but not of the surrounding area. Again, in such instances, geographic coverage is recorded as adequate because the majority of waterbirds associated with the SSSI are likely to be counted.

Nevertheless, there are cases where monitoring of SSSIs would be improved by realigning the boundaries of the areas counted. However, monitoring waterbirds relies on an assessment of bird numbers through time. Realigning the boundaries would thwart reliable comparison between counts conducted before and after the realignment. It is therefore more appropriate to subdivide counted areas into the parts that lie outside the SSSI and those which lie within it. This would serve the dual purpose of allowing reliable comparisons with data collected prior to the subdivision and ensuring that monitoring of SSSIs is improved thereafter.

The process of subdividing count areas is likely to be best achieved with the full consultation of volunteer counters. Often the counters have been conducting WeBS core counts for long periods of time and set their count boundaries for good reason; some may thus be resistant to change. It may be inappropriate to subdivide an area that was chosen because it contains large numbers of waterbirds which sometimes occur on one part of the area and at other times occupy another. Usually the counters themselves will be in the best position to judge such questions, and should therefore be consulted. Nevertheless there are likely to be instances where the areas counted could be subdivided appropriately and with the ready agreement of counters. This task is being progressed under the WeBS work programme.

6.1.3 Extension of geographic coverage

Often, particularly for larger SSSIs, WeBS covers part of the site but a significant proportion remains uncounted. In such instances it would be appropriate to extend geographic coverage to include these uncounted parts. This would best be achieved by contacting WeBS local organisers to discuss the possibility of extending coverage. Often it may be possible for the local organisers to recruit additional volunteers, or encourage existing volunteers to count additional areas, particularly if it is emphasised to local organisers that the inclusion of such areas is a priority. Nevertheless, at some larger sites there may simply not be enough volunteers to achieve full coverage and the aid of professional counters may be required. If this is necessary, a cautious and sensitive approach is needed, as there may be considerable resentment amongst volunteers if local counters are employed to

undertake work of the same nature as they are doing voluntarily. The best approach may be to use full-time BTO or English Nature staff to conduct the counts, rather than to subcontract personnel from the local area.

6.1.4 Extension of temporal coverage

For a number of SSSIs, there is some WeBS coverage of the site, but counts have not been undertaken in recent years or have been rather sporadic. Although the minimum data requirement for CSM is to have a single assessment (survey) of each feature in each six-year reporting cycle, more complete temporal coverage is desirable to increase confidence in assessments of changes in bird numbers. As for the extension of geographic coverage, contacting local organisers and discussing ways of obtaining greater volunteer recruitment or greater coverage by existing volunteers would best achieve this. It would be important to emphasise the need to count precisely the same areas as were previously counted, to ensure that counts are comparable. If coverage of a particular site had ceased due to lack of suitable volunteers, it may again be necessary to employ professional counters. Again the need to adopt a cautious and sensitive approach would be paramount to prevent resentment among existing volunteers.

6.1.5 Sites not previously covered

A number of SSSIs with waterbirds as designated features have never been covered by WeBS. These fall broadly into two categories – those that almost certainly host important numbers of waterbirds and those that do not. Priorities for action differ accordingly. If an overwintering waterbird species is a designated feature of an SSSI, then by definition it is hosted in important numbers. In some instances, however, a number of SSSIs form constituent parts of a larger SPA and the designated features are in fact those inherited from the SPA and may not be present in significant numbers.

For those sites that almost certainly host significant numbers of waterbirds, monitoring is required and the most desirable way of achieving this would be to ensure volunteer coverage of these sites. Again this could be achieved by liaising with WeBS local organisers stressing that coverage of these sites is a priority. Nevertheless, for some SSSIs, particularly those that are biologically important (see Table 3), or situated in parts of the country where volunteer recruitment appears problematic, coverage by professional counters may be necessary. While again there is some need to exercise sensitivity in so doing, to prevent resentment amongst existing counters, the problem is less critical than for sites that are partly covered.

For sites that may not hold significant numbers of waterbirds, a site visit should be undertaken to assess habitat suitability and likely bird numbers, and therefore determine the need for coverage. If it is thought that waterbird numbers are significant, the actions described previously should be initiated. If however the sites appear to be unsuitable for waterbirds or unlikely to host significant numbers, then ensuring WeBS coverage to monitor waterbirds on the site is not a priority.

6.1.6 Increasing volunteer or professional coverage

The extent to which the currently less well-covered sites could be surveyed using volunteer counters is partly dependent on accessibility, the need for specialist surveys, and the ease with which they can be covered on foot. The extent of potential volunteer coverage is also constrained by the time and resources available for recruiting counters. Consequently, we cannot with precision list the sites for which volunteers could provide better coverage. However, as a guide, Table 4 lists 57 sites, currently poorly covered, that could probably be covered relatively easily by volunteers. The approximate area of each site requiring coverage and a guideline timetable by which coverage could be achieved is also presented. The timetable was derived on the assumptions that all sites could be counted over a six-year period, that about one sixth of the total area would be counted in any one year, and that the least known or biologically most important sites would be covered first.

Table 4. The 57 SSSIs where WeBS coverage may be attained relatively easily using volunteer counters. The approximate area requiring coverage and the year in which it is intended that coverage will be obtained are also listed.

SSSI name	Area requiring coverage (ha)	Year coverage to be obtained
Ducan's Marsh Claxton	3.6	2006
Breydon Water	512.8	2006
Colne Estuary	1076.0	2006
Fairburn and Newton Ings	0.3	2006
Medway Estuary and Marshes	483.9	2006
Mucking Flats and Marshes	8.5	2006
Sandwich Bay to Hacklinge Marshes	1488.9	2006
Severn Estuary	6025.7	2007
South Walney and Piel Channel Flats	18.7	2007
Stodmarsh	153.7	2007
Upton Broad & Marshes	195.7	2007
Bridgwater Bay	3192.2	2008
Abberton Reservoir	233.0	2008
Alde-Ore Estuary	187.6	2008
Benfleet and Southend Marshes	929.0	2008
Decoy Carr Acle	56.1	2008
Durham Coast	284.3	2008
Exe Estuary	327.6	2008
Hall Farm Fen Hemsby	9.5	2008
Inner Thames Marshes	332.9	2008
Lee-on-the-Solent to Itchen Estuary	168.9	2008
Limpenhoe Meadows	12.0	2008
Ludham – Potter Heigham Marshes	103.7	2008
Moorlinch	1.6	2008
North Solent	771.1	2009
River Test	335.4	2009
Upper Fal Estuary and Woods	464.5	2009
Yare Broads and Marshes	111.6	2009
Burgh Common and Muckfleet Marshes	117.8	2009
Drigg Coast	1361.1	2009
Pevensey Levels	2886.9	2009
Avon Valley (Bickton to Christchurch)	656.8	2010
Benacre to Easton Bavents	478.0	2010
Catcott Edington and Chilton Moors	82.6	2010
Newtown Harbour	401.8	2010
Titchfield Haven	96.6	2010
West Moor	0.9	2010
Melbourne and Thornton Ings	75.9	2010
River Eden and Tributaries	1575.2	2010
Rye Harbour	48.2	2010
Thanet Coast	352.6	2010
Upper Thurne Broads and Marshes	740.6	2010
Barnby Broad & Marshes	78.3	2010
Bodmin Moor North	4857.9	2011
Brighton Meadows	5.0	2011
Howick to Seaton Point	24.6	2011

SSSI name	Area requiring coverage (ha)	Year coverage to be obtained
Lackford Lakes	24.3	2011
Marazion Marsh	30.8	2011
Seaton Dunes and Common	2.6	2011
Sowley Pond	30.0	2011
Stiffkey Valley	1.7	2011
The Moors	17.1	2011
Trinity Broads	133.8	2011
Wyre Estuary	1253.2	2011
Cheyne Court	12.2	2011
Sutton and Lound Gravel Pits	133.4	2011
Walthamstow Reservoirs	7.5	2011

An additional 29 SSSIs are listed in Table 5. For these sites, coverage could potentially be provided by volunteers, but doing so would be slightly more problematic, either due to access issues, a lack of a sufficient volunteer base in that geographic area, or because the site is large and not easily covered on foot. The timetable for ensuring coverage of these sites has been determined following the approach used for Table 4.

Table 5. The 29 SSSIs where WeBS coverage could perhaps be attained through volunteer counters. The approximate area requiring coverage and the year in which it is intended that coverage will be obtained are also listed. A range of years is given for the Solway due to the difficulty of covering such a large site in a single year

SSSI name	Area requiring coverage (ha)	Year coverage to be obtained
Derwent Ings	30.8	2006
Steep Holm	26.0	2006
Upper Solway Flats & Marshes	9767.9	2006–09
Wareham Meadows	91.3	2010
Berry Fen	15.0	2010
Bracklesham Bay	238.2	2010
Camber Sands and Rye Saltings	162.9	2010
Crostwick Marsh	11.5	2010
Kempton Park Reservoirs	25.6	2010
Lulworth Park & Lake	46.8	2010
Mersey Narrows	90.6	2010
Newton Mask	7.4	2010
Poplar Farm Meadows Langley	7.4	2010
Redcar Rocks	31.1	2010
Shallam Dyke Marshes Thurne	69.9	2010
Sprat's Water and Marshes Carlton Colville	57.3	2010
Thorness Bay	86.2	2010
Tweed Catchment Rivers - England: Lower Tweed and Whiteadder	163.6	2010
Upper Severn Estuary	450.3	2010
Sandbeach Meadows	0.0	2011
Inner Marsh Farm	0.0	2011
Pett Level	356.1	2011
West Thurrock Lagoon & Marshes	66.1	2011

SSSI name	Area requiring coverage (ha)	Year coverage to be obtained
Wretham Park Meres	29.3	2011
Climping Beach	0.0	2011
Gunton Park Lake	18.2	2011
Lincegrove and Hackett's Marshes	5.6	2011
Ryde Sands and Wootton Creek	187.9	2011
Whitecliff Bay and Bembridge Ledges	80.1	2011

There are 72 SSSIs that require better geographic and temporal coverage by WeBS (the 59 and 29 sites requiring better coverage minus those which have received no coverage at all). Of these 49 could be relatively easily covered by volunteers, 15 may be possible to cover using volunteers and the remaining 8 will almost certainly require professional coverage. It is estimated that holding discussions with Local Organisers and volunteers, and additional volunteer recruitment will require some 37 days of staff time. Assuming that one counter can on average count up to 300 ha over one tidal state per day (more on big broad estuaries such as the Dee, less on long narrow estuaries like the Alde), the use of professional counters would be as follows. Under the best coverage, worst-case scenario, where all but the 49 sites easily covered by volunteers would need to be counted by professionals, a total of 66 person-days would be required per monthly count to cover the 23 sites. Assuming that each site is covered five times a year (November to March) and every year, a total of 330 days (5 months × 66 days) of staff time would be required annually. Under the minimum coverage, worst-case scenario, these sites would be monitored once every three years in January (the month of the International Waterbird Counts), a total of 66 person-days every three years.

There are 20 SSSIs that have never been covered (14 in Norfolk, three near the Isle of Wight, two in Yorkshire and one an island in the Severn). To carry out a single site visit, to ascertain their importance for waterbirds, would take 18 person-days.

In all cases an allowance must be made for travel and subsistence and for reporting back.

6.1.7 Specialist surveys and additional information for difficult species

Certain species, detailed under the four subheadings below, are difficult to monitor effectively using WeBS methodology. This may be because they are difficult to detect, they have mixed habitat requirements and are mobile, they are present offshore, or because they utilise wetland SSSIs only for roosting. Coverage of these species may be improved with minor alterations or additions to the WeBS methodology, but in general they will require specialist surveys.

Obtaining adequate coverage of these species is likely to be costly and time consuming. Consequently, the list of priority recommendations presented outline a range of different approaches from those that could be achieved simply by minor alteration to existing methodologies to those that would require costly and time-consuming field survey. The intensive methods could be directed at priority sites, whereas less intensive methods could be applied on a broader scale.

(a) *Waterbirds offshore*

A certain degree of monitoring can be achieved from shore and where possible this approach would be desirable as it is likely to be the cheapest and easiest approach. As visibility from shore is highly variable, however, large year-to-year changes could be expected using this approach. One simple way to improve current methods would be to ask volunteers to record visibility in their counts of sea-ducks, and to take this into account when calculating trends. Nevertheless, the distance that sea ducks and divers occur from land can vary according to the weather and, in many instances, large congregations may not be visible from land.

In general, adequate monitoring is likely to require aerial surveys. These are costly to conduct, however, and enable accurate counts only of easily identifiable species. Boat-based surveys present another viable option for species that are difficult to identify from the air. Another approach, likely to be particularly effective for monitoring large monospecific congregations, such as flocks of scoter, may be to enlist RAF aid and monitor through aerial photography. However, the method remains untested as a means of monitoring birds at sea. The RAF is often willing to undertake these surveys free of charge as they already form a basis of their risk assessment of bird-strike.

Eight large sites (Solent & Southampton Water, Duddon Estuary, Ribble & Alt Estuaries, North Norfolk Coast, Morecambe Bay, Upper Solway Flats & Marshes, The Wash and Lindisfarne) are probably monitored most effectively by aerial surveys.

(b) Species that are difficult to detect

Bittern and Snipe are among species generally too secretive for WeBS to provide an accurate assessment of numbers on a particular site, and are likely to require specialist monitoring surveys. At some well-watched sites, adequate monitoring of Bitterns could be achieved simply by collating known records, since sightings of this species are generally well documented. For other sites, less frequented by birdwatchers, intensive surveys of reedbeds by professional observers is likely to provide the most effective monitoring. The RSPB already uses this approach to monitor Bitterns during the breeding season, after an initial period in which numbers are recorded by listening for “booming” males. The methods used by the RSPB during the late breeding season could easily be adapted to provide adequate monitoring of this species during winter. We propose initially a short desk study of monitoring options based on a literature review and contact with specialists. It is anticipated that five days of staff time would be required to do this.

For Snipe, flushing birds is likely to prove the best means of obtaining accurate counts. To avoid undue disturbance, and to reduce the amount of effort required to monitor sites, a stratified sampling approach could be made in which only a proportion of each relevant habitat type within an SSSI is surveyed. Methods of surveying Snipe during winter remain largely untested, but some of the survey methods that have been used to monitor this species in the breeding season, such as walking linear transects at fixed intervals (Johnson & Ryder 1977), are likely to prove effective. We propose to test the value of these methods by a pilot study. It is anticipated that an effective pilot would entail two people, visiting three sites on four occasions.

(c) Mobile species with mixed habitat requirements

A number of species, notably inland species of geese, swans, Lapwing and Golden Plover, are mobile, often using agricultural land during the day but occurring on estuaries at other times.

Swans and particularly inland species of geese are well monitored through the Wildfowl and Wetlands Trust, typically by roost surveys, and any further surveys to monitor these species should be undertaken after consultation and with guidance from this organisation. Nevertheless, coverage may not be complete, and a desk-based study to identify sources of information and establish coverage may prove worthwhile. We propose a short assessment of the scale of the issue by WWT.

Golden Plover and Lapwing present a greater problem. These species frequent agricultural land, intertidal mudflats, wet grassland and shallow freshwater pools, with habitat use influenced, usually in a site-specific way, by tidal stage, weather, moon phase and time of day. Monitoring through WeBS tends to reveal large fluctuations in numbers, but often this merely indicates the extent of such movements between habitats. Minor improvement in coverage could be obtained with slight modifications to WeBS methodology. In particular it would be advantageous for counters to clearly delineate where flocks of these birds are counted, thus enabling a more accurate assessment of whether it is feeding or roosting birds that are counted, and the extent to which flocks occupying farmland adjacent to intertidal mudflats at high tide are included. However, accurate monitoring is

likely to require a more detailed and intensive approach. In particular an assessment and understanding of flock movements at each site is required so that counts can be timed to coincide with the greatest congregations of birds occurring in one place. In part, this information could be obtained through discussion with counters and local organisers, but is best achieved by conducting intensive co-ordinated surveys of known feeding and roosting locations, or by radio-tracking individuals. Nocturnal counts, timed to coincide with low tide and new moon, also present one means of assessing numbers, as Golden Plover in particular are known to congregate on exposed mudflats at such times. We propose a short desk study of monitoring options based on a literature review and contact with specialists. It is anticipated that five days of staff time would be required to achieve this.

(d) *Birds that use SSSIs for roosting*

Several species of waterbird, notably the geese and swans discussed previously, but also Cormorants and Little Egrets, may be widely dispersed during the day, but congregate at key sites to roost. WeBS currently does not provide the most appropriate means of determining the locations of such roosts as counts are generally conducted during the day. Locating roosts is particularly important where they potentially occur on smaller SSSIs or those that contain a variety of habitat with minimal wetland. In some instances the location of roosts may be well known by local counters and organisers, but in other instances dusk visits to establish the presence or absence of roosts is likely to prove worthwhile. Such visits could be conducted either by volunteers or by professional surveyors, including existing BTO or English Nature staff. Proposals for winter and breeding surveys of Cormorants have been submitted to DEFRA.

6.1.8 Monitoring waterbirds during passage periods

A number of sites contain species that are likely to be most abundant during a passage period, or have inherited waterbird features associated with SPAs that are specifically designated due to their occurrence during passage. Adequate monitoring of such species is hampered in two ways: first, temporal coverage by WeBS is poorer during passage periods than in winter and, second, the total number of birds using the site is likely to be considerably greater than that occurring at any one time as birds pass through during migration. The former issue could be addressed by extending temporal coverage, adopting the recommendations discussed previously. Assessment of turnover is highly complex, with best results achieved through a combination of large-scale colour ringing and intensive observer effort to relocate colour-ringed individuals (ongoing EN project on generating a suitable modelling framework for assessment of turnover from count and mark–recapture data). Due to the labour intensity and likely costs of the latter approach, implementing such a survey is likely to be practical at only a small number of key sites.

We provisionally suggest a pilot turnover-assessment project based on one coastal site using professional staff. However, it may be possible to use volunteers to keep costs down. It is anticipated that such a pilot study would require some 30 person–days of ringing and 60 person–days of observation of colour-marked birds.

6.2 Heronries Census

The full requirements of CSM for SSSIs designated for heronries are being met, and can be expected to be met for future years provided that the momentum built up by the BTO Heronries Census is maintained over coming six-year cycles. Research for this project has alerted the Heronries Census organiser to which heronries are on such SSSIs, and this may help future vacancies that appear in the counter network to be filled more quickly in these cases. Vigilance should continue at Welbeck Lake, where the heronry has been recorded as empty since 1997: suitable habitat is believed still to exist in the locality, and nesting might be recorded again in future. No other action appears to be necessary.

We draw English Nature’s attention to a further set of SSSIs not designated for herons but which nevertheless hold a nesting colony. Those identified by this review’s GIS project are listed in Table

A4.2 in Appendix 4. A few heronries not counted in 2003, or where the grid reference submitted by the counter could not be matched with SSSI boundaries, may be missing from this table. None of these heronries ranks above 40 in England, but several are among the three largest in their county or are regionally important. There is considerable overlap in size between heronries cited and not cited in SSSI designations, with heronries as small as eight nests cited, and others as large as 35 nests not cited. In some cases, heronries cited in designations have become considerably smaller or less significant since SSSI notification, while others on SSSIs but not cited in the designation may since have grown. Addition of the heronry to the SSSI designation may now be of value in some of the cases listed, especially where the heronry is important in county or regional terms. This may help to afford heronries extra monitoring attention and conservation protection.

Further, Table A4.3 lists English heronries that held 25 or more nests in 2003 but which could not be linked to any SSSI on the basis of the grid reference held by the Heronries Census. Six of the top-ranking ten heronries in England are on this list, and the largest in five of the seven regions. The largest heronries in 23 English counties, according to the 2003 survey, are apparently not protected by SSSI status – although many may be safeguarded adequately by their status as nature reserves or through other sympathetic land ownership. We encourage English Nature, therefore, to consider whether any of these sites may be worthy of future SSSI notification.

6.3 Future National Peregrine Surveys

The National Peregrine Surveys are carried out approximately every 10 years. There are very active Raptor Study Groups/Ringing Groups in the areas containing SSSIs notified for Peregrines and it should be quite feasible to enlist their support for regular monitoring of key sites. This may be enhanced by the provision of expenses to assist the volunteer observers to travel to remote sites. Such expenses are likely to be relatively small, probably less than £500 p.a.

There are substantial tracts of land within the SSSIs where there are no known Peregrine territories, but where, with population expansion, Peregrines might use sites that differ from the traditional cliff-type character. Such places are likely to be difficult to locate and require a more thorough search or watching for periods from suitable vantage points. Probably the most cost-effective way to ensure that such sites are detected is through the moorland bird survey work that has been proposed to assess the population of moorland waders and other key species. Systematic transect surveys across open moorland should detect breeding Peregrines, although some assessment of their efficacy may be required by undertaking trials at known level-ground sites. Such an assessment would require the use of professional fieldworkers. If systematic transect searching for Peregrines sites is required in the future, it is unlikely that this could be achieved through the use of volunteer fieldworkers. Professional fieldwork survey to cover all the SSSIs for Peregrines will be relatively expensive, because of the time required to survey each area at least twice in a season to detect the presence of breeding Peregrines. Liaison would be required to ensure that professional fieldwork was only carried out in areas away from known sites covered by Raptor Study Groups.

In summary, Raptor Study Group workers would be able to cover known Peregrine sites, but professional fieldwork would be required to establish the presence of breeding Peregrines in other parts of SSSIs listed for Peregrine. This applies equally to years with and without a SCARABBS survey.

6.4 Future SCARABBS surveys of heathland

All 53 SSSIs with aggregations of breeding Woodlark (Table 6a) have been identified and will be covered during the next national survey in 2006. All 47 SSSIs with aggregations of breeding Dartford Warblers (Table 6a) have also been identified and will be surveyed as part of the same survey. Both surveys will use 1-km squares as sampling units and involve two visits to each square between 15 February and 31 July. All registrations of males and other individuals will be mapped and summarised on count forms. Due to the requirement of guaranteed coverage, a high level of

professional field staff will be required. To reduce costs, it would be possible to combine parts of this survey with the proposed assemblage monitoring programme (section 3).

The national Nightjar survey of 2004 covered the majority of 57 SSSIs (Table 6a) with aggregations of breeding Nightjars, but some sites received only partial coverage, with gaps in coverage being filled by follow-up work in 2005. Future surveys of these 57 SSSIs would require a higher level of professional fieldworker use, to ensure complete coverage. However, every effort would be made to enlist the assistance of nightjar study groups, monitoring groups and other volunteers.

For all surveys, at intervals of both six and 12 years, it will be necessary to use a high level of professional fieldwork. This will especially be the case during the forthcoming Breeding Bird Atlas period (2007–11) when much of the BTO volunteer work force will be actively engaged in other fieldwork and perhaps unavailable for many of the planned six-year surveys. In addition, the use of professional fieldworkers will ensure full coverage of SSSIs, which could not be guaranteed with a volunteer survey. As a consequence, the costings for Woodlark and Nightjar surveys are based on complete coverage of relevant SSSIs by professional fieldworkers. However, every effort will be made to reduce costs by enlisting the assistance of specialist groups and individual dedicated volunteers. It must be emphasised that the continued contribution of such volunteers and study groups cannot be guaranteed over such a long timescale.

For Woodlark and Dartford Warbler, it is expected that between two and three 1-km squares could be surveyed in a morning by a professional (and one to two 1-km squares by a volunteer). However, for Nightjar, just one 1-km square could be surveyed per evening or morning by a single professional or volunteer. The calculated survey costs are based on professional coverage rates, assuming that species will be surveyed singly and that each survey will be completed during a single year. The cost of each survey would be greatly reduced if more than one species could be combined. Woodlark and Dartford Warblers have been successfully combined for the 2006 surveys. It may also be possible to combine Woodlark and Nightjar surveys, as both species occur together on many SSSIs. However, to ensure good coverage of both species, a large component of dawn surveying will probably be required. Another option (not costed) would be to run non-combined surveys over consecutive years; this has the added advantage of retaining a pool of skilled professional fieldworkers.

A summary of all SSSIs with heathland-associated interest features is given in Table 6. Details of coverage, required actions and priorities for each of the 90 SSSIs are listed in separate sections of this table.

Table 6. Summary of coverage and recommendations for heathland SSSIs, categorised hierarchically by designation type.

Designation category	Number of SSSIs
Table 6a – Important Aggregations of breeding birds (Nightjar, Dartford Warbler and Woodlark)	61
Table 6b – Lowland Heathland breeding bird assemblages	16
Table 6c – Mixed breeding bird assemblages with heath component	13
Total	90

Table 6a. Coverage and recommendations for 61 SSSIs with Important Aggregations of breeding birds (Nightjar, Dartford Warbler and Woodlark).

No actions are required for the SSSIs listed in Table 6a as all the relevant designated breeding species are fully covered under current or proposed SCARABBS monitoring.

SSSI name	Coverage provided by SCARABBS Surveys		
	Nightjar (2004 & 2005)	Dartford Warbler (2006)	Woodlark (2006)
Ambersham Common	.	.	Y
Arne	Y	Y	Y
Ashdown Forest	Y	Y	.
Black Hill Heath	Y	Y	Y
Blaxhall Heath	Y	.	Y
Blue Pool and Norden Heaths	Y	Y	Y
Bourne Valley	Y	Y	Y
Bramshill	Y	Y	Y
Breckland Forest	Y	.	Y
Brenscombe Heath	Y	Y	Y
Broadmoor to Bagshot Woods and Heaths	Y	Y	Y
Canford Heath	Y	Y	Y
Cannock Chase	Y	.	.
Castle Bottom to Yateley Common and Hawley Commons	.	Y	.
Chobham Common	Y	Y	Y
Corfe & Barrow Hills	Y	Y	Y
Cranborne Common	Y	Y	Y
East Devon Pebblebed Heaths	Y	Y	.
Ebblake Bog	Y	Y	Y
Ferndown Common	Y	Y	Y
Haldon Forest	Y	.	.
Ham Common	Y	Y	Y
Hartland Moor	Y	Y	Y
Hatfield Moors	Y	.	.
Holt and West Moors Heaths	Y	Y	Y
Holton and Sandford Heaths	Y	Y	Y
Horton Common	Y	Y	Y
Hurn Common	Y	Y	Y
Leiston – Aldeburgh	Y	.	Y
Lions Hill	Y	Y	Y

SSSI name	Coverage provided by SCARABBS Surveys		
	Nightjar (2004 & 2005)	Dartford Warbler (2006)	Woodlark (2006)
Minsmere – Walberswick Heaths and Marshes	Y	.	Y
Morden Bog and Hyde Heath	Y	Y	Y
Oakers Bog	Y	Y	Y
Parley Common	Y	Y	Y
Plashett Park Wood	.	.	Y
Poole Harbour	Y	Y	Y
Povington and Grange Heaths	Y	Y	Y
Rempstone Heaths	Y	Y	Y
Sandlings Forest	Y	.	Y
Slop Bog and Uddens Heath	Y	Y	Y
Snape Warren	Y	.	Y
St Leonards and St Ives Heaths	Y	Y	Y
Stoborough & Creech Heaths	Y	Y	Y
Stokeford Heaths	Y	Y	Y
Studland & Godlingston Heaths	Y	Y	Y
Sutton and Hollesley Heaths	Y	.	Y
The Moors	Y	Y	Y
The New Forest	Y	Y	Y
Thorne Crowle and Goole Moors	Y	.	.
Thursley, Hankley & Frensham Commons	Y	Y	Y
Town Common	Y	Y	Y
Tunstall Common	Y	.	Y
Turbary and Kinson Commons	Y	Y	Y
Turners Puddle Heath	Y	Y	Y
Upton Heath	Y	Y	Y
Verwood Heaths	Y	Y	Y
Warmwell Heath	Y	Y	Y
Winfrith Heath	Y	Y	Y
Woolmer Forest	Y	Y	Y
Worgret Heath	Y	Y	Y
Yarner Wood & Trendlebere Down	.	Y	.

Table 6b. Coverage and recommendations for monitoring 16 SSSIs with Lowland Heathland breeding bird assemblage.

All sites will require a specialist survey to monitor the heathland breeding bird assemblages. However, ten sites will receive complete coverage and one site will receive partial coverage during SCARABBS surveys, which will contribute to the monitoring process. The remaining five sites (marked **) do not receive any coverage during the SCARABBS surveys and have been excluded from survey costings in the covering letter. All sites will require a specialist survey to fully monitor assemblage species.

SSSI name	Coverage provided by SCARABBS surveys				Action	Priority
	NJ	DW	WL	Combined coverage		
Appleby Fells**	Nil	Nil	Nil	Nil	Full assemblage survey required	High

SSSI name	Coverage provided by SCARABBS surveys				Action	Priority
	NJ	DW	WL	Combined coverage		
Ash to Brookwood Heaths	Nil	Complete	Complete	Complete	Full assemblage survey required	Low
Bramshott and Ludshott Commons	Partial	Complete	Complete	Complete	Full assemblage survey required	Low
Chapel Common	Partial		Complete	Complete	Full assemblage survey required	Low
Devil's Punch Bowl	Nil	Complete	Complete	Complete	Full assemblage survey required	Low
Devil's Spittleful**	Nil	Nil	Nil	Nil	Full assemblage survey required	High
Drumburgh Moss	Partial	Nil	Nil	Complete	Full assemblage survey required	Low
Glasson Moss**	Nil	Nil	Nil	Nil	Full assemblage survey required	High
Great Haldon Heaths	Nil	Complete	Complete	Complete	Full assemblage survey required	Low
Horsell Common	Nil	Complete	Complete	Complete	Full assemblage survey required	Low
Iping Common	Nil	Complete	Complete	Complete	Full assemblage survey required	Low
Lakenheath Warren	Partial	Nil	Complete	Complete	Full assemblage survey required	Low
North Exmoor	Partial	Partial	Nil	Partial	Full assemblage survey required	Medium
Pamber Forest and Silchester Common	Complete	Complete	Complete	Complete	Full assemblage survey required	Low
Salisbury Plain**	Nil	Nil	Nil	Nil	Full assemblage survey required	High
The Stiperstones & The Hollies**	Nil	Nil	Nil	Nil	Full assemblage survey required	High

Table 6c. Coverage and recommendations for monitoring 13 SSSIs with Mixed Breeding Bird Assemblages with heath component.

All sites will require a specialist survey to monitor the heathland breeding bird assemblages. However, four sites are completely covered during SCARABBS surveys and the remaining nine sites only receive partial coverage during SCARABBS surveys but all will contribute to the monitoring process.

SSSI name	Coverage provided by SCARABBS surveys				Action	Priority
	NJ	DW	WL	Combined coverage		
Blackheath	Partial	Partial	Partial	Complete	Full assemblage survey required	Low
Christchurch Harbour	Partial	Complete	Complete	Complete	Full assemblage survey required	Low
Chudleigh Knighton Heath	Partial	Partial	Partial	Partial	Full assemblage survey required	Medium

SSSI name	Coverage provided by SCARABBS surveys				Action	Priority
	NJ	DW	WL	Combined coverage		
Goss and Tregoss Moors	Partial	Partial	Nil	Partial	Full assemblage survey required	Medium
Kirkby Moor	Partial	Nil	Partial	Partial	Full assemblage survey required	Medium
Porthgwarra to Pordenack Point	Nil	Partial	Nil	Partial	Full assemblage survey required	Medium
Puttenham & Crooksbury Commons	Partial	Partial	Partial	Complete	Full assemblage survey required	Low
Seaford to Beachy Head	Partial	Nil	Nil	Partial	Full assemblage survey required	Medium
Shapwick Heath	Partial	Nil	Nil	Partial	Full assemblage survey required	Medium
South Exmoor	Partial	Partial	Nil	Partial	Full assemblage survey required	Medium
The Quantocks	Complete	Complete	Nil	Complete	Full assemblage survey required	Low
West Exmoor Coast and Woods	Partial	Partial	Partial	Partial	Full assemblage survey required	Medium
Winterton – Horsey Dunes	Partial	Nil	Nil	Partial	Full assemblage survey required	Medium

6.5 Future national Ringed Plover surveys

All six SSSIs designated for breeding Ringed Plovers will need to be covered in future surveys. It is envisaged that all six sites would be completely covered during the next national survey (provisionally planned for 2007). The survey methods are still at the preparatory stage but may require up to three visits. A pilot survey is planned for 2006. Provisional costings for both a national survey and subsequent six-year survey are provided in the covering letter.

6.6 Future surveys of species and assemblages of wet habitats

A total of 50 SSSIs (Tables 7a & 7c) have been identified which hold breeding bird aggregations for waders or wildfowl and are monitored by BWWM. Twenty-four of these sites have gaps in coverage, which would need to be filled to ensure full coverage of suitable habitat within these SSSIs.

A number of important breeding habitats for waders and wildfowl are not covered by BWWM but are relevant to designated species on SSSIs. These include tidal marsh, lagoons, beaches and a variety of water bodies, which may hold Redshank, Avocet and a variety of wildfowl. It will be necessary to use specialist surveys to monitor these habitats for the required species, which could either be an add-on to BWWM or a completely separate survey specific to SSSIs. Options for surveying these habitats are costed on the assumption that they would be surveyed during the BWWM fieldwork.

A specialist survey would be required for upland waders of the Peak District, North Pennines and South Pennines SPAs, as no coverage is provided by BWWM. The component for the North Pennines SPA could be combined with Peregrine monitoring but is probably already catered for by the proposed breeding bird survey of this SPA.

It will not be possible to use BWWM as a direct means of assessing assemblages on SSSIs. This would need to be covered under a specialist survey (see section 3). Through such a survey, all SSSIs

(Tables 7a & 7c) that are associated with a wet or damp grassland assemblage would provide data towards a broader framework of assemblage monitoring. However, since future BWWM surveys could be adapted to list all breeding species encountered, there is potential for them to provide useful information on SSSI monitoring for this particular habitat.

For all surveys, at intervals of both six and 12 years, it may be necessary to use a high level of professional fieldwork. This will especially be the case during the forthcoming Breeding Bird Atlas period (2007–11) when much of the BTO volunteer work force will be actively engaged in other fieldwork and perhaps unavailable for many of the planned six-year surveys. In addition, the use of professional fieldworkers will ensure full coverage of SSSIs, which could not be guaranteed with a volunteer survey. As a consequence, the costings for BWWM are based on complete coverage of relevant SSSIs by professional fieldworkers in a single year. However, every effort will be made to reduce costs by enlisting the assistance of volunteers. It must be emphasised that the continued contribution by a large volunteer workforce cannot be guaranteed over such a long timescale.

A summary of all SSSIs with important breeding wader and other wet grassland associated interest features is given in Table 7. Details of coverage, required actions and priorities for each of the 90 SSSIs are listed in the associated Tables 7a, 7b, 7c and 7d.

Table 7. Summary of coverage and recommendations for wet grassland SSSIs, categorised hierarchically by designation type.

Designation category	Number of SSSIs
Table 7a – Important breeding wader aggregations on wet grassland & Regional Wet Meadow waders	14
Table 7b –Lowland wet grassland breeding bird assemblages	25
Table 7c –Other species aggregations (Avocet, Ruff, Black-tailed Godwit and wildfowl)	36
Table 7d –Wet grassland in mixed assemblages	18
Total	93

Table 7a. Coverage and recommendations for 14 SSSIs with Important Breeding Wader Aggregations on Wet Grassland & Regional Wet Meadow Waders.

These 14 sites should all receive complete coverage to monitor the wader species for which they are designated. However, BWWM provides complete coverage for two sites and partial coverage for a further six sites, which could be completely covered by slight extensions to existing BWWM coverage. Two sites (Avon Valley and Doxey & Tillington Marshes) also receive partial coverage by BWWM but major extensions of current BWWM coverage are required for complete monitoring of all potentially suitable habitat. Of the remaining four sites, three (Dee Estuary, South Pennine Moors and The Wash) do not receive any coverage from BWWM. As the habitat of the Dee Estuary and South Pennine Moors does not fall within that covered by BWWM, these two sites are not included in costings for future work (marked **). These sites will require specialist surveys for relevant species. Finally, the North Norfolk Coast SSSI is well covered by BWWM but habitat for Redshank (saltmarsh) is not included.

SSSI name	Important breeding aggregation	Regional wet meadow waders	BWWM coverage	Action	Priority
Amberley Wild Brooks	Y	.	Good	None required	.

SSSI name	Important breeding aggregation	Regional wet meadow waders	BWWM coverage	Action	Priority
Aqualate Mere	.	Y	Good	Slight extension to BWWM coverage	Medium
Avon Valley (Bickton to Christchurch)	.	Y	Partial	Major extension to BWWM coverage	High
Baswich Meadows	.	Y	Good	Slight extension to BWWM coverage	Medium
Chilton Foliat Meadows	.	Y	Partial*	Slight extension to BWWM coverage	Medium
Dee Estuary**	Y	.	Nil	Specialist survey (habitat not covered by BWWM)	Low
Dibden Bay	.	Y	Good	Slight extension to BWWM coverage	Medium
Doxey and Tillington Marshes	.	Y	Partial	Major extension to BWWM coverage	High
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses	.	Y	Good	Slight extension to BWWM coverage	Medium
North Norfolk Coast	Y	.	Good	Specialist survey for saltmarsh (Redshank)	Low
Rawbones Meadow	.	Y	Good	None required	.
South Pennine Moors**	Y	.	Nil	Specialist survey for upland Curlew	Low
The Wash	Y	.	Nil	Specialist survey for saltmarsh (Redshank)	Low
Upham Meadow and Summer Leasow	.	Y	Good	Slight extension to BWWM coverage	Medium

**considered medium rather than high priority due to small size of the site.*

Table 7b. Coverage and recommendations for 25 SSSIs with Lowland wet grassland breeding bird assemblages.

BWWM will contribute to the monitoring of species associated with this assemblage; however, a specialist survey is required for full assemblage monitoring. The following recommendations are based on the assumption that BWWM would be used to monitor assemblage species recorded only under BWWM. Of the 25 sites, 19 are completely covered and five are partially covered by BWWM. Only one site (Lune Estuary) is not covered but the wet grassland habitat could be included in future BWWM surveys.

SSSI name	BWWM coverage	Action	Priority
Abram Flashes	Good	None	.
Barnby Broad & Marshes	Partial	Extend BWWM coverage	Medium
Brading Marshes to St. Helen's Ledges	Partial	Extend BWWM coverage	Medium
Cam Washes	Good	None	.

SSSI name	BWWM coverage	Action	Priority
Cattawade Marshes	Good	None	.
Curry and Hay Moors	Good	None	.
Gordano Valley	Good	None	.
Heslington Tillmire	Good	None	.
Inner Thames Marshes	Good	None	.
King's Sedgemoor	Good	None	.
Ludham – Potter Heigham Marshes	Good	None	.
Lune Estuary	Nil	Include in next BWWM survey	High
Martin Mere, Burscough	Good	None	.
Moor Farm	Partial	Extend BWWM coverage	Medium
Moorlinch	Good	None	.
North Moor	Good	None	.
Ogston Reservoir	Good	None	.
Pagham Harbour	Good	None	.
Pett Level	Good	None	.
Pulborough Brooks	Good	None	.
Shallam Dyke Marshes, Thurne	Good	None	.
Sizewell Marshes	Partial	Extend BWWM coverage	Medium
Waland Marsh	Partial	Extend BWWM coverage	Medium
Waltham Brooks	Good	None	.
Wet Moor	Good	None	.

Table 7c. Coverage and recommendations for 36 SSSIs with Other species aggregations (Avocet, Ruff, Black-tailed Godwit and wildfowl).

These sites are important for wildfowl and rare wader species, which are recorded by BWWM. Of these 36 sites, nine are completely covered by BWWM. A further 17 sites receive partial coverage from BWWM, which could be extended to include the whole site. One site (Stiffkey Valley) is not currently covered by BWWM but could be included in future surveys. Of the remaining nine sites, which either receive nil or partial coverage from BWWM, six sites (marked **) will require specialist breeding wildfowl surveys or contain habitats, which cannot be incorporated into this survey and are therefore not including in the costings for future surveys. All other sites will require specialist surveys for either breeding wildfowl, Avocet or Black-tailed Godwit, which can be additional or incorporated within BWWM.

SSSI name	BWWM coverage	Action	Priority
Alde–Ore Estuary	Poor	Extend BWWM coverage	Medium
Alvecote Pools	Good	None	.
Blackwater Estuary	Good	None	.
Brighton Meadows	Partial	Extend BWWM coverage	Medium
Cheyne Court	Partial	Extend BWWM coverage	Medium
Derwent Ings	Good	None	.
Didlington Park Lakes**	Nil	Specialist survey for wildfowl	Low
Dungeness**	Nil	Specialist survey for wildfowl	Low
Foulness	Partial	Extend BWWM coverage	Medium
Halvergate Marshes	Good	None	.
Hardley Flood**	Nil	Specialist survey for wildfowl	Low
Humber Estuary	Good	Extend BWWM coverage	Medium
Leighton Moss	Good	None	.

SSSI name	BWWM coverage	Action	Priority
Leiston – Aldeburgh	Partial	Extend BWWM coverage	Medium
Medway Estuary and Marshes	Good	Extend BWWM coverage	Medium
Melbourne and Thornton Ings	Good	None	.
Minsmere – Walberswick Heaths and Marshes	Good	Extend BWWM coverage	Medium
Nene Washes	Partial	Extend BWWM coverage	Medium
Newton Mask	Partial	Extend BWWM coverage	Medium
Orwell Estuary	Good	Extend BWWM coverage	Medium
Ouse Washes	Good	Extend BWWM coverage	Medium
Ribble Estuary	Good	None	.
River Derwent	Good	None	.
Rye Meads	Partial	Extend BWWM coverage	Medium
Sefton Coast**	Poor	None – no suitable habitat	.
South Thames Estuary and Marshes	Good	Extend BWWM coverage	Medium
Stiffkey Valley	Nil	Include site in next BWWM survey	High
Stodmarsh	Poor	Extend BWWM coverage	Medium
Stour Estuary	Partial	Specialist survey for Avocet	Low
The Swale	Partial	Specialist survey for Avocet	Low
Trinity Broads**	Nil	Specialist survey for wildfowl	Low
Upper Solway Flats & Marshes	Partial	Specialist survey for Black-tailed godwit	Low
Upper Thurne Broads and Marshes	Partial	Specialist survey for Avocet	Low
Walthamstow Reservoirs**	Nil	Specialist survey for wildfowl	Low
Woolston Eyes	Partial	Extend BWWM coverage	Medium
Yare Broads and Marshes	Good	Extend BWWM coverage	Medium

Table 7d. Coverage and recommendations for 18 SSSIs with wet grassland in mixed assemblages.

All of these sites contain a component of wet grassland within a mixed breeding bird assemblage. BWWM will contribute to the monitoring of species associated with this assemblage; however, a specialist survey is required for full assemblage monitoring. The following recommendations are based on the assumption that BWWM would be used to monitor assemblage species recorded only under BWWM.

Of the 18 sites, three will receive complete coverage and five will receive partial coverage of wet grassland by BWWM. All of the remaining sites do not receive any coverage from BWWM. The wet grassland components of these sites could be included in future BWWM surveys.

SSSI name	BWWM coverage	Action	Priority
Bookham Commons	Nil	Include wet grassland component in next BWWM survey	Low
Chanctonbury Hill	Nil	Include wet grassland component in next BWWM survey	Low
Charnwood Lodge	Nil	Include wet grassland component in next BWWM survey	Low

SSSI name	BWWM coverage	Action	Priority
Chippenham Fen and Snailwell Poor's Fen	Good	None	.
Croxton Park	Nil	Include wet grassland component in next BWWM survey	Low
Denaby Ings	Good	Extend BWWM coverage	Medium
Eastnor Park	Nil	Include wet grassland component in next BWWM survey	Low
Epsom and Ashted Commons	Nil	Include wet grassland component in next BWWM survey	Low
Hollow Moor & Odham Moor	Nil	Include wet grassland component in next BWWM survey	Low
Martin and Tidpit Downs	Nil	Include wet grassland component in next BWWM survey	Low
Mid Colne Valley	Partial	Extend BWWM coverage	Medium
Otmoor	Good	None	.
Porton Down	Nil	Include wet grassland component in next BWWM survey	Low
Radipole Lake	Nil	Include wet grassland component in next BWWM survey	Low
Rye Harbour	Good	None	.
Shapwick Heath	Partial	Extend BWWM coverage	Medium
Tealham and Tadham Moors	Good	Extend BWWM coverage	Medium
Westhay Moor	Partial	Extend BWWM coverage	Medium

Acknowledgements

We especially thank Allan Drewitt and Phil Grice of English Nature for all their help with the project. Emma Davis and Heidi Mellan helped format the report.

References

- Baker, H., Stroud, D.A., Aebischer, N.J., Cranswick, P.A., Gregory, R.D., McSorley, C.A., Noble, D.G. & Rehfisch, M.M. (2006) Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 99: 25–44.
- Banks, A.N., Coombes, R.H. & Crick, H.Q.P. (2003) *The Peregrine Falcon breeding population of the UK & Isle of Man in 2002*. BTO Research Report 330. BTO, Thetford.
- Banks, A.N., Handschuh, M., Musgrove, A.J. & Rehfisch, M.M. (2005) *Review of Spatial and Temporal Coverage of Coastal English SSSIs by the Wetland Bird Survey Low Tide Count Scheme*. BTO, Thetford.
- Bibby, C.J. (2004) Bird diversity survey methods. Pp 1–15 in: *Bird ecology and conservation – a handbook of techniques* (eds W.J. Sutherland, I. Newton & R.E. Green). Oxford University Press, Oxford.
- Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000) *Bird Census Techniques* (second edition). Academic Press, London.
- Crick, H.Q.P. & Ratcliffe, D.A. (1995) The Peregrine *Falco peregrinus* breeding population of the United Kingdom in 1991. *Bird Study* 42: 1–19.
- Fuller, R.J. (1980) A method for assessing the ornithological interest of sites for conservation. *Biological Conservation* 17: 229–239.
- Fuller, R.J. (1982) *Bird Habitats in Britain*. T. & A.D. Poyser, Calton.
- Gibbons, D.W., Reid, J.B. & Chapman, R.A. (1993) *The new atlas of breeding birds in Britain and Ireland: 1988–1991*. T. & A.D. Poyser, London.
- JNCC (1998) *Statement on Common Standards Monitoring (CSM)*. www.jncc.gov.uk/page-2198
- JNCC (2004) *Common Standards Monitoring guidance for birds*. www.jncc.gov.uk/pdf/CSM_birds_inc_additional_info.pdf
- Johnson, B.R. & Ryder, R.A. (1977) Breeding densities and migration periods of common snipe in Colorado. *The Wilson Bulletin* 89: 116–121.
- Musgrove, A.J. (1998) *Validation of WeBS methodology – the relationship between waterfowl counts carried out at high and low tide*. BTO Research Report 190. BTO, Thetford.
- Nature Conservancy Council (1989) *Guidelines for selection of biological SSSIs*. Nature Conservancy Council, Peterborough. www.jncc.gov.uk/page-2303
- O'Brien, M. (2005) Estimating the number of farmland waders breeding in the United Kingdom. *International Wader Studies* 14: 135–139.
- Sharrock, J.T.R (1976) *The atlas of breeding birds in Britain and Ireland*. T. & A.D. Poyser, Calton.
- Stone, B.H., Sears, J., Cranswick, P.A., Gregory, R.D., Gibbons, D.W., Rehfisch, M.M., Aebischer, N.J. & Reid, J.B. (1997) Population estimates of birds in Britain and in the United Kingdom. *British Birds* 90:1–22.

- Wilson, A.M. & Crick, H.Q.P. (2004) *Peregrine Survey Validation Exercise 2003*. BTO Research Report 348. BTO, Thetford.
- Wilson, A.M., Vickery, J.A., Brown, A., Langston, R.H.W., Smallshire, D., Wotton, S. & Vanhinsbergh, D. (2005) Changes in the numbers of breeding waders on lowland wet grasslands in England and Wales between 1982 and 2002. *Bird Study* 52: 55–69.

APPENDIX 1

HOW TO USE THE ENGLISH SSSI_s CSM DATABASE

The information collated for the purposes of this project is mostly stored within a Microsoft Access database. Some of the information was derived from the database provided by EN to BTO at the outset of the project. The remainder is derived from BTO-held data, or represents our expert opinion on coverage issues and recommendations.

The database consists of three linked tables, three pre-written queries, an inputting form (potentially also useful for viewing data) and a pre-written report format. The different elements are set out below.

Tables

SSSI – 629 rows – one per SSSI with at least one avian feature. The fields are:

SSSI ENSIS ID – from EN database

SSSI name – from EN database

SSSI discussion – this is a summary of the main coverage issues for the SSSI having looked at individual SSSI listed features and their coverage by BTO surveys. These texts are exactly the same as in the written report.

BTO survey section codes – more for BTO use really, summarising mostly the best combination of WeBS sections to use to represent the SSSIs. Heronries Census codes are also included.

NumSpecies – the number of species-specific features for the SSSI (derived from EN database)

NumAssem – the number of assemblage features for the SSSI (derived from EN database)

County – from EN database

NumSitesReg – the number of *BTO Sites Register* sites that overlap with the SSSI. [Note that the BTO Sites Register data is provided separately].

FEATURES – 4502 rows – one per avian feature derived from EN database. The fields are:

ID – internally generated integer

SSSI ENSIS ID – from EN database

SSSI name – from EN database

Species involved – derived from EN database. Note that the EN database contained a few inconsistencies in naming between the SSSI features and the SPA features. This field irons out these inconsistencies.

Source – this shows whether a feature is a direct feature of a SSSI, or derives from its relationship to an SPA. The next nine fields are populated according to whether the source is SSSI or SPA.

SEASON (SPA) – from EN database (where appropriate)

COMMON_NAME (SPA) – from EN database (where appropriate)

INT_STATUS (SPA) – from EN database (where appropriate)

SPA_CODE – from EN database (where appropriate)

SPA_NAME – from EN database (where appropriate)

COMMON_NAME (SSSI) – from EN database (where appropriate)

Species – Notified Feature Description (SSSI) – from EN database (where appropriate)

FTR_SP_REP_DESC (SSSI) – from EN database (where appropriate)

COMMENTS (SSSI) – from EN database (where appropriate)

Geographic coverage – our assessment of how well the boundaries of the SSSI are covered in spatial terms by BTO surveys. This can vary between species, according to their habitat preferences.

Temporal coverage – our assessment of how recently or frequently the feature has been covered by BTO surveys.

Discussion – our discussion of how well the individual feature is covered by BTO surveys.

Recommendations – our recommendations for how coverage could be improved in future.

Assessed by – initials of BTO staff member primarily responsible for assessment
Overall coverage code – links to table L_covcode (see below)
COUNTY – from EN database
FeatureType – whether single-species or assemblage

L_COVCODE – a look-up table for the overall summary assessment of coverage of the SSSI feature.
The fields are:

CovCode – links to FEATURES table
CovText – explanation of coverage code

Queries

qry4form

This query brings together various fields from the tables for the purpose of producing the inputting form (see below).

qry4report_spp_only

This query brings together various fields from the tables for the purpose of producing the viewable summary report (see below). It is set to bring back only species-specific features.

qry_outputSSSIsummaries

This query was set up to output SSSI summaries in a format that can then be used (along with a VBA macro) to format them for the paper report.

Form

SSSI Data Entry Form

This form was set up for ease of entering information on coverage of SSSI features by BTO surveys. However, it may also prove useful for viewing and querying data. It is based on the query *qry4form*.

Report

View Species Features per SSSI

This report is designed to bring together the information per SSSI on each species-specific feature. Should such information need to be printed out, this report should be suitable for that purpose. The report is based on the query *qry4report_spp_only*.

APPENDIX 2

THE GIS PROJECT FILE AND HOW TO USE IT

1) GIS WeBS shapefile “avian_ssi_clippedbyWeBS”

This shapefile was produced in ArcView and comes as five associated files.

The SSSI boundary information was downloaded from the English Nature web site. Only those SSSIs with avian interest features (629) were retained. These SSSI boundaries were clipped by the current WeBS Core Count polygon coverage (as at 1 December 2005). The resulting shapefile contains 986 polygons. Each polygon has the SSSI ENSIS ID code, and whether it represents an area of overlap with WeBS or an area of non-overlap.

It is important to note that the WeBS Core Count shapefile is not perfect. It is evolving daily, as more information comes in and is incorporated. About 41% of site boundaries are currently based on maps provided by counters, the remaining 59% being based on our best assessment of the likely count area. We are continually aiming to increase the proportion of sites with maps provided by counters. Additionally, there are a number of WeBS count units for which no polygon information is yet stored. Most of these are very old sections, or else amalgamations of existing ones.

2) GIS Heronries shapefile “24heronries”

This shapefile was produced in ArcView and comes as five associated files (24heronries.*).

This point theme shows the location of heronries on the 24 SSSIs that have been designated for their breeding Grey Herons. The following information is provided for each of the 24 heronry locations:

Sixno	Unique six-figure colony code from BTO Heronries Census
County	Four-letter county code
Gr	Six-figure grid reference for centre of heronry
SSSI name	
ENSISID	
Z003_nest	Nest count for 2003

3) GIS Breeding Waders of Wet Meadows shapefile “Bwwmonsssis”

This shapefile was produced in ArcView and comes as five associated files (Bwwmonsssis.*).

The enclosed maps show the location of all digitised boundaries of count areas that overlap, or are within one kilometre of, SSSIs designated for relevant breeding wader/wildfowl aggregations, regional wet meadow waders, and wet grassland assemblages of breeding birds (lowland wet grassland and wet grassland within mixed assemblages). Where the surveyor provided no survey map, the 1-km square in which the site was situated has been digitised.

The following information is provided for each count area:

Site Name	General location or name from OS map.
Gridref	Six-figure grid reference for approximate centre of count area.
County	

APPENDIX 3

COVERAGE, IMPORTANCE AND PRIORITY FOR EACH SSSI FOR WHICH WATERBIRDS ARE A DESIGNATED FEATURE

SSSI	County	Coverage	Biological importance	Ease of coverage	Priority	Actions required
Derwent Ings	N Yorks	1	4	1	9	2, 4, 6b(i), 6c(i), 6c(ii)
Ducan's Marsh Claxton	Norfolk	0	2	0	9	5a
Halvergate Marshes	Norfolk	1	4	2	8	2, 3, 6c(i), 6c(ii), 6d
Breydon Water	Norfolk	2	4	0	8	2, 6c(i), 6c(ii), 6d
Colne Estuary	Essex	2	4	0	8	2, 4, 6c(ii), 6d
Fairburn and Newton Ings	W Yorks	2	4	0	8	2, 6c(i)
Medway Estuary and Marshes	Kent	2	4	0	8	4, 6a, 6c(ii), 6d, 7
Mucking Flats and Marshes	Essex	2	4	0	8	2, 4, 6c(ii)
Sandwich Bay to Hacklinge Marshes	Kent	2	4	0	8	3, 4
Severn Estuary	Somerset	2	4	0	8	1, 4, 6c(i), 6c(ii)
South Walney and Piel Channel Flats	Cumbria	2	4	0	8	2, 4, 6a, 6c(i), 6c(ii), 6d, 7
Stodmarsh	Kent	2	4	0	8	6b(i)
Upton Broad & Marshes	Norfolk	0	1	0	8	5b, 6b(i), 6c(i), 6d
Bridgwater Bay	Somerset	1	2	0	8	3, 4, 6c(i), 6c(ii)
Steep Holm	Avon	0	1	1	8	5a, 6c(ii)
Upper Solway Flats & Marshes	Cumbria	2	4	1	8	1, 2, 4, 6a, 6c(i), 6c(ii), 6d, 7
Abberton Reservoir	Essex	2	3	0	7	1, 6c(ii), 6d
Alde-Ore Estuary	Suffolk	2	3	0	7	3, 6c(i), 6c(ii)
Benfleet and Southend Marshes	Essex	2	3	0	7	1, 3, 4
Decoy Carr Acle	Norfolk	0	0	0	7	5a
Durham Coast	Durham	2	3	0	7	2, 4, 6c(ii), 6d, 7
Exe Estuary	Devon	2	3	0	7	3, 6c(ii), 6d
Hall Farm Fen Hemsby	Norfolk	0	0	0	7	5a
Inner Thames Marshes	Gr Lond	0	0	0	7	2, 3, 4
Lee-on-the-Solent to Itchen Estuary	Hants	2	3	0	7	3, 4, 6c(ii), 6d
Limpenhoe Meadows	Norfolk	0	0	0	7	5a, 6c(i), 6d
Ludham – Potter Heigham Marshes	Norfolk	0	0	0	7	5a, 6c(i), 6d
Moorlinch	Somerset	2	3	0	7	2, 4, 6b(ii), 6c(i), 6c(ii)
North Solent	Hants	2	3	0	7	3, 6c(ii), 6d
River Test	Hants	0	0	0	7	4, 6b(i)
Upper Fal Estuary and Woods	Cornwall	2	3	0	7	1, 3, 4
Wareham Meadows	Dorset	1	2	1	7	2, 3, 6c(ii), 6d, 7
Yare Broads and Marshes	Norfolk	2	3	0	7	1, 6b(i), 6c(i), 6d
Amberley Wild Brooks	W Sussex	3	4	0	7	6c(i)
Berry Fen	Cambs	0	0	1	7	6c(i)
Blackwater Estuary	Essex	3	4	0	7	1, 6c(ii), 6d, 7

SSSI	County	Coverage	Biological importance	Ease of coverage	Priority	Actions required
Bracklesham Bay	W Sussex	0	0	1	7	1, 4
Burgh Common and Muckfleet Marshes	Norfolk	1	1	0	7	3, 6b(i), 6c(i), 6d
Camber Sands and Rye Saltings	E Sussex	0	0	1	7	3, 4, 6c(i)
Chichester Harbour	W Sussex	3	4	0	7	6c(ii), 6d, 7
Croftwick Marsh	Norfolk	0	0	1	7	5a, 6d
Crouch and Roach Estuaries	Essex	3	4	0	7	6c(ii), 6d
Deben Estuary	Suffolk	3	4	0	7	
Drigg Coast	Cumbria	1	1	0	7	4
Duddon Estuary	Cumbria	3	4	0	7	6a
Foulness	Essex	3	4	0	7	1, 6c(ii)
Hamford Water	Essex	3	4	0	7	6c(ii)
Humber Estuary	Lincs	3	4	0	7	1, 6b(i), 6c(ii), 6d, 7
Kempton Park Reservoirs	Surrey	0	0	1	7	4
Lindisfarne	N'land	3	4	0	7	6a, 6c(i), 6c(ii)
Lulworth Park & Lake	Dorset	0	0	1	7	5a
Lune Estuary	Lancs	3	4	0	7	6a, 6c(i), 6c(ii), 6d, 7
Martin Mere Burscough	Lancs	3	4	0	7	6c(i)
Mersey Estuary	Cheshire	3	4	0	7	6a, 6c(ii)
Mersey Narrows	Mers	0	0	1	7	2, 3, 6d
Morecambe Bay	Lancs	3	4	0	7	6a, 6c(i), 6c(ii), 6d, 7
Nene Washes	Cambs	3	4	0	7	1, 6c(i), 6c(ii)
Newton Mask	N Yorks	0	0	1	7	5a, 6c(i), 6c(ii)
North Norfolk Coast	Norfolk	3	4	0	7	6a, 6b(i), 6c(i), 6c(ii), 6d, 7
Pevensey Levels	E Sussex	1	1	0	7	3, 6c(ii)
Poplar Farm Meadows Langley	Norfolk	0	0	1	7	5a, 6c(i)
Redcar Rocks	Cleveland	0	0	1	7	5b, 6c(ii), 6d, 7
Ribble Estuary	Lancs	3	4	0	7	6a, 6c(i), 6c(ii), 6d, 7
River Derwent	N Yorks	1	2	2	7	2, 3, 6, 6b(i), 6c(i), 6c(ii)
Shallam Dyke Marshes Thurne	Norfolk	0	0	1	7	5a, 6c(i)
Sprat's Water and Marshes Carlton Colville	Suffolk	0	0	1	7	5b, 6b(i), 6c(i)
Stour Estuary	Suffolk	3	4	0	7	6a, 6c(ii), 6d
Thorness Bay	I Wight	0	0	1	7	5a, 6c(ii), 6d
Tweed Catchment Rivers – England: Lower Tweed and Whiteadder	N'land	2	3	1	7	3, 4
Upper Severn Estuary	Glos	2	3	1	7	2, 6c(i), 6c(ii)
Avon Valley (Bickton to Christchurch)	Hants	2	2	0	6	4, 6c(i)
Benacre to Easton Bavents	Suffolk	2	2	0	6	3, 6b(i)
Broad Fen Dilham	Norfolk	0	0	2	6	5a, 6b(i)

SSSI	County	Coverage	Biological importance	Ease of coverage	Priority	Actions required
Catcott Edington and Chilton Moors	Somerset	2	2	0	6	1, 4, 6b(ii), 6c(i), 6c(ii)
Dee Estuary	Mers	3	4	1	6	6a, 6c(ii), 6d, 7
Geldeston Meadows	Norfolk	0	0	2	6	5a, 6d
King's Quay Shore	I Wight	0	0	2	6	4, 6c(ii), 6d
Lymington River Reedbeds	Hants	0	0	2	6	5a, 6c(ii), 6d
New Ferry	Mers	0	0	2	6	5b, 6c(ii)
Newtown Harbour	I Wight	2	2	0	6	3, 6c(ii), 6d
Priory Meadows Hickling	Norfolk	0	0	2	6	5a, 6c(i)
Sandbeach Meadows	Essex	1	1	1	6	2
Sefton Coast	Mers	3	4	1	6	1, 6a, 6c(ii), 6d, 7
Stanley and Alder Carrs Aldeby	Norfolk	0	0	2	6	5a
The Wash	Lincs	3	4	1	6	6a, 6c(i), 6c(ii), 6d, 7
Titchfield Haven	Hants	2	2	0	6	3, 6c(ii), 6d
West Moor	Somerset	2	2	0	6	2, 6b(ii), 6c(i), 6c(ii)
Dengie	Essex	3	3	0	6	6a, 6c(ii), 6d
Dungeness	Kent	3	3	0	6	1, 6c(i)
Inner Marsh Farm	Cheshire	2	2	1	6	1
Melbourne and Thornton Ings	N Yorks	1	0	0	6	3, 4, 6b(i), 6c(i), 6c(ii)
Northumberland Shore	N'land	3	3	0	6	6c(ii)
Orwell Estuary	Suffolk	3	3	0	6	6c(ii), 6d
Ouse Washes	Cambs	3	4	2	6	6c(i), 6c(ii), 6d
Pett Level	E Sussex	2	2	1	6	2, 3, 6c(i)
Poole Harbour	Dorset	3	4	2	6	6a, 6c(ii), 6d, 7
River Eden and Tributaries	Cumbria	1	0	0	6	3, 4, 6c(i)
Rye Harbour	E Sussex	1	0	0	6	2, 3, 7, 6c(i)
Shapwick Heath	Somerset	3	3	0	6	6b(ii), 6c(i), 6c(ii)
South Thames Estuary and Marshes	Kent	3	3	0	6	6c(ii)
Tamar – Tavy Estuary	Cornwall	3	3	0	6	6d, 7
Taw–Torrige Estuary	Devon	3	3	0	6	6c(ii)
Thanet Coast	Kent	1	0	0	6	2, 3, 5
Upper Thurne Broads and Marshes	Norfolk	1	0	0	6	3, 4, 6b(i), 6c(i), 6d
Westhay Moor	Somerset	3	3	0	6	6b(ii), 6c(i), 6c(ii)
Barnby Broad & Marshes	Suffolk	2	1	0	5	1, 2, 3, 6c(i), 6d
Bodmin Moor North	Cornwall	2	1	0	5	6c(ii)
Brighton Meadows	N Yorks	2	1	0	5	2, 4, 6c(i), 6c(ii)
Howick to Seaton Point	N'land	2	1	0	5	6c(ii)
Lackford Lakes	Suffolk	2	1	0	5	4
Langstone Harbour	Hants	4	4	0	5	6a, 6c(ii), 6d, 7
Marazion Marsh	Cornwall	2	1	0	5	6b(i)
Minsmere – Walberswick Heaths and Marshes	Suffolk	2	2	2	5	3, 6b(i)
Portsmouth Harbour	Hants	3	3	1	5	1
Rutland Water	Leics	4	4	0	5	6c(ii), 6d

SSSI	County	Coverage	Biological importance	Ease of coverage	Priority	Actions required
Seaton Dunes and Common	Cleveland	2	1	0	5	2, 6c(ii), 6d, 7
Sowley Pond	Hants	2	1	0	5	4, 6c(ii), 6d
Stiffkey Valley	Norfolk	2	1	0	5	6b(i)
The Moors	Dorset	2	1	0	5	2, 6c(ii), 6d, 7
Trinity Broads	Norfolk	2	1	0	5	1, 4, 6b(i)
West Thurrock Lagoon & Marshes	Essex	1	0	1	5	4
Wretham Park Meres	Norfolk	1	0	1	5	1, 4
Wyre Estuary	Lancs	2	1	0	5	6a, 6c(i), 6c(ii), 6d, 7
Amble Marshes	Cornwall	1	0	2	5	3, 4, 6c(ii)
Bure Broads and Marshes	Norfolk	3	2	0	5	6b(i), 6c(i), 6d
Chesil & The Fleet	Dorset	3	2	0	5	
King's Sedgemoor	Somerset	3	2	0	5	6b(ii), 6c(i), 6c(ii)
Lynher Estuary	Cornwall	3	2	0	5	6d, 7
River Idle Washlands	Notts	3	2	0	5	1, 6c(i)
Tees and Hartlepool Foreshore and Wetlands	Cleveland	3	2	0	5	6c(ii), 6d, 7
The Swale	Kent	3	2	0	5	6a, 6c(ii), 6d, 7
Walmore Common	Glos	3	2	0	5	1, 6c(i)
Chew Valley Lake	Avon	4	3	0	4	
Cheyne Court	Kent	2	0	0	4	2, 6b(i), 6c(i), 6c(ii)
Gibraltar Point	Lincs	2	1	2	4	
North Wirral Foreshore	Mers	3	2	1	4	
Pagham Harbour	W Sussex	3	2	1	4	
Sutton and Lound Gravel Pits	Notts	2	0	0	4	2, 4
Walthamstow Reservoirs	Gr Lond	2	0	0	4	2, 6b(i), 6d
Berrow Dunes	Somerset	3	1	0	4	6b(i)
Climping Beach	W Sussex	2	0	1	4	2
Combe Pool	Warks	3	1	0	4	
Dawlish Warren	Devon	3	1	0	4	6c(ii), 6d
Gunton Park Lake	Norfolk	2	0	1	4	4
Hardley Flood	Norfolk	3	1	0	4	6b(i), 6c(i), 6d
Holburn Lake and Moss	N'land	3	1	0	4	1
Leighton Moss	Lancs	3	1	0	4	6b(i)
Lincegrove and Hackett's Marshes	Hants	2	0	1	4	2, 6c(ii), 6d
Little Paxton Pits	Cambs	3	1	0	4	
Medina Estuary	I Wight	3	1	0	4	6c(ii), 6d
Ryde Sands and Wootton Creek	I Wight	2	0	1	4	3, 6a, 6c(ii), 6d
Seal Sands	Cleveland	3	1	0	4	6c(ii), 6d, 7
Slapton Ley	Devon	2	0	1	4	6b(i)
St John's Lake	Cornwall	3	1	0	4	6d, 7
Studland & Godlingston Heaths	Dorset	3	1	0	4	6c(ii), 6d, 7
Thorpe Park No 1 Gravel Pit	Surrey	3	1	0	4	
Waltham Brooks	W Sussex	3	1	0	4	6c(i)
Whitecliff Bay and Bembridge Ledges	I Wight	2	0	1	4	6c(ii), 6d

SSSI	County	Coverage	Biological importance	Ease of coverage	Priority	Actions required
Yar Estuary	I Wight	3	1	0	4	6c(ii), 6d
Curry and Hay Moors	Somerset	2	0	2	3	4, 6b(i), 6b(ii), 6c(i), 6c(ii)
Eastern Peak District Moors	Derbys	3	1	1	3	
Tealham and Tadham Moors	Somerset	2	0	2	3	4, 6b(ii), 6c(i), 6c(ii)
West Sedgemoor	Somerset	3	1	1	3	6b(ii), 6c(i), 6c(ii)
Wet Moor	Somerset	2	0	2	3	2, 4, 6b(ii), 6c(i), 6c(ii)
Arlington Reservoir	E Sussex	3	0	0	3	1
Ashleworth Ham	Glos	3	0	0	3	
Attenborough Gravel Pits	Notts	3	0	0	3	1
Brading Marshes to St. Helen's Ledges	I Wight	3	0	0	3	6c(ii), 6d
Calthorpe Broad	Norfolk	3	0	0	3	6c(i), 6d
Cheddar Reservoir	Somerset	3	0	0	3	1
Cowpen Marsh	Cleveland	3	0	0	3	6c(ii), 6d, 7
Foxcote Reservoir and Wood	Bucks	3	0	0	3	6c(i)
Grafham Water	Cambs	3	0	0	3	
Hanningfield Reservoir	Essex	3	1	2	3	1
Higham Ferrers Gravel Pits	Northants	3	0	0	3	
Holehaven Creek	Essex	3	0	0	3	
Hornsea Mere	Humbs	3	0	0	3	
Hurst Castle and Lymington River Estuary	Hants	4	2	1	3	6a, 6c(ii), 6d
Hythe to Calshot Marshes	Hants	3	0	0	3	6c(ii), 6d
Leiston – Aldeburgh	Suffolk	3	0	0	3	
Newton Marsh	Lancs	3	0	0	3	6c(ii)
Pulborough Brooks	W Sussex	3	0	0	3	6c(i)
Radipole Lake	Dorset	3	0	0	3	1
South Gare & Coatham Sands	Cleveland	3	0	0	3	6c(ii), 6d, 7
Staines Moor	Surrey	3	0	0	3	1
Tophill Low	Humbs	3	0	0	3	
Tring Reservoirs	Herts	3	0	0	3	
Turnford & Cheshunt Pits	Herts	3	0	0	3	6b(i)
Upper Hamble Estuary and Woods	Hants	3	0	0	3	6c(ii), 6d
Wraysbury & Hythe End Gravel Pits	Berks	3	0	0	3	
Amwell Quarry	Herts	3	0	1	2	6b(i)
Ant Broads and Marshes	Norfolk	4	1	0	2	6b(i), 6c(i), 6d
Cantley Marshes	Norfolk	3	0	1	2	6c(i), 6d
Filey Brigg	N Yorks	3	0	1	2	
Malpas Estuary	Cornwall	4	1	0	2	
North Killingholme Haven Pits	S Yorks	3	0	1	2	6b(i)
Rye Meads	Herts	4	1	0	2	6b(i)
Westhay Heath	Somerset	3	0	1	2	6b(i), 6b(ii), 6c(i), 6c(ii)
Eye Brook Reservoir	Leics	3	0	2	2	1

SSSI	County	Coverage	Biological importance	Ease of coverage	Priority	Actions required
Woolston Eyes	Gr Manc	3	0	2	2	
Adur Estuary	W Sussex	4	0	0	1	
Alderfen Broad	Norfolk	4	0	0	1	6d
Aqualate Mere	Staffs	4	0	0	1	
Barn Elms Wetland Centre	Gr Lond	4	0	0	1	
Belvide Reservoir	Staffs	4	0	0	1	
Blenheim Park	Oxon	4	0	0	1	
Blithfield Reservoir	Staffs	4	0	0	1	
Chingford Reservoirs	Gr Lond	4	0	0	1	
Eccup Reservoir	S Yorks	4	0	0	1	
Eling and Bury Marshes	Hants	4	0	0	1	6c(ii), 6d
Hay-A-Park	N Yorks	4	0	0	1	
Knight & Bessborough Reservoirs	Surrey	4	0	0	1	
Loe Pool	Cornwall	4	0	0	1	
North Moor	Somerset	4	0	0	1	
Pitsford Reservoir	Northants	4	1	2	1	
Rostherne Mere	Cheshire	4	0	0	1	
Weston Turville Reservoir	Bucks	4	0	0	1	
Wraysbury No 1 Gravel Pit	Berks	4	0	0	1	
Wraysbury Reservoir	Surrey	4	0	0	1	6d
Southlake Moor	Somerset	4	0	1	1	6b(ii), 6c(i), 6c(ii)
Blagdon Lake	Avon	4	0	2	0	
Lower Test Valley	Hants	4	0	2	0	6c(ii), 6d

Coverage: 0 – Very Poor. <30% of the waterbirds on the site are likely to be monitored, or <30% of the waterbirds counted are likely to occur within the SSSI. Alternatively, adequate monitoring has occurred in a small number of the last 15 years, with particularly poor coverage in recent years. **1 – Poor.** 30–45% of waterbirds on the site are likely to be monitored, or 30–45% of the waterbirds counted are likely to occur within the SSSI. Alternatively, adequate monitoring has occurred in a small number of the last 15 years, with particularly poor coverage in recent years or has occurred in around half of the last 15 years, but not recently. **2 – Moderate.** 45–65% of waterbirds on the site are likely to be monitored, or 45–65% of the waterbirds counted are likely to occur within the SSSI. Alternatively, adequate monitoring has occurred in a small number of the most recent years or there are gaps in coverage in the last 15 years. **3 – Good.** 65–75% of waterbirds on the site are likely to be monitored, or 65–75% of the waterbirds counted are likely to occur within the SSSI. Alternatively, adequate monitoring has occurred in all but a few of the last fifteen years and all recent years. **4 – Very Good.** >75% of waterbirds on the site are likely to be monitored, or >75% of the waterbirds counted are likely to occur within the SSSI. Alternatively, adequate monitoring has occurred in all of the last 15 years. The assessment is made on a species-by-species basis for each designated waterbird feature associated with the site, and averaged across species.

Biological importance: 0 – Not important. The site regularly hosts <2,500 waterbirds. **1 – Some importance.** The site regularly hosts 2,500–5,000 waterbirds. **2 – Fairly important.** The site regularly hosts 5,000–10,000 waterbirds. **3 – Important.** The site regularly hosts 10,000–20,000 waterbirds. **4 – Internationally Important.** The site regularly hosts >20,000 waterbirds. Numbers refer to five-year averages of summed peaks for each species between July and June. Waterbirds in this context include ducks, non re-established geese, swans and waders, but does not include gulls and re-established geese. Data are based on WeBS core counts and WWT goose surveys. In instances where the areas counted do not match the boundaries of SSSIs, expert opinion has been used to assess the probable numbers occurring on the site.

Ease of coverage: **0** – The site could be covered easily. Access is not problematic. In many instances part or all of the site has already been covered and all that is required is subdivision of existing count areas or minimal extension of geographic coverage. **1** – There are some difficulties associated with surveying the site. Either some of the designated features are likely to require specialist surveys, or the site would be difficult to cover on foot, or there may be some issues with access. **2** – There would be difficulties associated with surveying the site. Either access is likely to be prohibited, or most of the designated features would require specialist surveys for adequate monitoring, or the site is inaccessible due to its remoteness from paths and the need to cross water bodies, or simply the site is too large to cover on foot.

Priority for action. A weighted score is used:

$$\text{Priority} = [(4 - \text{Coverage}) \times 1.5] + \text{Biological importance} + [(2 - \text{Ease of coverage}) \times 0.5]$$

A score of **9** equates to urgent, **8** to very high, and **7** to very high priority.

Actions required:

- 1** Determine count area boundaries
- 2** Subdivide count area boundaries
- 3** Extend geographic coverage
- 4** Increase temporal coverage
- 5a** No previous WeBS coverage, but one-off site visit is advisable to establish whether site is worth covering
- 5b** No previous WeBS coverage, but coverage required
- 6a** Specialist surveys required for offshore waterbirds
- 6b(i)** Specialist survey required for Bittern
- 6b(ii)** Specialist survey required for Snipe
- 6c(i)** Specialist survey required for swans and/or geese
- 6c(ii)** Specialist survey required for Lapwing and/or Golden Plover
- 6d** Specialist survey required, to establish whether Cormorants or Little Egrets roost
- 7** Site designated for birds during passage period: assessment of turnover required

APPENDIX 4

NATIONALLY AND REGIONALLY IMPORTANT HERONRIES IN RELATION TO SSSI NOTIFICATION AND DESIGNATION.

Table A4.1 Grey Heron colonies on SSSIs designated for an aggregation of breeding Grey Herons, with 2003 nest counts and rankings in that year in England, by government office region and by county.

Heronry code	2003 count	Rank in England	Rank in GOR	Rank in county	County	Grid reference	SSSI name
016006	150	2	1	1	Kent	TQ783765	Northward Hill
005004	112	4	1	1	Somerset	ST359239	Fivehead Woods & Meadow
018015	90	7	2	1	Gr London	TQ353890	Walthamstow Reservoirs [†]
039002	65	10	2	2	Staffs	SK082264	Goat Lodge
038004	61	12=	3	1	Warks	SP394796	Combe Pool [†]
028007	52	17=	2	2	Norfolk	TF568159	Islington Heronry
060003	50	21=	5	1	Lancs	SD521428	Rough Hey Wood
054010	50	21=	3	1	Lincs	TF253585	Troy Wood
030012	49	23	3	1	Beds	TL144428	Southill Lake & Woods
058015	47	24=	6	3	Cheshire	SJ585447	Comber Mere
039001	44	27=	5	4	Staffs	SJ767208	Aqualate Mere
032008	35	41=	7	1	Northants	TL008805	Titchmarsh Duck Decoy
037006	27	68	13	3	Herefs & Worcs	SO839616	Grimley Brick Pits
053009	25	74=	10=	4	Lincs	TF174079	Deeping Gravel Pits [†]
036006	23	89=	16	4	Herefs & Worcs	SO510630	Berrington Pool
058036	20	111=	18	8	Cheshire	SJ572681	Oak Mere
014017	20	111=	29=	2	E Sussex	TQ907217	Leasam Heronry Wood
058011	19	121=	19	9	Cheshire	SJ725766	Tabley Mere
028033	14	166=	26	10	Norfolk	TL636992	Hilgay Heronry
062005	12	188=	12=	7=	N Yorks	SE662887	Sleightholme Dale
011008	8	257=	60=	8=	Hants	SZ376968	Sowley Pond
018027	8	257=	42=	3	Essex	TL373024	Waltham Abbey
055008	8	257=	25=	7=	Leics	SK823328	Briery Wood Heronry, Belvoir

Notes:

[†] These SSSIs also hold breeding Cormorants

Table A4.2 Grey Heron colonies on SSSIs designated for ornithological features other than an aggregation of breeding Grey Herons, with 2003 nest counts and rankings in that year in England, by government office region and by county.

Heronry code	2003 count	Rank in England	Rank in GOR	Rank in county	County	Grid reference	SSSI name
009015	35	41=	6	2	Dorset	SZ028878	Poole Harbour
017018	34	43=	7	1	Surrey	SU860401	Thursley
006033	33	45=	7	2	Avon	ST575605	Chew Valley Lake
053006	31	49=	8	2	Lincs	SK900710	Doddington Clay Woods
015024	31	49=	9	2	Kent	TQ715605	Holborough to Burham Marshes
026014	29	59=	7=	1	Suffolk	TL733854	Breckland Farmland
054006	28	64=	10	3	Lincs	TF462708	Willoughby Wood
017020	26	69=	12=	3	Surrey	TQ127565	Bookham Commons
026019	25	74=	10=	2	Suffolk	TL802715	Breckland Forest
007020	24	84=	>10	3	Wilts	SU179819	Coate Water
020016	24	84=	12	2	Herts	SP905128	Tring Reservoirs [†]
004001	23	89=	>10	3	Devon	SS604403	Arlington
013003	23	89=	19=	1=	W Sussex	TQ055155	Parham Park
021013	21	101=	24=	>5	Gr London	TQ045892	Mid Colne Valley
025025	20	111=	14=	3	Suffolk	TM291458	Deben Estuary
037011	19	121=	>10	5	Herefs & Worcs	SP022754	Bittell Reservoirs
055016	19	121=	13	2	Leics	SK558136	Buddon Wood & Swithland Reservoir [†]
055010	18	128=	14=	3	Leics	SK520082	Groby Pool & Woods
027051	15	152=	21=	9	Norfolk	TG358207	Ant Broads & Marshes
019021	15	152=	21=	1=	Essex	TL752289	Bovingdon Hall Woods
011029	15	152=	38=	4=	Hants	SZ732998	Chichester Harbour
015008	15	152=	38=	>5	Kent	TR122344	Lympne Escarpment
058003	14	166=	>10	4	Gr Manc	SJ742870	Dunham Park
036017	13	178=	>10	>5	Herefs & Worcs	SO348713	Brampton Bryan Park
013006	13	178=	46	>5	W Sussex	SU825022	Chichester Harbour
063015	12	188=	12=	2	S Yorks	SE502008	Denaby Ings
014004	12	188=	47=	5=	E Sussex	TQ568357	Eridge Park
029012	12	188=	28=	>5	Camb	TL311992	Nene Washes (Whittlesey)
017005	11	204=	52=	>5	Gr London	TQ192734	Richmond Park
055013	11	204=	21=	6	Leics	SK882086	Rutland Water [†]
003087	11	204=	>10	4=	Devon	SX451619	Tamar – Tavy Estuary
001003	10	216=	>10	2	Cornwall	SW736268	Merthen Wood
028035	10	216=	34=	>5	Norfolk	TL884954	Stanford Training Area
017008	10	216=	54=	>5	Surrey	SU972685	Windsor Forest & Great Park
025029	9	240=	39=	>5	Suffolk	TM465770	Minsmere – Walberswick Heaths & Marshes
009031	8	257=	>10	>5	Dorset	SY957877	Arne

Heronry code	2003 count	Rank in England	Rank in GOR	Rank in county	County	Grid reference	SSSI name
031003	8	257=	42=	>5	Cambs	TL198633	Little Paxton Pits [†]
001009	8	257=	>10	4=	Cornwall	SW844423	Malpas Estuary
028047	8	257=	42=	>5	Norfolk	TF875446	North Norfolk Coast [†]
003041	7	>289	>10	>5	Devon	SX763813	Bovey Valley
010007	7	>289	>10	3=	I Wight	SZ635878	Brading Marshes to St Helen's Ledges
003010	7	>289	>10	>5	Devon	SX629491	Erme Estuary
029019	7	>289	>10	>5	Cambs	TL480858	Ouse Washes [†]
027048	7	>289	>10	>5	Norfolk	TG388138	Upton Broad & Marshes
011036	6	>289	>10	>5	Dorset	SZ172906	Christchurch Harbour
028019	6	>289	>10	>5	Norfolk	TL778963	Didlington Park Lakes
056031	6	>289	>10	>5	Notts	SK703843	Sutton & Lound Gravel Pits
022015	5	>289	>10	>5	Berks	SU598668	Aldermaston Gravel Pits [†]
023031	5	>289	>10	4	Oxon	SP440165	Blenheim Park
027076	5	>289	>10	>5	Norfolk	TG345160	Bure Broads & Marshes
004021	5	>289	>10	>5	Devon	SS297080	Dunsdon Farm
013014	5	>289	>10	>5	W Sussex	SZ867984	Pagham Harbour
003054	5	>289	>10	>5	Devon	SX824437	Slapton Ley
039017	4	>289	>10	>5	Staffs	SO854879	Checkhill Bogs
067043	4	>289	9	>5	N'land	NY768694	Roman Wall Loughs
056021	3	>289	>10	>5	Notts	SK525350	Attenborough Gravel Pits
005009	3	>289	>10	>5	Somerset	SS849346	Barle Valley
025036	3	>289	>10	>5	Suffolk	TM297427	Ramsholt Cliff
069051	3	>289	>10	>5	Cumbria	SD336887	Rusland Valley Mosses
003090	3	>289	>10	>5	Devon	SX745402	Salcombe to Kingsbridge Estuary
020012	3	>289	>10	>5	Herts	SP919131	Tring Reservoirs [†]
027044	3	>289	>10	>5	Norfolk	TG434204	Upper Thurne Broads & Marshes
024024	3	>289	>10	>5	Berks	TQ010735	Wraysbury & Hythe End Gravel Pits
027054	3	>289	>10	>5	Norfolk	TG328056	Yare Broads & Marshes
002039	2	>289	>10	>5	Cornwall	SX003707	River Camel Valley & Tributaries
070073	2	>289	>10	>5	Cumbria	NY265218	River Derwent & Tributaries [†]
059029	1	>289	>10	>5	Gr Manc	SD595025	Bryn Marsh & Ince Moss
027077	1	>289	>10	>5	Norfolk	TG338169	Bure Broads & Marshes
027071	1	>289	>10	>5	Norfolk	TG436127	Burgh Common & Muckfleet Marshes
029027	1	>289	>10	>5	Cambs	TL529692	Cam Washes
021015	1	>289	>10	>5	Gr London	TQ177768	Syon Park
058004	1	>289	>10	>5	Cheshire	SJ755794	Tatton Meres
068004	1	>289	>10	>5	N'land	NT973320	Till Riverbanks
029017	1	>289	>10	>5	Cambs	TL552693	Wicken Fen
003080	1	>289	>10	>5	Devon	SX555503	Yealm Estuary
018026	N/a	N/a	N/a	N/a	Essex	TQ998929	Foulness
006022	N/a	N/a	N/a	N/a	Somerset	ST434443	Tealham & Tadham Moors

Notes:

[†] These SSSIs also hold breeding Cormorants

Table A4.3 Grey Heron colonies that could not be easily matched to existing SSSIs, with 2003 nest counts and rankings in England, by government office region and by county. Sites holding fewer than 25 nests in 2003, or not counted that year, are not listed. No details are given for heronries notified to BTO in confidence.

Heronry code	2003 count	Rank in England	Rank in GOR	Rank in county	County	Grid reference	Heronry name
058044	154	1	1	1	Cheshire	SJ657772	Marbury Mere (Budworth Mere)
058001	139	3	2	2	Cheshire		(confidential)
059004	110	5	3	1	Gr Manc		(confidential)
039024	100	6	1	1	Staffs		(confidential)
011032	82	8	3	1	Hants	SU599029	Fort Elson, Gosport
028041	75	9	1	1	Norfolk	TG084193	Great Witchingham Wildlife Park
069001	62	11	4	1	Cumbria	SD487811	Dallam Tower Wood, Milnthorpe
056016	61	12=	1	1	Notts		(confidential)
063004	56	14	1	1	W Yorks	SE281124	Bretton Lakes, near Wakefield
023008	53	15=	4	1	Oxon	SU535972	Nuneham Courtenay (Furze Brake)
055015	53	15=	2	1	Leics	SK607099	Watermead Park, Birstall Gravel Pits
006026	52	17=	2	1	Avon	ST464662	Brockley Wood/Cleeve Wood
007022	51	19=	3	1	Wilts	SU072947	Pit 68/74, Cotswold Water Park
039010	51	19=	4	3	Staffs	SJ936105	Lower Gailey Pool, near Cannock
009025	47	24=	4	1	Dorset		(confidential)
056020	45	26	4	2	Notts		(confidential) [†]
021014	44	27=	5	2	Gr London	TQ123701	Hydes Field, Kempton Park Reservoirs
029002	44	27=	4	1	Cambs	TL447829	Fortrey's Hall, Mepal
056005	44	27=	5	3	Notts		(confidential)
058039	44	27=	7=	4	Cheshire	SJ847760	Radnor Mere, Alderley Park, Macclesfield
059021	44	27=	7=	2	Lancs	SD721178	Lower House Plantation, Entwistle Reservoir, near Bolton
057023	43	33	6	1	Derbys	SK38.26.	King's Newton
011044	42	34	6	2	Hants		(confidential)
003027	41	35	5	1	Devon	SX972838	Powderham Castle, Kenton
029004	40	36=	5	2	Cambs	TF378013	Goosetree Farm, Guyhirn, Wisbech
039029	40	36=	6=	5	Staffs	SJ892039	Pendeford Mill Nature Reserve, Wolverhampton
058045	40	36=	6=	5	Cheshire	SJ812572	Rode Pool, Alsager
064033	39	39	2	1	N Yorks		(confidential)
039011	37	40	8	>5	Staffs	SJ867400	Trentham Park Lake, near Stoke
039014	34	43=	9	>5	Staffs	SO824866	Enville Park, Enville, near Kinver
059018	33	45=	9	3	Lancs	SD521083	Coppice Bank Wood, near Appley Bridge, Wigan
064031	33	45=	3	2	N Yorks	SE692437	Mattie Brown's Wood, Thorganby, Wheldrake
017022	32	48	8	3	Gr London	TQ183776	Southern Brentford Ait
020009	31	49=	6	1	Herts	TL220125	Brocket Park, Lemsford, near Welwyn Garden City

Heronry code	2003 count	Rank in England	Rank in GOR	Rank in county	County	Grid reference	Heronry name
061019	31	49=	4	1	Humbs		(confidential)
066007	31	49=	1	1	Tyne & Wear	NZ333563	WWT reserve, Washington
015019	30	54=	10	3	Kent	TR048619	Langdon Court, near Faversham (Culmers)
036031	30	54=	10=	1	Herefs & Worcs		(confidential)
039031	30	54=	10=	>5	Staffs	SJ937204	Hazlestrine, Stafford
054025	30	54=	5	2	Humbs	TA116185	Abbey Wood, near Thornton Abbey, Thornton Curtis
058049	30	54=	10	6	Cheshire		(confidential)
017012	29	59=	11	2	Surrey		(confidential)
032002	29	59=	7=	3	Cambs	TL154987	Milton Park, Peterborough
037009	29	59=	12	2	Herefs & Worcs	SO847446	Cliffey Wood, Severn Stoke
056029	29	59=	9	4	Notts	SK625393	Holme Pierrepont Hall
033008	28	64=	8	1	Glos	SO783155	Elmore Court, near Gloucester
058027	28	64=	11=	1	Mers	SJ295818	Thornton Manor Lake, Wirral
058056	28	64=	11=	2	Gr Manc	SJ948897	Marple Dale
003091	26	69=	9	2	Devon		(confidential)
015022	26	69=	12=	4	Kent	TR237591	Hanging Bank Wood, Wenderton
022003	26	69=	12=	2	Oxon	SU249969	Buscot Park Lake, Faringdon
031004	26	69=	9	4	Cambs	TL277707	Hemingford Park, Hemingford Abbots
006043	25	74=	10=	3	Avon	ST635715	Eastwood Farm
008012	25	74=	10=	2	Wilts	SU158275	Longford estate, Britford*
015015	25	74=	15=	5	Kent		(confidential)
017021	25	74=	15=	4	Surrey		(confidential)
021012	25	74=	15=	4	Gr London	TQ278825	Regents Park Lake, London
038017	25	74=	14	2	Warks	SP256562	Charlecote Park
059033	25	74=	13=	4=	Lancs		(confidential)
060005	25	74=	13=	4=	Lancs	SD623745	Keasber Plantation, Tunstall

Notes:

† These SSSIs also hold breeding Cormorants

* The 2004 count at Britford was 160 nests, and it is believed that the 2003 count was a substantial underestimate

APPENDIX 5

REPORTS AND OTHER OUTPUTS FROM THE BTO REGISTER OF ORNITHOLOGICAL SITES

The Register of Ornithological Sites was undertaken by the British Trust for Ornithology between 1973 and 1977. The history, objectives and methods are fully described in Appendix 3 of *Bird Habitats in Britain* published in 1982 (see output 1). It could be argued that the main output of the project was the database of paper records relating to approximately 4,000 sites from throughout the United Kingdom. These data were never fully computerised as the BTO did not possess a computer until the late 1970s and the resources did not exist in the years immediately following compilation of the Register to computerise the data. In any case computerisation of the site maps would have been impossible at that time. However, all the data were microfilmed. Copies of the original record forms were provided to the Nature Conservancy Council (both headquarters and regional offices) on microfiche. The following is a list of published outputs and unpublished reports derived from the Sites Register. I have not included papers which are only partially based on Sites Register data – there are very few of these. All these outputs were produced by R.J. Fuller, the national organiser of the Sites Register. With the exception of output 7, all the reports were typed but not word-processed. All the reports would have been provided to NCC staff.

Output 1. (Book):

***Bird Habitats in Britain* published 1982 by T. & A.D. Poyser (Calton), and authored by R.J. Fuller.**

This book reviewed the composition of bird communities in Britain on a habitat basis based mainly on data derived from the Sites Register. The book does not provide information about individual sites.

Output 2. (Refereed paper):

Fuller, R.J. (1980) A method for assessing the ornithological interest of sites for conservation. *Biological Conservation* 17: 229–239.

This paper describes the method used to assess the ornithological value of all the sites recorded in the Sites Register. All sites were classified into one of four categories of importance: international, national, regional, county, and local.

Output 3. (Typed, unpublished report):

Fuller, R.J. (1978) *A report on The Register of Ornithological Sites*. (Nature Conservancy Council Contract No. F3/03/21). British Trust for Ornithology, Tring. 18 pp. plus appendices.

This was the main report on the project. Part I is 18 pages and provides a detailed full description of methods including information on the approach taken to site assessment that is supplementary to output 2. Part II is essentially a list of all 4,000 sites arranged by county following a two-page explanatory introduction. This was produced for England, Scotland and Wales. For each site the following information is given:

- Site name.
- Central grid reference and 10-km square (all sites are arranged by 10-km square).
- A brief description of the habitats and the site area.
- A statement of the ornithological interest and assessment of site importance based on the method described in output 2. Three examples, together with the habitat description are:
 - (i) Limestone grassland partly covered by mixed woodland – A heronry of county importance. Breeding birds are otherwise of local importance.

(ii) A complex of flooded gravel workings with a wide diversity of habitats – Of regional importance on several counts: the quality of the breeding community, a large *Acrocephalus* colony, wintering wildfowl, thrushes and finches, and the variety of wintering birds.

(iii) Extensive mudflats and saltmarshes, a series of sand/shell beaches and seawall dykes – Internationally important for waders with the populations of some species being individually of international significance. Brent Geese are of international importance although total wildfowl numbers are regionally important. The variety of passage and wintering is of national significance.

Output 4. (Typed, unpublished report):

Fuller, R.J. (1978) *A summary of the major ornithological features of British counties in terms of sites of high conservation importance.*

For each county or administrative region the number of sites judged to be of at least regional importance (based on the method in Fuller 1980) is tabulated by major habitat formation (following *A Nature Conservation Review*). For each county a short statement draws attention to any outstanding ornithological features of the county.

Output 5. (Typed, unpublished report):

Fuller, R.J. (1978) *A list of nationally important ornithological sites in terms of major habitat formations.*

A list of all sites of international or national importance ordered by the 15 NCC regions and then by habitat formation. Habitat formations were those used in *A Nature Conservation Review*.

Output 6. (Typed, unpublished report):

Fuller, R.J. (1978) *The identification of ornithological sites of SSSI quality.*

A list of sites selected from the Sites Register that were considered to be of particularly high ornithological importance and of potential SSSI quality. Quantitative criteria are described that were used to identify these sites – these included large aggregations of one or more species, high number of species, and high breeding community index. Sites are listed by county with the qualifying criteria for each.

Output 7. (Computerised report):

Review of Site Changes 1985–86

In 1985–86 the Nature Conservancy Council and RSPB funded the BTO to collect information on the extent to which habitat changes had occurred at a sample of the sites originally documented in the Sites Register. This did not involve the collection of new species lists. Observers who submitted the original data from the 1970s were asked to provide a new sketch map of the site and summarise known changes. Questionnaire forms were sent out for a total of 1,253 sites. These were the ones of at least regional importance. More than a thousand of these questionnaires were completed. The work was undertaken by Barry Phillips, supervised by Rob Fuller. An extensive computerised report was produced on a county basis. This classifies sites by extent of habitat change and whether or not they are SSSIs.