
This document was published as part of Defra's decision to issue the gamebird release general licence for 2021 to 2022.

Read about Defra's [decision to issue the gamebird release general licence for 2023 to 2025](#).



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Case/application: Proposed Defra General Licence permitting the release of non-native gamebirds (Pheasant and Red-legged Partridge): Part 1 of 2

Assessment made by: Natural England

Date: January 2021

Sites considered: **All SPAs and Ramsar sites with bird features in England**

Assessment Contents

- Part A – Introduction and information about the plan or project
- Part B – Information about the European Site(s) which could be affected
- Part C – Screening of the plan or project for appropriate assessment
- Part D – Appropriate assessment and conclusions on site integrity
- Appendices



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

PART A: Introduction and information about the plan or project and an initial assessment of credible risk to European Sites

A1. Introduction

This is a record of the shadow Habitats Regulations Assessment (‘HRA’) undertaken by Natural England to assist the Department for Environment Food and Rural Affairs (‘Defra’), who will be the competent authority for this project in accordance with the assessment provisions set out in the Conservation of Habitats and Species Regulations 2017 as amended (‘the Habitats Regulations 2017’).

The proposed Game Bird General Licence (GBGL) would constitute an authorisation from Defra, as the statutory regulator, to allow persons to conduct specified operations (these are collectively referred to hereafter as ‘the project’).

Where the project may affect European Sites, regulation 63 of the Habitats Regulations 2017 requires a prior assessment to be made by the relevant competent authority of such proposals and as the competent authority, Defra may only undertake or give its authorisation to a plan or project where it is able to ascertain either:

- a) that it will not have a likely significant effect on a European Site; or
- b) that it will have no adverse effect on the integrity of a European Site following an appropriate assessment.

If such effects cannot be ruled out, the proposal cannot proceed unless the further tests given in regulations 64 and 68 of the Habitats Regulations 2017 can be satisfied.

As the competent authority for this project, it will be a matter for Defra and the Secretary of State to consider the extent to which he should rely on the information, reasoning and conclusions presented in this document when making its own assessment under regulation 63.

A2. Details of the plan or project

Location: Special Protection Areas (SPAs) and Ramsar sites (with classified features that include birds) with any part that exists landward of mean low water mark

Background to the plan or project:

Section 14 (‘Introduction of new species etc.’) of the Wildlife and Countryside Act 1981), [hereafter referred to as the ‘1981 Act’], currently makes it an offence for any person to release or allow to escape into the wild any animal which -

- a) “*is of a kind which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state; or*
- b) *is included in Part I of Schedule 9*” [of the ‘1981 Act’]

The Government proposes to add two non-native bird species to Schedule 9 – Common Pheasant *Phasianus colchicus* [hereafter referred to as ‘Pheasant’] and Red-legged Partridge *Alectoris rufa*; inclusive of all sub-species and varieties. However, unlike (to date) any other listed species, it is assumed that this will be spatially limited to designated European Sites and Ramsar sites and this Schedule 9 listing will also apply to all areas within 500 metres of each of these designated site boundaries. Thus, subject to provisions of Part 1 of the ‘1981 Act’, this would make it an offence for any person to release or allow to escape from captivity any Pheasant and Red-legged Partridge into the wild within or adjacent to any European Site located in England, above mean low water mark. The release into the wild of these two species elsewhere in England is, legally, unaffected by this proposed addition to Schedule 9.

A number of pheasant and partridge (Family *Phasianidae* spp.) are already listed in Part I of Schedule 9. To avoid possible confusion, the project only relates to Pheasant and Red-legged Partridge. Proposed release into the wild of all other pheasant and partridge species will remain subject to other licensing arrangements, which at present is through Individual Licences.

Section 27(1) ‘Interpretation of Part I’ of the ‘Act’ alludes to wild state but provides no legal definition of releasing into “the wild”, which instead is interpreted to mean – “...the diverse range of ‘natural’ habitats and their associated wild native flora and fauna in the rural and urban environments in general. This can also be broadly described as the general open environment”.¹

For the project subject to this assessment this means -

- gamebirds that are released into enclosures or pens that are situated in the wild, regardless of, either at that time or at a later point in time; and,
- gamebirds that are released, or allowed to escape into the general countryside, including rural and urban areas.

¹ Taken from ‘Supplementary Note 1 to the Policy Statement – Licensing Introduction of animals and plants into the wild (Section 14 and 16(4)(c) of the Wildlife and Countryside Act 1981’ Wildlife Species Conservation Division, Defra (August 2008)

By stating, “Subject to provisions of this Part [1]...”, Section 14 allows for those actions that would otherwise constitute offences to be permitted, and this is made possible through licensing provisions in Section 16.

Since the project concerns licensing the release of gamebirds, it is worth summarising the legal complexities of this issue. The definition of ‘wild bird’ in Section 27, includes game birds that are ordinarily resident for the purposes of Section 16. Both Pheasant and Red-legged Partridge are established with self-sustaining populations, therefore are ordinarily resident and thus are ‘wild birds’. Licensing the release of species listing on Schedule 9 (relevant to section 14) is made possible by section 16(4)(c) of the 1981 Act.

Gamebirds are also defined and legally protected by the Game Act 1831, which has no exceptions and no licensing provisions. Since this Act has not been repealed and exists as extant legislation, the 1981 Act cannot effectively license the taking or killing of game birds during the close season, or on prohibited days (on [Sundays and on Christmas Day](#)). The nearest equivalent are Orders issues under Section 98 of the Agriculture Act 1947 that legally can permit the taking of game in certain situations involving agricultural damage.

Description of the plan or project and its constituent elements:

Defra’s proposal is to issue a new General Licence that would authorise the releasing of these two species, subject to certain conditions and restrictions. Since this ‘project’ does not involve the taking or killing of those species, the aforementioned legal complications do not directly affect the project.

This proposed Non-Native Gamebird General Licence (hereafter ‘GBGL’) is the subject project of this assessment.

Section 16 of the ‘Act’ creates a power to issue licences to, “persons of a class or to a particular person” (section 16(5)(b)) [class does not mean social class in this context]. It is not, therefore, necessary for every individual to apply for a separate licence on every occasion that it is may be required. As a result, a number of licence types have been developed by Natural England and Defra, including General Licences and Individual Licences.

Section 16(4)(c) disappplies offences under Section 14 ‘if done under and in accordance with the terms of a licence granted by the appropriate authority’. Unlike other sub-sections of Section 16, there are no stated licensable purpose in Section 16(4) and the precise ‘purpose’ of the GBGL that is subject to this assessment is unrestricted. The ‘purpose’ wording used in the GBGL does not affect the outcome of this assessment.



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
('Habitats Regulations Assessment (HRA)')**

It is assumed that the GBGL will extend throughout England to the mean low water mark and therefore this assessment will only examine European Sites that are entirely or are partially above mean low water mark. Entirely pelagic SPAs are scoped out of this assessment.

It is also assumed that ‘European Site’, i.e. Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) will refer to those sites as defined in regulation 8 of the Habitats Regulations. At this time and subject to further consideration by Defra, designated Wetlands of International Importance (known as ‘Ramsar’ sites) are also considered to be within scope because, although these sites are not afforded any explicit statutory protection under the Habitats Regulations, it is government policy that they are given the same protection as European Sites and are subject to them.

The project – the proposed Non-Native Gamebird General Licence (‘GBGL’)

This shadow HRA relates to a proposed GBGL that would permit the release of Pheasant and Red-legged Partridge within the boundaries of terrestrial European Sites and within a 500-metre zone of land (‘buffer’) around them. Informed by Natural England’s (NE) ‘Rapid Evidence Assessment’², it is proposed by Defra that this zone would extend up to 500 metres from the designated boundary of a site and that the GBGL could include the following terms and conditions: -

Proposed Terms and Conditions of the GBGL	
Term³	For the purposes of the licence releasing into ‘the wild’ includes: <ul style="list-style-type: none">• Releases into enclosures or pens from which birds can exit or from which birds will be released at a later point in time⁴, and• Releases into the general countryside, including rural and urban areas.
Term	The licence is not a consent under SSSI legislation and anyone relying on the licence may need to have (or to obtain) a consent to permit releasing (and any related activities) on a SSSI and would need to comply with the conditions of that consent.
Condition⁵	The licence user must register all released game birds on the APHA

² Summary of Findings and Conclusions on the Rapid Evidence Assessment (REA) “Ecological Consequences of Gamebird Releasing and Management on Lowland Shoots in England”, NE (12 Oct 2020)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/931396/defra-witness-statement-gamebird-release-exhibit3.pdf

³ Terms are statements about the extent, definitions and application of the licence

⁴ The definition encompasses pens that are kept closed for a period before birds are released (a common practice for red-legged partridges)

⁵ Conditions indicate what users must do (these are enforceable)

**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

	Poultry Register
Condition	The licence user must comply with the ‘ <i>Code of Practice for the Welfare of Gamebirds Reared for Sporting Purposes</i> ’ in so far as it is relevant and other provisions in the Animal Welfare Act 2006. ⁶
Condition	The density of Pheasant released must not exceed 1,000 birds per hectare of pen area
Condition	The total area of pens must not exceed one-third of the area of woodland or be located on semi-natural or unimproved grassland sites within the buffer zone. The ‘total woodland area’ used in this calculation includes scrub patches, substantial hedgerows with trees, shelter belts and new woodland plantings.

The terms and conditions described above represent the totality of the controls on releasing under the proposed GBGL. In other words, the GBGL (the ‘project’ under assessment) does not describe all aspects precisely about the nature, scale, intensity or location of releasing that is to be permitted; and neither do they describe related activities (such as supplementary feeding and the provision of artificial shelter for released birds). This assessment is required to take a ‘precautionary’ stance and therefore assumes that actions permitted under the proposed GBGL could take place to the maximum extent allowed and reasonably expected according to current game releasing practice. This includes an assumption that ordinarily related activities will also occur.

Where it is possible for this assessment to rule out impact through implementation of the set of ‘Proposed Terms and Conditions’ and any additional measures that transpire as a result of recommendations at Appropriate Assessment, it is assumed that any persons seeking to release game birds and whom are unable to comply with the terms and conditions of the GBGL, will be permitted to instead apply for an Individual Licence. In those situations, the site-specific circumstances of the case will be considered further by an individual HRA. This two-tiered or multi-staged approach to the HRA process is common and may allow gamebird releasing to occur in a wider range of circumstances and / or subject to less restrictive terms and conditions than just a general licence could permit, because the specific circumstances of each site and the intensity, scale and location of releasing can be considered in more detail.

⁶

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69379/pb13356-game-birds-100720.pdf

The GBGL would be established for an interim period only and be valid from 31st May 2021 to 1st February 2022, inclusive. This period commences before gamebird poults are typically released into pens and the expiry date is the final day of the ‘open season’ for gamebirds.

Further background related to the project

Release into the wild of non-native gamebirds for recreational and commercial shooting interests, most commonly Pheasant and Red-legged Partridge, has increased sharply since the 1960s, particularly in lowland England, and it is currently estimated that between 39 - 57 million Pheasant and 8.1 - 13 million Red-legged Partridge are released in the UK, with 85% of these in England. By comparison, only approximately 0.2 – 0.3 million Grey Partridge, a rapidly declining native gamebird species, are released (Madden & Sage, 2020). The scale and intensity of gamebird releasing has increased significantly across the country in recent decades (Avery, 2019⁷).

Pheasants and partridges that are bred in captivity or held in release pens are considered ‘livestock’ and are subject to animal husbandry and welfare regulations. Once released into the countryside, they become wild birds⁸.

The Red-legged Partridge shooting season starts on 1st September each year and the Pheasant season on 1st October, with the season finishing on 1st February for both species. Shooting of these birds usually takes one of two forms: ‘rough’ (or walked-up) shooting or, more commonly, ‘driven’ shooting. The former involves individuals simply walking and flushing their intended quarry as they go, whilst the latter consists of an organised group of ‘guns’ being strategically positioned as gamekeepers or a line of ‘beaters’ actively flush birds towards and over the stationary guns.

The majority of released gamebirds derive from eggs hatched in mechanical incubators and then reared in closed pens (i.e. with roof), often on grass and with night huts, without the presence of adult birds. After 6-8 weeks, the young poults are transferred from rearing pens to release pens. This usually occurs between late June and early August.

Releasing Pheasants

Pheasant poults are transferred from rearing pens to large open-topped release pens, usually situated in stands of woodland and the woodland edge, but sometimes on other habitats such as grassland or on cover crops. Pheasant release pens can

⁷ Avery, M. (2019). The Common Pheasant: its status in the UK and the potential impacts of an abundant non-native. *British Birds* 112, 372-389.

⁸ ‘Definition of livestock’ (NE, 4th May 2016)

range from as little as 0.1 hectares to several or even 10 hectares in size and can be stocked with birds at densities ranging from several hundred to several thousand individual birds (Madden & Sage, 2020). The pens provide a secure environment within which the young birds can acclimatise to their new habitat and adapt to roosting in the lower branches of trees away from ground predators, such as foxes. The timing of the release is aimed at ensuring that birds are mature and fully adapted to their environment by the time shooting commences in late October or early November.

Following release, a keeper typically supplies food, water, and a level of predator control, to retain released birds close to the release site and to minimise their dispersal into the wider countryside away from shooting grounds. Habitat management, such as the planting of cover crops, may also take place. Pheasants are omnivorous and will take seeds, grains leaves, berries and insects, particularly when they are chicks.

Releasing Red-legged Partridges

In general Red-legged Partridge are usually released into much smaller and discrete units compared to those for Pheasants, to create coveys. According to GCWT, a medium to large shoot may use 20 or more closed-top release pens containing 50 - 300+ birds per pen. On larger shoots, typically 250 birds will go into a pen of about 10 x 10 metres. Both approaches result in much higher stocking density than for Pheasant. As with Pheasant, the timing of the release is aimed at ensuring that birds are mature and fully adapted to their environment by the time shooting commences in late September or early October.

Each pen is usually associated with a specific block of dedicated game cover in otherwise open country, usually arable farmland but also grassland.

Typically, birds are placed in pens at around 8 weeks of age where they are held for 2 to 4 weeks before release. Birds are then progressively released whereby a small quantity of birds are released at any one time while retaining a successively smaller number of birds in the pen. The birds remaining in the pen call to the released birds which helps prevent the released birds wandering off. Food is provided close to the pen to hold released birds in the vicinity. The alternative approach is to release all the birds from a pen at the same time.

Has this plan or project, or any aspect of it, already been subject to an assessment under the Habitats Regulations by another competent authority?

No.

A.3 Initial assessment of risks to Special Protection Areas (SPAs) and Ramsar sites with bird features.



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

This section sets out the potential ways in which the plan or project might credibly pose a risk to European Sites, based on a screening assessment of their location in proximity to the plan or project and in relation to the nature, type and scale of that plan or project.

The proposed licensed release of Pheasant and Red-legged Partridge under the GBGL, if issued, could permit this activity on or in proximity to protected sites. No information is available for this strategic assessment about which specific sites this may apply to and therefore makes the assumption that the proposed activities could take place on or close to all sites at least once during the lifetime of the project.

Based on conclusions of the Rapid Evidence Assessment (NE, 2020), the project might undermine the conservation objectives of the following European Sites, landward of the mean low water mark -

- Special Protection Areas (SPAs)
- Wetlands of International Importance (‘Ramsar sites’)
- Special Areas of Conservation (SACs)

This shadow assessment has been split into two parts –

Part 1: potential effects on SPAs and the bird features of Ramsar sites;

Part 2: potential effects on SACs and the non-bird features of Ramsar sites.

European Sites that are wholly seaward of the mean low water mark are considered to be outside of the scope of this project and is not capable of affected them in any way. These sites are therefore **eliminated** from any further assessment in this HRA.

With reference to the information above and before undertaking a more detailed screening assessment, Natural England has concluded, on the basis of its professional judgment, that there is or may be a credible risk that the plan or project subject to this assessment might undermine the conservation objectives of a European Site. Further Habitats Regulations assessment is therefore necessary.

PART B: Information about the Special Protection Areas (SPAs) and Ramsar sites which could be affected

B1. Brief description of the SPAs and their Qualifying Features

The qualifying features of SPAs (i.e. the features for which each site has been officially selected for designation) are bird species or aggregations of birds as directed by the Birds Directive ([Directive 2009/147/EC](#)) and interpreted by JNCC selection guidelines ([JNCC online](#), updated 3rd Dec 2020).

Ramsar sites are selected on internationally agreed criteria including flora or fauna associated with wetland habitats. Ramsar sites may be declared with criteria that include waterbirds and so many overlap SPAs ([JNCC online](#), updated 13th Jan 2020).

B2. European Site Conservation Objectives

Natural England provides formal advice about the Conservation Objectives for European Sites in England in its role as the statutory nature conservation body. These Objectives (including any Supplementary Advice which may be available) are the necessary context for all HRAs.

The overarching Conservation Objectives for every European Site in England are to ensure that the integrity of each site is maintained or restored as appropriate, and that each site contributes to achieving the aims of the Habitats and/or Wild Birds Directive, by either maintaining or restoring (as appropriate):

- The extent and distribution of their qualifying natural habitats,
- The structure and function (including typical species) of their qualifying natural habitats,
- The supporting processes on which their qualifying natural habitats rely,
- The supporting processes on which the habitats of their qualifying features rely,
- The population of each of their qualifying features, and
- The distribution of their qualifying features within the site.

Where Conservation Objectives Supplementary Advice is available, which provides further detail about the features’ structure, function and supporting processes mentioned above, the implications of the plan or project on the specific attributes and targets listed in the advice will be taken into account by this shadow assessment.

Natural England’s advice about SPA Conservation Objectives is published at <http://publications.naturalengland.org.uk/category/6490068894089216>

Advice about Ramsar Site Conservation Objectives is not currently available. Further general information about these sites is published by JNCC at <https://rsis.ramsar.org>

PART C: Screening of the plan or project for appropriate assessment

To check whether a more detailed appropriate assessment is necessary, there are two screening tests required by the assessment provisions of the Habitats Regulations:

C1. Is the plan or project directly connected with or necessary to the (conservation) management (of the European Site’s qualifying features)?

Plans or projects that, in their entirety, are either directly connected with or necessary to the conservation management of a European Site’s qualifying features, can be screened out from any further stages of an HRA.

The operations which Defra proposes to permit by way of the proposed GBGL are the release of these two non-native bird species. As the purpose of releasing these species is for recreational or commercial shooting, the release of birds (and related management activities) will not be directly connected with or form a necessary part of the management required to conserve or restore the qualifying features of European Site(s), so the assessed activity does not satisfy this test.

Whilst there is some evidence of associated beneficial effects on biodiversity from woodland management associated with gamebird releasing and management (see Madden & Sage, 2020), these benefits, where they apply, are a consequence of the management required to benefit the released gamebirds and shooting activities. Whilst such management might in theory benefit some of the designated features of some sites, and may in some cases be broadly compatible with a site’s conservation objectives, such benefits would apply to only a sub-set of sites where the proposed GBGL would be used so, notwithstanding the fact they are not directly connected with or necessary to the conservation of sites, they would fail to meet this test.

It is assumed, for the purposes of this assessment, that habitat management associated with released gamebirds within a Protected Site would not be directly authorised by way of the proposed GBGL. Any such proposals within a designated site would need to be notified, assessed and consented separately by Natural England under section 28E of the 1981 Wildlife and Countryside Act (the SSSI consenting provisions) and in accordance with regulation 24 of the Habitats Regulations.

For the reasons stated above, the conclusion is that the project is not wholly directly connected with or necessary to the management of European Site(s)’s qualifying features, and therefore further Habitats Regulations assessment is required.

C2. Is there a likelihood or a risk of significant adverse effects (‘LSE’)?

This section details whether those constituent elements of the project which are (a) not directly connected with or necessary to the management of the European and Ramsar Site(s) features and (b) could conceivably adversely affect a European or Ramsar Site. It checks whether these elements of the project would have a ‘likely significant effect’, either alone or in combination with other plans and projects, upon the European Sites.

In accordance with case law, this shadow HRA considers an effect to be ‘likely’ if it *‘cannot be excluded on the basis of objective information’* and ‘significant’ if it *‘undermines the conservation objectives concerned’* (Case C127/02 Waddenzee (paras 45 & 47)). In addition, a plan or project *‘may’* have a significant effect where there is a risk or a possibility of such an effect that cannot be excluded.

This assessment of risk also takes account of the ‘precautionary principle’. It also excludes, at this stage, any measures that are specifically intended to avoid or reduce harmful effects on the European or Ramsar Site(s) and any such measures are considered in section D.

An assessment of potential effects using best available evidence and information has been made in the following sections below. These judgments about ecological risks are particularly precautionary due to the broad permissive nature of the proposed GBGL, which does not stipulate the exact characteristics of each releasing activity that would be permitted (e.g. their intended location, proximity, type, scale, extent, duration, frequency or timing).

C2.1 Risk of Significant Effects Alone

The first step of a HRA is to consider whether any elements of the project is likely to have a significant effect upon any SPA or Ramsar Site ‘alone’ (that is when considered in the context of the prevailing environmental conditions at the sites but in isolation of the combined effects of any other ‘plans and projects’).

Approaches taken in this shadow HRA to assessing ‘LSE’

Since the GBGL has the potential to affect all European sites and Ramsar sites in England, it is not practical to assess the specifics of every individual site through a single strategic HRA. To allow judgements to be made at this stage, the approach adopted by this shadow assessment is to examine themed potential risk pathways against categories of activities that are to be directly permitted by the project, i.e. the GBGL, or that are reasonably expected to occur as a direct consequence of it. Each combination was then screened for plausible effects on any of these European sites and Ramsar sites.

For the purposes of this assessment, there are 80 SPAs, and 38 of 45 Ramsar sites in England have designated bird features.

There are 58 types of non-breeding and 54 types of breeding bird features of these SPAs alone, involving 87 bird species (some are both non-breeding and breeding features) and another three bird assemblages. The total number of bird features considered here for each SPA in England is 683; this total excludes review and possible features but includes some proposed bird features that have reached Government public consultation stage and therefore as a matter of policy are also considered through the HRA process. The variety of bird features subject to this assessment characterise the width and depth of biodiversity supported in England that is of international importance, including many species of seabirds, waterbirds, birds-of-prey and warblers.

To inform the screening for plausible effects through each bird feature vs. risk pathway vs. activity combination, published research and other information evidence sources were reviewed. A wealth of research exists about gamebirds and interactions with the natural environment and of the most comprehensive synopsis of these discovered 651 relevant sources (Mason et al, 2020).

Given the number and variety of bird features; the many risk pathway theme and activity category combinations against which these bird features are to be assessed and given the volume of published evidence from which to potentially glean evidence, this presents a significant challenge for this assessment. Illustrating this further, performing this exercise on an individual basis for each feature of each site and to do so re-run through each published work on each occasion would, it has been calculated, involve tens of millions of assessments. More practical solutions were explored.

The first approach involved use of the synopses that have already attempted to synthesise conclusions of available research under broad topics that are relatable or synonymous with the risk pathways vs. activities under assessment. In addition, all bird features were categorised into guilds, i.e. that have commonalities in sensitivities to external stimulus, and in spatial and temporal characteristics.

Whilst this overall approach was attempted as a trial, it is not the same approach as detailed in this shadow assessment; it met insurmountable problems. Objectives of these synopses were not to draw out information specifically about bird features per se, and this lack of specificity was exacerbated by the significant drawback of a paucity of research about the relationship between released gamebirds with wild birds, especially bird features. Another impediment was the placing of bird features into guilds. Many species rely upon more than one, completely different, supporting habitat for survival within the season for which they are designated. This confounded the LSE process, which attempted to conclude the binary outcome to either screen-in or to screen-out, each bird guild.

As a result, unlike Part 2 of this shadow assessment, which successfully managed to examine potential effects on ‘feature-groups’ of SACs and non-bird Ramsar sites, in order to expedite the LSE screening process, another approach was adopted.

The first step taken was to examine lists of all bird features of all SPAs and Ramsar sites to determine if any sites exclusively support bird features with clearly no risk of spatial temporal overlap with any activity to be permitted by the project or direct consequences of it. This was based on expert judgement about the supporting habitats and behaviours of each bird feature and comparison against the likely outcomes of the project. The list of bird features screened-out at this stage are shown in Appendix B1 (SPAs) and B2 (Ramsar sites). Those sites that can be screen-out due to not having any other bird features, are listed in the table at the end of Section C3.

Broadly, this approach attempts to collectively and simultaneously examine all bird features ‘in the round’ of all SPAs and Ramsar sites in England that are entirely or at least partially terrestrial and intertidal. Bird features were assessed through 7 themed potential risk pathways and against 10 categories of activities that are to be directly permitted by the project, or that are reasonably expected to occur as a direct consequence. The test was to consider how each combination could logically manifest as an effect on any one of the designated sites. These assessments combined expert judgement informed by the four main synopses, referred to below.

The LSE assessment is presented as a risk pathway vs. activities matrix. This is consistent with the approach also taken to screen for the risk of significant effects in other strategic level HRAs, e.g. for the wild bird control licences (Natural England, 2020⁹).

⁹ NATURAL ENGLAND, 2020. [HRA Individual licences for control of general licence species in 2020 Part 2 bird features with addenda 050520 \(2 of 6\) - 180520 2. \(naturalengland.org.uk\)](#)

Risk-pathways associated with non-native gamebird releasing

In this context, a risk-pathway is a link or a causal connection between elements of a proposed project, such as permitted activities and also including likely direct consequential outcomes, and designated features of the protected site. These represent the potential ways in which the project might credibly affect European Sites based on a rapid screening assessment of likely location, proximity, type, scale, extent, duration, frequency and timing of each aspect of the project, if permitted.

The main evidence sources used to explore the existence of each risk pathway and the credibility or likelihood of an effect by proposed activities and consequential outcomes, are as follows –

Madden & Sage (2020)¹⁰: a synopsis of 229 directly relevant papers reviews the likely ecological effects of released gamebirds and management associated with releasing. It excluded other potential effects related specifically to shooting activities, such as welfare of shot birds, noise disturbance or lead shot deposition.

Mason et al (2020)¹¹: synopsis of 651 reference sources that included socio-economic effects. This work extended and updated that by Bicknell et al (2010), which itself examined 198 information sources.

Chapman (unpubl. 2019)¹²: synopsis of c.65 references with focus on pathogens/parasites; competitive interactions with birds and predator-prey interactions.

Mustin et al (2018)¹³: identifies 35 key studies (from 1,735 candidate studies) that mostly examined habitat management and predator control.

¹⁰ Madden J.R. & Sage, R.B. 2020. Ecological Consequences of Gamebird Releasing and Management on Lowland Shoots in England: A Review by Rapid Evidence Assessment for Natural England and the British Association of Shooting and Conservation. *Natural England Evidence Review NEER016*. Peterborough: Natural England.
<http://publications.naturalengland.org.uk/publication/5078605686374400>

¹¹ Mason, L.R., Bicknell, J.E., Smart, J. & Peach, W.J. (2020) The impacts of non-native gamebird release in the UK: an updated evidence review. *RSPB Research Report No. 66*. RSPB Centre for Conservation Science, Sandy, UK.
<https://www.rspb.org.uk/globalassets/mason-et-al-2020-rspb-gamebird-review-1-compressed.pdf>

¹² Chapman, P. M. (2019) The direct ecological effects of non-native gamebird release in the lowland UK: an evidence synthesis. Unpublished PhD Placement Report. Natural England and Imperial College London

¹³ Karen Mustin, Beatriz Arroyo, Pedro Beja, Scott Newey, Robert Justin Irvine, Julia Kestler, Steve M. Redpath. 2018. Consequences of game bird management for non-game species in Europe. *Journal of Applied Ecology* Vol 55:5 (Sep 2018) pp: 2285-2295 <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.13131>

**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Risk pathway	Direct killing (of fledged or adult birds) by human activities ¹	Direct destruction (of nests, eggs or nestlings) by human activities ²	Human disturbance (displacement from feeding/roosting habitat) ³	Human disturbance (nest abandonment, or reduced foraging activity) ⁴	Supporting habitat damage, degradation or destruction ⁵	Imbalanced inter-specific relationships in the environment ⁶	Disease, parasite and environmental contamination ⁷
season	all	breeding	non-breeding	breeding	all	all	all
Management of released gamebirds							
Woodland management	x	x	x g	x g	✓ n	✓ r	x t
Farmland management	x	x	x g	x g	✓ n	✓ r	x t
Supplementary feeding, (with medication or not)	x	x	x	x	x o (but see ‘q’)	✓ r	x t
Pen construction; fencing maintenance	x	x d	x h	✓ k	x o (but see ‘q’)	x	x
Human activity to manage released gamebirds							
Shooting gamebirds	x a	x	✓ i	✓ (!) l	x	x	x (but see ‘u’)
Pest control	✓ b	x	✓ i	✓ l	x	✓ s	x (but see ‘u’)
Lead shot	✓ (see ‘u’)	x	x	x	x (see ‘u’)	x ?	✓ u
Vehicle, machinery use	x c	✓ e	✓ j	✓ m	✓ p	x	x v
Gamebirds							
Inside enclosures (pens)	x	x f	x	x	✓ q	✓ r	x
↑ density localised dispersal	x	x f	x	x	✓ q	✓ r	x



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Key to the table

‘x’ = no LSE due to no logical risk pathway.

‘x^a’ = no LSE with alphabetical code (see below) to each ‘risk pathways vs. activities’ to serve as a reference to ease navigation of this HRA and to expanded text about the screening assessments for these ‘risk pathways vs. activities’ combinations. Although no LSE, at least a logical risk pathway exists and the rationale for screening out is explained. This process includes possible effects but that are deemed to be so insignificant as to be trivial or inconsequential.

‘√^a’ = LSE cannot be excluded and therefore the ‘risk pathways vs. activities’ combination is progressed to Appropriate Assessment in Section D below. These also have an alphabetical code, similarly for reasons as given above, but instead the explanation is about why the combination remained screened in.



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Ref #	Risk pathway	Rationale and explanation for potential by the release of gamebirds into the environment
1	Direct killing (of fledged or adult birds) by human activities	The proposal involves the shooting of gamebirds within the same natural environment as that occupied by wild birds (1 st or 1 st Oct to 1 st Feb). It is realistic to assume that management of conflicting interests between gamebirds and wild birds will involve targeted control of some wild bird species, potentially at any time of the year, either permitted under licence or not.
2	Direct destruction (of nests, eggs or nestlings) by human activities	Particularly those birds’ nests and their contents on or near to the ground are susceptible to human activities located in more remote parts of the countryside, away from established right of way and tracks.
3	Human disturbance (displacement from feeding/ roosting habitat)	Human presence and various activities that involve movement and noise, including firearm discharge have the potential to disturb birds during the <u>non-breeding season</u> and displace them from utilising preferred areas for foraging and roosting. Ultimately this could lead to body condition and thus survival issues.
4	Human disturbance (nest abandonment, or reduced foraging activity)	Human presence and various activities that involve movement and noise, including firearm discharge have the potential to disturb birds during the <u>breeding season</u> and cause nest site abandonment or distraction from essential activities. Ultimately this could lead to productivity issues.
5	Supporting habitat damage, degradation or destruction (reduced suitability; eutrophication)	Omnivorous, released gamebirds may damage supporting habitats for wild birds through browsing, eutrophication and movement such that this changes the structure and form of that habitat and reduce its suitability for wild birds.
6	Inter-specific relationships (predator-prey, competition for prey/ food and supporting habitat)	The release of an abundance of reared gamebirds that have limited dispersal instincts and within an environment shared with wild birds may introduce competition for natural resources. These gamebirds and management of the



**‘Shadow’ assessment of a plan or project under regulation 63 of the Conservation of Habitats and Species Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Ref #	Risk pathway	Rationale and explanation for potential by the release of gamebirds into the environment
		environment to support them may inadvertently benefit or attract into the area predatory species.
7	Disease, parasite and environmental contamination (body condition issue)	Contamination of the environment occupied by wild birds with pathogens, parasites, foreign compounds e.g. medicines, lead shot and rodenticides, could lead to chronic effects including secondary poisoning, which could lead to reduced survival and vigour.

Each of the alphabetic codes that populate cells in the table above are individually screened in turn below for risks of potential effects to consider which scenarios are to be further examined by appropriate assessment.

Risk pathways vs. activities’ combination with no LSE (‘x’)

The risk or possibility of a significant effect on bird features by the following activities and consequences of the project, through the specified risk pathways, **can** be excluded and do not require appropriate assessment

a) Direct killing of fledged or adult bird features as a result of shooting gamebirds

The potential releasing of gamebirds within and around European sites is ultimately driven by the associated activity of shooting. Shooting of gamebirds is most likely to take place within and across the open landscape, which may be within or adjacent to designated site boundaries.

It is highly unlikely that bird features will be mistaken for gamebird quarry bird species. There is evidence of reduced abundance of Grey Partridge on shooting estates, but this native legal quarry gamebird is not a bird feature of any SPA in England.

The proposal excludes any additional derogation to control wild bird species and therefore it will be unlawful for any person to intentionally shoot such species unless specifically permitted under another licence.

c) Direct killing of fledged or adult bird features as a result of vehicle and machinery use

Vehicle use will predominately be for transporting tools and materials for the construction or maintenance of structures, e.g. pens and fencing; and also, for transporting poults, driving clients to the shoot etc. These activities will mostly involve use of existing highways and established tracks, although some ‘off road’ use of vehicles to transport tools and equipment is expected to occur on most shoots.

Between 2.7-5% (0.9-1.8 million) of released Pheasants are killed on roads each year (e.g. Turner & Sage (2004) and Hill & Robertson (1988) cited by Bicknell et al (2010), but there is no evidence to suggest that any changes in vehicle use on highways and ‘off road’ will increase mortality in adult wild birds, all of which have the ability to quickly evade approaching vehicles crossing ‘off road’ area by means of flight.

d) Direct destruction of nests and contents by pen construction, fencing maintenance etc

The construction and maintenance of pen enclosures for Pheasant poults, additional estate fencing and support stands for food bins etc, are activities that are expected to occur during part of the bird breeding season. However, it is highly unlikely that nesting bird features will be placed at anything more than trivial or inconsequential additional risk due to spatial separation, including woodland bird features. This is not necessarily the same conclusion with regard to nesting wild birds generally. It is reasonable to expect that persons working in the countryside are already aware of their responsibilities to wildlife and that all wild birds, their nests and eggs are legally protected.

f) Direct destruction of nests and contents by penned and release gamebirds

No evidence was found to indicate that Red-legged Partridge directly attack the nests and contents of wild bird species. Pheasant is a bulky, omnivorous bird that, although exhibit highly localised dispersal, can forage in a range of habitats occupied by bird features. Studies report that Pheasant will incidentally attack reptiles, perhaps as innate defence behaviour, and prey on invertebrates, but there is no evidence of direct territorial conflict or predation of wild bird species by Pheasant.

g) Human disturbance resulting in displacement of non-breeding bird features away from feeding/ roosting habitat through woodland and farmland management

Woodland and farmland on shooting estates can create landscapes with more woodland, more hedgerows, field margins and conservation headlands that benefit a range of bird species. Occasional disturbance through management practices undertaken to create these landscapes is not considered to be a credible risk of causing any measurable negative long-term impacts on bird features. Furthermore, it seems logical that deployment of gas bangers and other avian scaring devices would be less, or at least far more locally restricted, on shooting estates, to avoid over-dispersal of quarry birds away from that estate.

h) Human disturbance resulting in displacement of non-breeding bird features away from feeding/ roosting habitat through pen construction, fencing maintenance etc

Woodland-dwelling bird features are predominately breeding bird features (see 'k' below). Relatively few woodlands that support Pheasant pens have those pens located in close proximity to places where large numbers of waterbird features congregate to forage and roost due to the groundwater table – pens need to be situated on drier ground whereas most foraging waterbirds seek wet grassland, with

the exception of swans and geese that also graze winter cereal crops. However, these field units tend to be large, and these species prefer to avoid the margins, especially next to woodlands where pens are most likely to be located. In addition, these bird features are highly mobile and utilise vast expanses of similar habitat out to tens of kilometres from designated sites so, whilst disturbance to these rather sensitive birds may exist, this is highly likely to be limited with no risk of lasting effect.

o) Supporting habitat damage, degradation or destruction through supplementary feeding stations, pen construction; fencing maintenance

The combined footprint of the physical array of release pen fencing and of supplementary feeding bins is expected to result in only very localised and insignificant (<5%) damage to supporting habitats for bird features. Also, since the physical presence of these constructions is relatively benign and unimposing, it is reasonable to assume that there is no displacement of bird features around them. The active use of supplementary feeding stations and pens by gamebirds is covered in ‘q’, below.

t) Disease, parasite and environmental contamination through woodland and farmland management, and supplementary feeding

Research shows that, generally, wild birds and released gamebirds can carry a range of pathogens that are of potential harm, and that captive reared gamebirds can carry higher bacterial, viral and parasite loads compared to wild bred birds (e.g. Villanua et al 2006 cited by Chapman (2019)). It is far more problematic for research to investigate and quantify rates or risks of contraction between wild birds and released game birds, but it is reasonable to assume that risks of transmission increase where high density and numbers of newly released gamebirds and wild birds congregate and mix, such as at supplementary feeding stations. However, bird features that use farmland are not species that typically use feed bins or cover crops in the same way that, for example, buntings and finches may do. Very few artificial feeding stations exist to support bird features, e.g. swans, but these examples are not related to the project.

In summary, whilst some small risk may exist, there is no tangible evidence to show that landscape scale management of the environment to benefit gamebirds per se increases the risk of disease and parasite transmission risks from gamebirds to wild bird features.

v) [Disease, parasite and] environmental contamination by vehicle and machinery use

Contamination through exhaust particulates, accidental spillages of fuel containers through vehicle and machinery use is highly unlikely to amount to anything more than a negligible contribution to background levels, and spillages are expected to be

infrequent and of localised nature as to be inconsequential. Particular consideration is given to aquatic supporting habitats but again, the general spatial separation between use of vehicles, chemicals and other activities associated with gamebird rearing, releasing and shooting remain highly unlikely to result in significant pollution events, at least from this source.

Risk pathways vs. activities’ combination which are wholly, or in part, likely to have a significant effect (‘✓’)

The risk or possibility of a significant effect on bird features by the following activities and consequences of the project, through the specified risk pathways, **cannot** be excluded and therefore are given further consideration through appropriate assessment.

b) Direct killing (of fledged or adult bird features) as a result of pest control

Penned and released gamebirds can attract mammalian and avian predators and evidence suggest that both legal and illegal pest control occurs on shooting estates. More broadly, both illegal persecution and legitimate licensed control of corvids and certain birds of prey, evidentially has occurred on some estates with shooting interests. The species with the highest profile is Hen Harrier and this is a bird feature of about 16 SPAs. The relationship between Pheasant and Red-legged Partridge shooting estates with the lethal control of SPA bird features is a credible risk and so is examined further under Appropriate Assessment.

e) Direct destruction of nests and contents by vehicle and motorised machinery use

Vehicles will be used for transporting tools and materials for the construction and maintenance of release pens; for transporting gamebird poults and clients etc. This will mostly involve the use of existing highways and established tracks, although some ‘off road’ use of vehicles is expected on most shoots. The nests, eggs and nestlings of some ground-nesting bird features are camouflaged or are cryptically marked to avoid detection by predators, but these naturally evolved defences are counterproductive against ‘off-road’ use of ATVs, SUVs, tractors and other vehicles. Destruction of nests, eggs and nidicolous nestlings by crushing is a credible risk.

i) Human disturbance resulting in displacement of non-breeding bird features away from feeding/ roosting habitat through shooting gamebirds and pest control

Shotgun is the favoured firearm used to shoot gamebirds and a number of avian ‘pest’ species such as corvids and pigeons, as permitted to be shot under General Licences and or Individual Licences. Rough shooting and pest control can occur

anywhere on a shooting estate, including adjacent to supporting habitats of many bird features. Pre-determined shooting lines on commercial shoots can also be positioned in sensitive locations. Since gunshot report is exceptionally loud and within the peak hearing range of humans and most larger bird features (dB^{max}), this potential effect has been examined previously in relation to the issuing of General Licences. NE’s rapid evidence assessment technical note recommended a generic buffer zone of 300 metres (within the 500 metres zone proposed by this project), based on likely levels of bird control by shooting and other activities as permitted by other General Licences. Shooting gamebirds and some forms of pest control have similar effects.

Research indicates that high densities of gamebirds attract mammalian and avian predators, and compensatory level of pest control may be needed to maintain acceptable levels. Whilst some increased rates of pest control will involve surreptitious and stealthy stalking and trap use, some types of pest control will purposefully involve highly visible and audible shooting, to reinforce as a deterrent. Clearly a credible risk exists.

j) Human disturbance resulting in displacement of non-breeding bird features away from feeding/ roosting habitat by vehicle and motorised machinery use

A wealth of research has investigated and quantified disturbance effects of human presence on waterbirds. Studies on the effects of vehicle use, including road traffic and watercraft is less common but the principles and factors remain similar in that some habituation and familiarity to steady and regular human activities that is undirected at those species can be achieved to varying degrees. However, gamebird shoots, including those that are already established, are likely to involve ‘off road’ vehicle use throughout the year, on or adjacent to habitats that support large aggregations of waterbird features and therefore disturbance is a credible risk.

k) Human disturbance resulting in nest abandonment, or reduced foraging activity of breeding bird features through pen construction, fencing maintenance etc

A quieter period for shooting estates exists between expiry of the shooting season on 1st February and maintenance of pens prior to release of poults in summer. This may allow bird features to establish breeding territories in proximity to these vacant pens. Increases in human activity risks disturbance to some of these species, particularly sensitive larger species (human presence effect >500 metres), including those with territories adjacent to, or that overlap, with woodland margins where Pheasant pens are most likely to be positioned.

l) Human disturbance resulting in nest abandonment, or reduced foraging activity of breeding bird features through shooting gamebirds

There is clear temporal separation between virtually all breeding bird features and gamebird shooting with the longer of the two periods (that for Red-legged Partridge) extending from 1st September to 1st February. However, whilst this is true in nearly all situations, there are two types of overlap. Stone-curlew remain on and around breeding grounds well into autumn as post-fledging flocks before migration to winter quarters; and the second issue is individual birds that are resident throughout the year on European sites, particular denizens of reed-beds and lowland heathlands.

Since gamebird shooting can be intensive and extensive, disturbance effects on some of the more sensitive bird features, e.g. Bittern during the shooting season could detrimentally influence their behaviour during the nesting season, for instance having abandoned the site altogether before the breeding season. Pest control aspects of this risk pathways combination are examined in ‘i’.

m) Human disturbance resulting in nest abandonment, or reduced foraging activity of breeding bird features by vehicle and motorised machinery use

Research has investigated and quantified disturbance effects of human presence on breeding non-passerines and in particular rare species that are afforded additional legal protection under the ‘Act’ (e.g. Ruddock & Whitfield, 2007¹⁴). Whilst there is a lack of studies that have investigated vehicle use disturbance to bird feature species of terrestrial habitats, i.e. not seabirds, the evidence that exists is transferrable and from this it is reasonable to consider that disturbance is a credible risk, particularly by irregular ‘off road’ vehicle use.

n) Supporting habitat damage, degradation or destruction through woodland and farmland management

Woodland management on game shooting estates is largely beneficial to warblers due to promotion of understorey, and farmland management is largely beneficial to finches and buntings, partly due to game crops (Mason et al, 2020). However, there is no available research about landscape characteristics of existing shooting estates and bird features of woodlands and farmland habitats. Whilst benign and positive effects exist, some habitat types (e.g. non-agricultural) are at risk of negative effects (e.g. Mustin et al, 2018). There is also a credible likelihood that the establishment of new, or expansion of small existing shooting estates that occupy, or are adjacent to European sites with sensitive supporting habitats, could result in detrimental impacts. Increased woodland coverage, compartmentalisation and game crops that encroach

¹⁴ M. Ruddock & D.P. Whitfield 2007. A Review of Disturbance Distances in Selected Bird Species - A report from Natural Research (Projects) Ltd to Scottish Natural Heritage

onto low heathlands, moorland margins and breck-/ down-land risk significant effects on specialised bird features that inhabit those open landscapes.

p) Supporting habitat damage, degradation or destruction by vehicle and motorised machinery use

In recent decades the increased use ‘off-road’ of ATVs, SUVs, tractors and other vehicles has increased risk of damaging supporting habitats that are susceptible to compaction and rutting, and these include lowland heathlands, upland moorland and marshy grassland habitats that are inhabited by many bird features, including specialists.

q) Supporting habitat damage, degradation or destruction by penned and release gamebirds

Research indicates that high densities of gamebirds, usually within and around release pens and feeding sites, can change the structure, chemistry (causing eutrophication through elevated levels in soil potassium and phosphate (Sage *et al.* (2005)¹⁵ and Capstick *et al.* (2019)¹⁶; and also changes in composition and form of micro-habitats below waist height (Sage *et al.* (2009)¹⁷). Gamebirds can reduce ground-flora composition richness inside of gamebird release pens (Neumann *et al.* 2015¹⁸) and Sage *et al.* (2005) noted more bare ground, reduced low vegetation cover, lower species diversity and lower percentage cover of shade-tolerant plants, more annual species especially where stocking density increased beyond 1000 pheasants per hectare of pen. Casework investigations of non-native gamebird releases in woodland and lowland heathland habitats show evidence of peripheral damage (*pers comms* NE, 2019).

Gamebirds preying on invertebrates can further degrade supporting habitats with reduced grasshopper (Orthoptera) abundance (Devlin, 2019¹⁹) up to some distance from release pens.

r) Imbalanced inter-specific relationships in the environment through farm and woodland management and provision of supplementary feeding for penned and release gamebirds

¹⁵ Sage, R.B., Ludolf, C. & Robertson, P.A., (2005). The ground flora of ancient semi-natural woodlands in pheasant release pens in England. *Biological Conservation* 122, 243-252

¹⁶ Capstick, L., Sage, R.B. & Hoodless, A.N. (2019). Ground flora recovery in disused pheasant pens is limited and affected by pheasant release density. *Biological Conservation*, 231, 181-188.

¹⁷ Sage, R.B., Woodburn, M.I.A., Draycott, R.A.H., Hoodless, A.N. & Clarke, S. (2009). The flora and structure of farmland hedges and hedgebanks near to pheasant release pens compared with other hedges. *Biological Conservation* 142, 1362–1369.

¹⁸ Neumann, J.L., Holloway, G.J., Sage, R.B. & Hoodless, A.N. (2015). Releasing of pheasants for shooting in the UK alters woodland invertebrate communities. *Biological Conservation* 191, 50-59.

¹⁹ Devlin, J.J. (2019). *Common pheasant (Phasianus colchicus) densities in upland Wales and their impact on invertebrate communities*. MRes Thesis. Cardiff University.

England supports a relative high density of Fox *Vulpes vulpes* and corvids compared to other European countries and one synopsis concluded this owed to, “habitat suitability factors, high farming production, lack of apex predators and the release of pheasants and partridges providing a food source throughout the winter” (Madden & Sage, 2020). Also, research shows that the presence of abundant gamebird influences predator densities at the local scale, the connection shown that gamebirds seasonally contribute a large proportion of the diet of mammalian meso-predators, which are either hunted or scavenged.

There is a significant risk of predator-prey imbalance due to the highly seasonal availability of gamebird prey. Mortality rates of gamebirds is high with shooting accounting for approximately 35-40% (*pers.* GWCT) on well managed estates, and most of the remainder succumb to predation etc with only 9 - 16% of released birds surviving into the following breeding season (Madden et al. 2018). These predators are expected to revert to alternative ‘wild’ prey sources when gamebirds become very scarce in spring and this period coincides with ground-nesting by many bird features, e.g. wading birds, birds of prey and warblers *Phyloscopus* spp. etc.

Gamebird feeding stations have been shown to attract and to supplement rodents that may then have a detrimental effect on ground- and hole-nesting bird species when supplementary feeding ceases.

s) Imbalanced inter-specific relationships in the environment through pest control

Closely related to (‘r’) above, if predator control is inadequate or disproportionate, this could perpetrate imbalanced inter-specific relationships. Evidence exists of mixed effectiveness of pest control management on estates with gamebird shooting interests (e.g. Beja *et al*, 2008²⁰).

u) [Disease, parasite and] environmental contamination by lead shot

The most comprehensive review of lead shot effects on wildlife offers a stark conclusion in its abstract in that, “Lead poisoning is estimated to kill a million wildfowl a year in Europe and cause sub-lethal poisoning in another ≥ 3 million. Modelling and correlative studies have supported the potential for population-level effects of lead poisoning in wildfowl, terrestrial birds, raptors and scavengers” (Pain et al, 2019).

This is despite the Environmental Protection (Restriction on Use of Lead Shot) (England) Regulations 1999 which make it an offence to use lead shot for the purpose of shooting on or over any areas below spring high tides and/ or Sites of

²⁰ Pedro Beja, Luís Gordinho, Luís Reino, Filipa Loureiro, Margarida Santos-Reis, Rui Borralho (2009) Predator abundance in relation to small game management in southern Portugal: conservation implications European Journal of Wildlife Research 55(3) (June 2009) pp: 227–238
<https://link.springer.com/article/10.1007/s10344-008-0236-1>

Special Scientific Interest (SSSIs) as specified, many of which underpin European sites.

C2.2 Risk of significant effects in-combination with effects from other proposed plans and projects

The need for further assessment of the risk of in-combination effects is considered here, in respect of the theoretical risks which have been screened out in section C2.1 above and which are not being carried forward to an appropriate assessment in section D below.

Other than the risks identified as being potentially significant above and which are further assessed below, it is considered that residual risks likely to arise from this project which have the potential to act in-combination with similar risks from other proposed plans or projects so as to give rise to a likely significant effect are unlikely.

C3. Overall Screening Decision for the Plan/Project

On the basis of the details submitted, Natural England has made a shadow assessment of whether it is likely to have significant effects on any SPA or Ramsar site (with bird features), either alone or in-combination with other plans and projects.

In light of Part C of this assessment above, Natural England has concluded that since the plan or project is likely to have significant effects on some or all of the Qualifying Features (bird features) of any SPA or Ramsar site, an appropriate assessment of the project is required.

On the basis of this initial assessment, the following specific terrestrial sites can be wholly screened out from further assessment because they are only designated for features considered above to be at no risk of a significant effect from the proposed GBGL:

Designated site	Bird features
Coquet Island SPA	Sandwich Tern, Roseate Tern, Common Tern, Arctic Tern – all breeding
Falmouth Bay to St Austell Bay SPA	Black-throated Diver, Great Northern Diver, Slavonian Grebe – all non-breeding
Farne Islands SPA	Seabird assemblage, Sandwich Tern, Roseate Tern, Common Tern, Arctic Tern, Common Guillemot – all breeding
Flamborough and Filey Coast SPA	Seabird assemblage, Gannet, Kittiwake, Razorbill, Common Guillemot – all



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

	breeding
Isles of Scilly SPA and Ramsar site	Seabird assemblage, Storm-petrel, Lesser Black-backed Gull, Shag, Great Black-backed Gull – all breeding
Liverpool Bay SPA	Red-throated Diver – non-breeding
Thanet Coast and Sandwich Bay Ramsar site	Turnstone – non-breeding

PART D: Appropriate Assessment and Conclusions on Site Integrity

D1. Scope of Appropriate Assessment

In light of the screening decision above in section C, this section contains the appropriate assessment of the implications of the plan or project in view of the Conservation Objectives for the European Site(s) at risk.

The Sites and the Qualifying Features for which significant effects have not been ruled out in section C2 above and which are relevant to this appropriate assessment are, excluding those sites tabulated in Section C3, which are screened-out:

- All Ramsar sites that support bird features
- All SPAs

Each of the ‘likely significant effects’ on bird features identified in Part C are examined under appropriate assessment through the two tables in Section D3 below.

D2. General statement on the current status, influences, management and condition of the European Sites and those Qualifying features as potentially relevant to the plan or project

The releasing of these non-native gamebirds is considered to be a widespread activity and one that has increased in scale and intensity in recent decades. One in 12 of all woodlands in England are predicted to now contain a pheasant release pen (Sage *et al.* 2005), and woodlands across the UK are estimated to contain at least 10,000 hectares of release pens (PACEC 2014²¹). The types of activities within the project are the same as those that have been undertaken for many decades. This awareness invites complacency about the nature of those activities which in fact have changed considerably at local and national scales. Overall trends in gamebird releases (e.g. shown in Figure 2, Madden & Sage, 2020) point towards greater intensification on gamebird releases.

The number of releases currently taking place on European Sites and Ramsar sites is not accurately known. Although approximately 120 registrations made on the APHA Register appear to coincide with some part of a European Site, this is acknowledged to likely be an underestimate.

²¹ Public and Corporate Economic Consultants (PACEC). (2014). The value of shooting: The economic, environmental and social contribution of shooting sports to the UK. <http://www.shootingfacts.co.uk/pdf/The-Value-of-Shooting-2014.pdf>

Notwithstanding this, Natural England consider that gamebird releasing, in general, is currently having a limited effect on the designated sites network in England. The EU funded Improvement Programme for England’s Natura 2000 Sites (IPENS²²), which concluded in 2015, sought to assess the current and predicted pressures and threats on each European site. This programme did not identify the management of non-native gamebirds as a significant or widespread pressure or threat on England’s European protected sites as a whole. Pheasant rearing was identified as a risk or issue that is, or could potentially, threaten the condition of the site’s features at just 7 European Sites. This represents 2% of all terrestrial European Sites. At the time of writing, a further 2 additional European Sites are currently known to be experiencing adverse effects from activity associated with gamebird releasing.

Notwithstanding this, many designed sites are not in an optimal condition and are already subject to a number of other threats and pressures that are currently affecting, or could affect, their designated features.

The general relationship between gamebird interests and designated sites was therefore explored in another way and at a finer scale. SSSIs underpin all SPAs and nearly all Ramsar sites in England; each SSSI is compartmentalised as geographical units. Reporting tools in NE’s Designated Sites System (DSV) allow for changes in condition of monitored units, and the reasons for these changes, to be analysed. Of those monitored SSSIs that underpin SPAs in England, the following results of current condition were generated (Natural England, DSV, 22nd Jan 2021)²³.

condition	Area (ha)	Percentage (%)
Acceptable % (favourable or unfavourable – recovering)	715944.86	91.11
Favourable	315898.29	40.20
Unfavourable - Recovering	400046.57	50.91
Unfavourable - No change	19100.25	2.43
Unfavourable - Declining	26076.15	3.32
Partially destroyed	245.90	0.03
Destroyed	27.04	0.00
Not Recorded	1293.29	0.16

In the period 2000/01 - 2020/21, 6,463 records of monitoring the condition of SSSI units from 368 SSSIs that underpin SPAs in England were made²⁴. Pheasant pens are mentioned on only six occasions (in the ‘Comments’ column) and in none were these reported as causing significant effects. Game and pens are mentioned on fewer occasions, with the same result.

²² [Improvement programme for England’s Natura 2000 sites \(IPENS\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/improvement-programme-for-england-s-natura-2000-sites)

²³ <https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?SiteType=SPA>

²⁴ <https://designatedsites.naturalengland.org.uk/PhaseB/Condition/ConditionChange.aspx>

Gamebird related results seemed very low and therefore a wider net was cast to look more broadly at associations between SSSIs and the gamebird industry. This investigation generated 21,658 records of reasons for monitoring units to be, or to have been, in adverse condition²⁵. Reasons for condition change are categorised by the output and two of the most relevant to the project are entitled ‘Game management - Other’ and ‘Game management – Pheasant rearing’, which produced only 29 records and 62 [different] records, respectively. This total of 91 records is only 0.4% of the total number of condition assessments. Of these, only 10 recorded the unit condition as ‘favourable’. An assertion from these results is that whilst the non-native gamebird industry and the natural environment have undergone significant changes over recent decades, there does not appear to be a widespread and frequent national scale problem on any type of designated sites (not just SPAs). Where SSSI monitoring has recorded game management related criteria, the affected SSSI units are predominately in an unfavourable condition, but results suggest that this is not necessarily a reflection of recorded effects on SPAs. To explore this further, results for relatable activities were examined and considered.

Other categories given by the DSV SSSI Adverse Condition output relate to vehicle use and pest control; there is no specific category for shooting. Monitoring is well adapted to showing where the effect of vehicle use has had a significant effect on unit condition. Where recorded against ‘illicit’ and ‘other’ vehicle use, there were 36 and 16 entries related to SPAs, but none of these entries appeared to directly relate to vehicle use and the gamebird industry.

The pest control category is about recording inappropriate management and there were 39 results and none of these appeared to directly relate to the gamebird industry.

By contrast, it is far more serendipitous to encounter and record disturbance effects, and also to identify sources of that disturbance to birds. Also, the one disturbance category entitled ‘public access/ disturbance’ does not directly relate to the project and therefore these results were dismissed.

The prevailing environmental condition of each site, and its ecological capacity to absorb any effects from gamebird releasing, will be an important contextual factor for any assessment. Ongoing threats and pressures on many SPAs must be taken into account when determining any new proposals that might exacerbate their unfavourable condition and further hamper the achievement of their conservation objectives. For some sites the sensitivity and current condition of their features may mean that even low levels of gamebird releasing could result in significant harm and/or impact upon future restoration. In principle, where a European site is considered to be in an unfavourable conservation condition (or where specified environmental thresholds are being exceeded), appropriate assessments

²⁵ https://designatedsites.naturalengland.org.uk/BucketReports/SSSI_Adverse_Condition_Reasons.zip

considering any further impacts from new plans and projects will need careful justification if a conclusion of no adverse effect on site integrity is to be reached.

More widely, it is recognised that management to improve habitat for released gamebirds can also benefit native biodiversity. For example, a number of studies summarised in Madden & Sage (2020) found some woodland bird species (and sun-loving invertebrates) can benefit from the more open woodland structure and denser shrub layer that can be created by tree coppicing and thinning motivated by gamebird management. There is, however, no evidence that releasing and associated game management has provided any measurable benefit to SPAs. Associated activities, such as habitat management within sites that is not being directly authorised by way of the GBGL proposal will need to be subject to separate assessment and authorisation.

Given the strict legal protection afforded to European Sites in the UK, the purpose of this shadow HRA is to inform the competent authority’s decision as to whether it is possible to ascertain that there would be no adverse effects on any site’s integrity from the proposed GBGL, taking into account restrictions or modifications to the proposal as necessary to reduce or avoid any adverse effects that may be foreseen. As a general principle, supported in case law²⁶, the creation, restoration or enhancement of an adversely affected habitat cannot mitigate for any significant adverse effects on that habitat in the first instance. Any damaging effects cannot at this stage be balanced against the possibility of any compensatory benefits from management associated with pheasant releases to inform the conclusion on site integrity.

D2.2 Conservation Objectives

An appropriate assessment of the implications of the plan or project for a European site must be made in view of that site’s conservation objectives (regulation 63(1) of the Habitats Regulations 2017).

The relevant Conservation Objectives published by Natural England are listed earlier in B2. Each Conservation Objective includes Supplementary Advice which outlines those attributes which, in Natural England’s opinion, represent the core ecological characteristics of the designated species and habitats within a site. The listed attributes are considered to collectively describe the site’s ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives.

Further consideration of these likely effects on these attributes by an appropriate assessment can therefore inform the conclusion on whether no adverse effect on site integrity can be ascertained or not.

²⁶ CJEU case - C-164/17 *Grace and Sweetman* (2018)

Of the six overarching conservation objectives, the three of most relevance to this project and bird features are –

- The supporting processes on which the habitats of their qualifying features rely,
- The population of each of their qualifying features, and
- The distribution of their qualifying features within the site.

NE must publish conservation advice packages for Marine European sites and most of these come with Supplementary Advice on Conservation Objectives (SACOs) that present attributes of each (bird) feature that best describe aspects that need to be maintained or restored in order to meet the site’s ecological integrity and thus achieve its overarching Conservation Objectives.

Of the many attributes, a selection of the most relevance, not exclusively, to this project and to bird features are -

- Non-breeding population: abundance
- Breeding population: abundance
- Disturbance caused by human activity
- Supporting habitat: extent and distribution of supporting habitat for the non-breeding season
- Supporting habitat: extent and distribution of supporting habitat for the breeding season
- Supporting habitat: conservation measures
- Supporting habitat: landscape
- Supporting habitat: vegetation characteristics for nesting
- Predation - all habitats

D3. Assessment of potential adverse effects, considering any incorporated and additional mitigation measures

This section considers the risks identified at the screening stage and set out in section D1, mindful of assumptions of low effect in some aspects of the project outlined in D2, above. It further examines whether adverse effects can be ruled out in all aspects, having regard to the manner in which the plan or project described in section A2 would be carried out if a permission was granted.

This section also takes into account conditions that will be ordinarily imposed on the project’s General Licences, irrespective of the presence of European sites.

There are a number of ways to implement mitigating measures to exclude or reduce the possibility of adverse effects on European sites. The most effective and secure

route for this project is through stipulating restrictive conditions on the General Licence. Conditions are enforceable and are therefore best to ensure compliance. Licence recommendations, sometimes alternatively termed ‘important information’ or ‘notes’, help with interpretation of conditions and thus help clarify for licence users limits and parameters around the permitted activities to remain compliant.

Two tables are presented below; the first table (D3a) explains the recommended spatial and themed scope of different licence types to permit the proposal. A General Licence to be the main regulatory mechanism for this project. This form of licensing is the least restrictive and most flexible for users.

Given that a number of risk pathways have been identified, conditioning a General Licence can only go so far to securing required measures to rule out adverse impacts. The recommendation is therefore to use Individual Licence procedures to scrutinise in more detail the specifics of gamebird release proposals where impacts are less likely to be able to be adequately mitigated for by General Licence. Three general zones are identified – inside European sites and Ramsar sites, a 500-metre buffer zone around these sites, and elsewhere beyond the scope of this assessment, including SSSIs.

The second, larger table (D3b) repeats the risk pathway impacts and activity combinations with their letter codes and offers appropriate sets of conditions and recommendations to incorporate the proposed mitigation measures needed to support a conclusion of no significant adverse effects on site integrity, and explaining how this is achieved in the final column.



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Table D3a

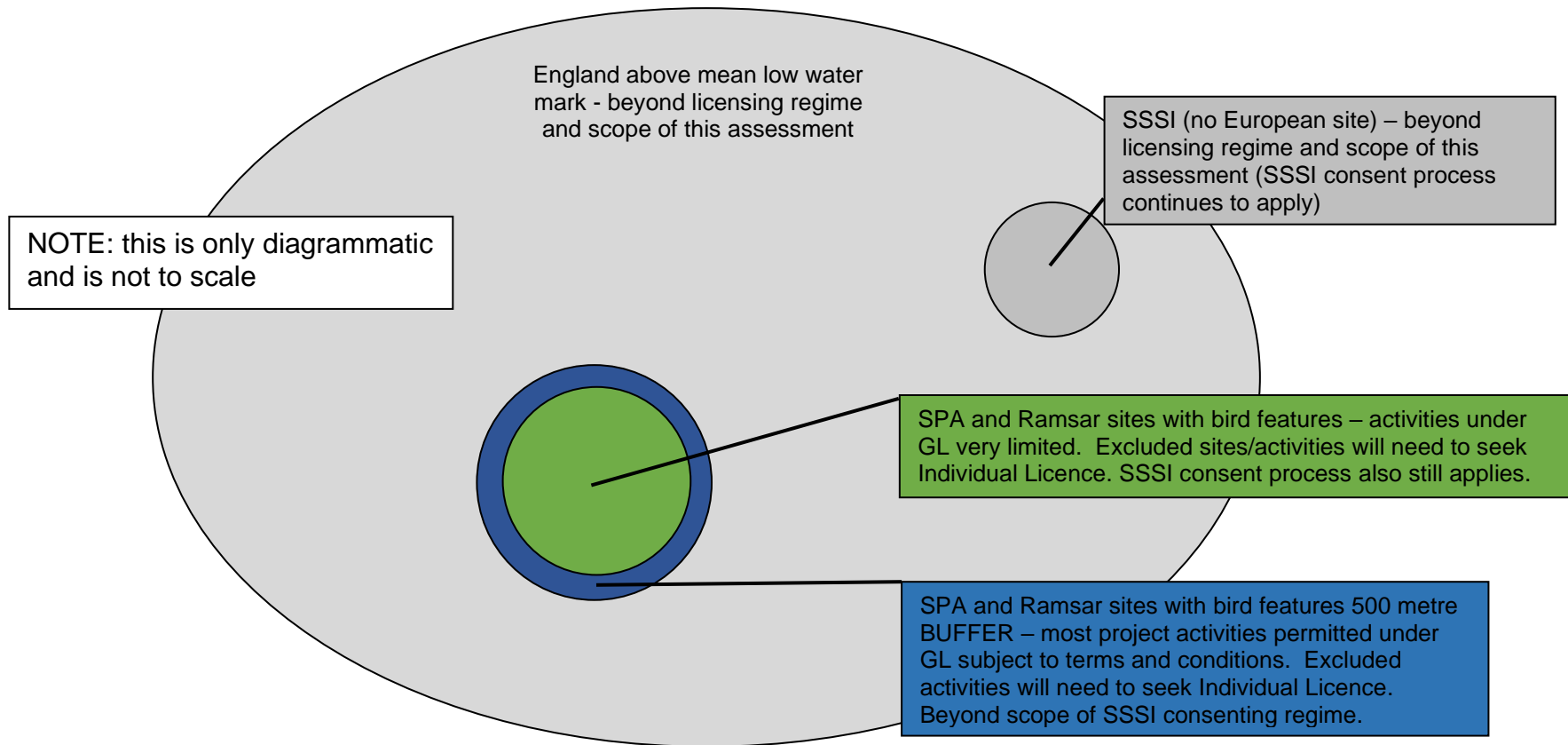
Designated site and land type	Licence type and overarching restriction type	How can ‘no adverse effect’ on bird feature(s) be ascertained?
England above mean low water mark, <i>except</i> as specified below	Beyond licensing regime	n/a
SSSI only (that do not underpin any European site or Ramsar site)	Beyond licensing regime	n/a
Within boundaries of SPA and Ramsar with bird features	General Licence (tbc by Defra) subject to: Option A conditions: no releasing of gamebirds; restricted vehicle use and non-driven shoots <u>only</u> ; Option B conditions: releasing of gamebirds up to a maximum sustainable limit; no releasing on specifically excluded sites subject to Individual Licence	Option A: Essentially, the directly proposed activity to release gamebirds is not permitted under the GL and of the indirectly related activities, only vehicle use and shooting gamebirds are permitted, but are highly restricted to allow no adverse effect can be ascertained. Option B: This option allows limited releasing on sites but only at a specific density that is considered to be sustainable for the duration of the project. Excludes those sites where this density may not be compatible with a site’s conservation objectives to ascertain no adverse effect (see Section D of Part 2 of this assessment for further analysis and proposed conditions)
500 metre <u>buffer zone</u> only around the boundaries of SPA and Ramsar with bird features	General Licence (permits release of gamebirds, but see conditions and recommendations below)	A number of risk pathways exist through which adverse impact could arise from the proposal, even outside of SPAs. Given generalities about audible and visible disturbance distances, and about dissipating significance of environmental consequences by releasing gamebirds, the adjacent zone with highest risk to SPAs is within 500 metres. The proposal will need to be subject to stringent set of conditions to allow



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Designated site and land type	Licence type and overarching restriction type	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		a ‘no adverse effect conclusion’ to be drawn. These are described in the next table below.
SAC and Ramsar with non-bird features	See Part 2 of this HRA	See Part 2 of this HRA.
All European sites and buffers in all circumstances where conditions cannot be followed.	Individual Licence (tbc by Defra)	Allows a separate bespoke assessment of a licence application to be made by the competent authority in order to ascertain no adverse effect on that site’s integrity.

‘Shadow’ assessment of a plan or project under regulation 63 of the Conservation of Habitats and Species Regulations 2017 as amended. (‘Habitats Regulations Assessment (HRA)’)



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Table D3b

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
Multiple ‘risk pathways vs. activities’ combinations	various	<p><i>Header:</i> Using this licence inside any European site or Ramsar site in England.</p> <p><u>Option A if selected:</u></p> <p><i>Condition:</i> the following activities are not permitted inside any SPA or Ramsar site,</p> <ul style="list-style-type: none"> ○ The release of any pheasant species or Red-legged Partridge; ○ Construction or placing of any pen, shelter or other enclosure designed for the purposes of rearing or/ and releasing those species; ○ Providing any supplementary feed or watering stations that 	<p><i>Recommendation:</i> This condition does not permit any activity within any European sites and Ramsar sites that is otherwise permitted under this licence. Examples of activities that are not permitted -</p> <ul style="list-style-type: none"> ○ The release of any pheasant species or Red-legged Partridge; ○ Construction or placing of any pen, shelter or other enclosure designed for the purposes of rearing or/ and releasing those species; ○ Providing any supplementary feed or watering stations that can be used by those species; <p>The only two exceptions of activities that relate to the rearing, release and shooting of pheasant species and Red-legged Partridge, and that are permitted by this licence within any</p>	<p>Over 13 ‘risk pathways vs. activities’ combinations have been identified that indicate LSE and it is impractical to mitigate these potential impacts individually, particularly if desired to be tailored to suit each European site individually. The most effective and practical option is to exclude the proposal from all European sites or apply a specific limit that is considered to be generally sustainable, except on those sites which are already being adversely affected by releasing.</p> <p>However, a direct consequence of the release of gamebirds are the necessary operations to allow this. These include the construction and maintenance of release pens, and husbandry of</p>

**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<p>can be used by those species</p> <p>The following activities are permitted : -</p> <ul style="list-style-type: none"> ○ All motorised vehicles used to transport gamebirds, materials and persons for the construction, maintenance and use of gamebird enclosures/ pens must be restricted to existing roads and tracks only; ○ All non-driven gamebird shooting <p><i>Option B if selected</i></p> <p>The release of common pheasant and red-legged partridge is permitted within the boundaries of any Special</p>	<p>European sites and Ramsar sites are –</p> <ul style="list-style-type: none"> ○ the use of vehicles to, which must only be along existing roads and tracks. This recognises the practical need to transport materials and equipment for the construction and maintenance of gamebird enclosures in transit across protected sites; and, ○ Rough shooting of quarry birds, i.e. this does <u>not</u> permit driven shoots of gamebirds. <p><u>Option B</u> This allows limited releasing within sites but only up to specified limits.</p> <p>anyone relying on the General Licence would need to have (or to obtain) a consent to permit releasing (and any related activities) and would need to comply with the conditions of that consent.</p>	<p>captive gamebirds. In concluding that gamebird release can be permissible immediately adjacent to European sites, a direct consequence will be to create circumstances where it is only practicable to transport materials from the European site side. If European sites were excluded entirely, uncertainty could arise as to whether or not an IL will be required. The option presented here provides regulatory clarity.</p> <p>For option B see the further analysis provided in D3 of Part 2.</p>



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<p>Protection Area and Ramsar sites* (*excluding sites screened out in section B and C of this shadow HRA) but only subject to the following conditions:</p> <ul style="list-style-type: none"> • all existing and new releases of pheasants must either not exceed 700 birds/hectare of pen or must comply with the release density stipulated in a SSSI consent, whichever is the lower. • all existing and new releases of red-legged partridge must either not exceed 3 birds/ square metre of pen or must comply with a release density stipulated in a SSSI 	<p>All other gamebird management operations associated with releasing (e.g. erection and maintenance of releasing structures, supplementary feeding, vehicle use) are not permitted under the GBGL and require separate SSSI consent where these are listed as operations requiring Natural England consent.</p> <p>Excluded sites listed in Table XX are those known to be adversely affected or at risk of being adversely affected, by gamebird releasing. A formally recorded pressure or threat is that which exists on Site Improvement Plans (SIPs) – here, or where a period of enforcement action is underway. Any proposals to release birds should be subject to an Individual Licence application.</p>	



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<p style="text-align: center;">consent, whichever is the lower</p> <ul style="list-style-type: none"> ○ releasing is not permitted on SACs/SPAs/Ramsars (or their relevant component sites) which are known to Natural England to be adversely affected by, or at risk of being adversely affected by, gamebird releasing ○ anyone relying on the General Licence would need to have (or to obtain) a consent to permit releasing (and any related activities) and would need to comply with the conditions of that consent. 		



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<ul style="list-style-type: none"> ○ all other gamebird management operations associated with releasing (e.g. erection and maintenance of releasing structures, supplementary feeding, vehicle use, shooting) are not permitted under the GBGL and require separate SSSI consent where these are listed as operations requiring Natural England consent 		
Direct killing (of fledged or adult bird features) as a result of pest control associated with released gamebirds	b)	<p><i>Header:</i> Who can use this licence</p> <p>You can only act under this licence if you are an authorised person. This includes the owner or occupier</p>	Adopt footnotes in existing GLs	A standard condition that serves to warn against considering illegal persecution of perceived ‘pests’, including avian birds of prey. This should maybe sufficient, but if subsequent patterns emerge that associate gamebird shooting



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<p>of the land on which action authorised by this licence is to be taken, or any person authorised by the owner or occupier.</p> <p>You do not need to be registered to use this licence. You must not act under this licence if you have been convicted on or after 1 January 2010 of a wildlife offence [footnote 10]. An exception to this is if, in respect of the wildlife offence, either of the following applies:</p> <ul style="list-style-type: none"> ○ you are a rehabilitated person for the purpose of the Rehabilitation of Offenders Act 1974 and your conviction for the wildlife offence is treated as spent. ○ a court has made an order discharging you 		<p>with illegal persecution, even if only circumstantially, then the entire GL should be transferred to a Class Licence and thus compel customers to register.</p>



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<p style="text-align: center;">absolutely in respect of the wildlife offence.</p> <p>You must not use this licence if the Secretary of State has withdrawn your permission to use it. Read the section on enforcement and penalties for misuse of this licence.</p> <p>If you cannot use this licence, you can still apply to Natural England for an individual licence.</p>		
<p>- Direct destruction of nests and contents by vehicle and motorised machinery use</p> <p>- Human disturbance resulting in nest abandonment, or reduced foraging activity of breeding</p>	<p>e)</p> <p>k)</p> <p>m)</p>	<p>No Condition</p>	<p><i>Header:</i> Important information</p> <p>All birds, their eggs and nests (while in use or under construction) are protected under the Wildlife and Countryside Act 1981. This licence does not permit the killing, injuring, taking, damaging or destroying of any wild bird, any nest (when in use and being built), or egg. Bird species listed under Schedule 1 of that Act have</p>	<p>The information is adapted from ‘Note Y’ of Badger licensing HRAs.</p> <p>There are common instances where bird populations that are breeding immediately outside of SPAs, and beyond, interact and offer recruitment to the SPA’s bird feature population. Therefore, it is sound judgement to emphasise</p>



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
bird features through pen construction, fencing maintenance etc - Human disturbance resulting in nest abandonment, or reduced foraging activity of breeding bird features by vehicle and motorised machinery use			additional legal protection so care needs to be taken to avoid their disturbance during the breeding season	the legal protection afforded to those, and all, wild birds.
- Human disturbance resulting in displacement of non-breeding bird features away from feeding/ roosting habitat through shooting of gamebirds - Human disturbance	i) j)	<i>Condition:</i> Driven shooting of released gamebirds within a SPA or Ramsar is not permitted without a SSSI consent Driven shooting within the buffer zone of a SPA/Ramsar designated for non-breeding water birds is not permitted	<i>Header:</i> gamebird shooting within any European sites and Ramsar sites. <i>Note:</i> shoot managers should be aware of all designated sites on and near to each proposed shooting day. This includes being aware of their boundaries and of their features of interest, particularly birds and other features that have the potential to be affected by shooting practices. It is	The most relevant recommendation in the ‘Code of Good Shooting Practice’ relating to protected sites is – <i>‘Shoot managers should be aware of SSSIs and other sensitive habitats on their ground and should liaise with the landowner and the relevant statutory authorities to ensure they avoid potentially damaging activities’.</i>



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
<p>resulting in displacement of non-breeding bird features away from feeding/ roosting habitat by vehicle and motorised machinery use</p>		<p>within 300 metres of their designated boundary</p>	<p>the shoot manager’s responsibility to organise each shoot to avoid adverse effects, for example, to maintain a distance of approximately 300 metres between shooting and aggregations of waterbirds.</p> <p><i>Note:</i> To identify the location of SSSIs and European sites, refer to the Magic map system https://magic.defra.gov.uk/.</p> <p>You can search for and view details about all designated sites including SPAs by using Natural England’s Designated Sites system https://designatedsites.naturalengland.org.uk/SiteSearch.aspx, which provides the citation (which describes the designated features) and the list of operations requiring Natural England’s consent for each SSSI.</p>	<p>http://www.codeofgoodshootingpractice.org.uk/</p> <p>It is considered inadequate to only refer to these published guidelines to satisfy the risk to non-breeding bird features, particularly waterbirds.</p>
<p>Supporting habitat damage, degradation or destruction by</p>	<p>q)</p>	<p><i>Header:</i> Gamebird releases</p> <p><i>Condition:</i> within 500 metres of the boundary of any European</p>	<p><i>Note:</i> Red-legged Partridge. All pens to release should be located on game cover planted in arable or improved grassland fields.</p>	<p>To avert potential impacts from the presence of high densities of gamebirds on the environment, particularly adjacent to European</p>



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
penned and release gamebirds		site or Ramsar site, numbers of gamebirds permitted to be released within that 500-metre buffer zone will be limited, as follows: <ul style="list-style-type: none"> ○ the density of pheasants released in a pen within the buffer of any site must not exceed 1000 birds per hectare of pen area (400/acre). Releases must not exceed 700 pheasants per hectare (or 280 per acre) of release pen if the release pen within the buffer is: <ul style="list-style-type: none"> ○ located within ancient semi-natural woodland or another semi-natural habitat type, or 	<p><i>Note:</i> the GWCT’s ‘Guidelines for sustainable gamebird releasing’, should be followed. https://www.gwct.org.uk/media/208606/Sustainable-gamebird-releasing.pdf</p> <p>Natural England’s inventory of Ancient Woodland can be accessed via: https://naturalengland-defra.opendata.arcgis.com/datasets/a14064ca50e242c4a92d020764a6d9df_0</p>	<p>sites into which they can disperse, restrictions can be applied.</p> <p>Rationale for the restriction to prevent the locating of release pens and feeders within 250 m of European Sites, is to reduce potential effects from gamebirds otherwise released within that inner buffer zone from entering the European Site where, combined with gamebirds permitted for release there, densities elevate to levels that could result in damage (see also Part 2 of this shadow HRA).</p>



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		<ul style="list-style-type: none"> ○ located within the buffer zone of a European Site excluded from the GBGL ○ Single and trickle releases of pheasant must not exceed these limits during the entirety of one season cycle; ○ release no more than 3 red-legged Partridge per square metre of pen; ○ Gamebirds must never be released to replenish or replace any that have already been released and shot or otherwise killed in that season, except within the limits as stated. ○ release pens or feeders located within the buffer 		



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
		area must not be placed within 250m of a designated site’s boundary.		
Environmental contamination by lead shot	u)	<p><i>Header:</i> lead shot use</p> <p><i>Condition:</i> when shooting released gamebirds, users must comply with the Environmental Protection (Restriction on Use of Lead Shot) (England) Regulations 1999 insofar as it applies to those SSSIs which are SPAs and/or Ramsar sites</p>	<p><i>Header:</i> lead shot use</p> <p><i>Recommendation:</i> The Environmental Protection (Restriction on Use of Lead Shot) (England) Regulations 1999 https://www.legislation.gov.uk/ukxi/1999/2170/contents/made, prohibits the use of lead shot on or over any SSSI listed in Schedule 1, as amended. For the benefit of doubt, all European sites are underpinned by SSSIs, and irrespective of whether or not each of these SSSIs is listed in Schedule 1, the use of lead shot under this licence is not permitted.</p> <p>Furthermore, it is recommended that lead shot is also <u>not</u> used on or over any buffer zone within 500 metres of the boundary of any European site or</p>	<p>Recent research has exposed the danger of lead shot to the natural environment, to biota and to humans. Large aggregations of waterbirds outside of SPAs are most likely to occur within 500 metres, but can disperse to functionally linked land, in some cases up to tens of kilometres away.</p> <p>Waterbirds are susceptible to lead shot poisoning. As a minimum requirement, lead shot use must be prohibited, or at least firmly discouraged inside and adjacent to all SPAs and as a precaution this is extended to all European sites.</p>

**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
Imbalanced inter-specific relationships in the environment through pest control	s)	<p><i>Header:</i> recording gamebird shooting and gamebird management activities</p> <p><i>Condition:</i> for any shooting estate and shoot holding that has or proposes to release any gamebirds within 500 metres of the boundary of any European site or Ramsar site, as permitted by this licence, then all released gamebirds must be reported on the APHA poultry register</p>	<p>Ramsar site.</p> <p><i>Header:</i> recording gamebird shooting and gamebird management activities</p> <p><i>Recommendation:</i> the APHA poultry registration form is available via: https://www.gov.uk/government/publications/poultry-including-game-birds-registration-rules-and-forms</p> <p>Details supplied should include the total number of gamebirds released into each pen/ enclosure per season and for an eight-figure grid reference to be supplied that approximates to the middle of each of those release pens and enclosures. This should be done for the entire estate not just those within or that overlap with the 500-metre buffer zone.</p> <p>All gamebird returns should also be supplied to BASC’s National Gamebag Census (noting this is voluntary) at National Gamebag Census - Game and Wildlife Conservation Trust</p>	<p>Research shows that an abundance of gamebirds can attract an imbalanced number of mammalian and avian predators to an area, which if not appropriately and lawfully managed and controlled, can lead to adverse effects. Studies about predator abundance suggests that reactive predator control to mitigate this effect is not universally effective. This risk is therefore a reasonably expected consequence and therefore becomes HRA relevant.</p> <p>Greatest predator-prey imbalance is when an artificially high number of predators remain in an area when released gamebird prey becomes increasingly scarce. Predators may then turn to more natural prey; this period coincides with breeding ground-nesting</p>



**‘Shadow’ assessment of a plan or project under regulation 63 of the Conservation of Habitats and Species Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

risk pathways vs. activities combination risk	code	Header, Possible Condition and other mitigating measures upon the scope of General Licence	Possible Recommendation or other information	How can ‘no adverse effect’ on bird feature(s) be ascertained?
			gwct.org.uk	birds. Analysis of data submitted under the proposed condition will improve understanding of the dynamic relationships between predators, gamebirds and bird features; and thus inform future adjustments to the licensing regime, e.g. where and other limits to gamebirds releases.

D4. Assessment of potentially adverse effects considering the project ‘in combination’ with other proposed plans and projects

The need for further assessment of the risk of in-combination effects is considered here. These include any appreciable effects (from a plan or project) that are not themselves considered to be adverse alone which are further assessed to determine whether they could have a combined effect significant enough to result in an adverse effect on site integrity.

Natural England has taken into account the theoretical risk that the proposed licensed activity under the projects could exert in-combination effects on European Sites. Taking into account the effect of the proposed mitigation measures listed above to avoid the risk of adverse effects on the integrity of sites, and the proposed duration of the GBGL, Natural England considers that there would be no appreciable residual effects likely to arise from these projects on individual sites which could have the potential to act in-combination with those from other proposed plans or projects so as to cause material effects on the European Sites in scope of this assessment.

Natural England advises that subject to the additional mitigation measures, it can therefore be excluded, on the basis of objective information, that the project can have an adverse effect on site integrity, in-combination with other proposed plans or projects.

D5. Conclusions on Site Integrity

Because the project is not wholly directly connected with or necessary to the management of SPAs or the bird features of Ramsar sites and is likely to have a significant effect on these, Natural England has carried out a ‘shadow’ appropriate assessment equivalent to that required by regulation 63 of the Habitats Regulations 2017.

Natural England’s advice is that this shadow assessment can ascertain that this project (the proposed GBGL) will not have an adverse effect on the integrity of SPAs and Ramsar site(s), either alone or in combination with other plans and projects, taking into account its limited duration and subject to the incorporation of the measures outlined above in section D3 as general restrictions and/or conditions to be attached to the project.

This conclusion must be read in conjunction with Part 2 of this shadow HRA.



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

Appendix A1: list of SPAs in England and elsewhere

See list provided by JNCC at: - <https://jncc.gov.uk/our-work/special-protection-areas-overview/>

Appendix A2: list of SACs in England and elsewhere

See list provided by JNCC at: - <https://jncc.gov.uk/our-work/special-areas-of-conservation-overview/>

Appendix A3: list of Ramsar sites in England and elsewhere

See list provided by JNCC at: - <https://jncc.gov.uk/our-work/ramsar-sites/>

Appendix B1: list of Qualifying Features for which SPAs have been designated in England

Bird feature	Breeding or non-breeding feature	Screened in/out, or some sites at LSE
A001. <i>Gavia stellata</i> ; Red-throated diver	Non-breeding	out
A002. <i>Gavia arctica</i> ; Black-throated diver	non-breeding	out
A003. <i>Gavia immer</i> ; Great northern diver	non-breeding	out
A005. <i>Podiceps cristatus</i> ; Great crested grebe	Non-breeding	in
A007. <i>Podiceps auritus</i> ; Slavonian grebe	Non-breeding	out
A014. <i>Hydrobates pelagicus</i> ; European storm-petrel	Breeding	out
A016. <i>Morus bassanus</i> ; Northern gannet	breeding	out
A017. <i>Phalacrocorax carbo</i> ; Great cormorant	Breeding	in
A021. <i>Botaurus stellaris</i> ; Great bittern	Non-breeding	in
A021. <i>Botaurus stellaris</i> ; Great bittern	Breeding	in
A026. <i>Egretta garzetta</i> ; Little egret	Non-breeding	in
A034. <i>Platalea leucorodia</i> ; Eurasian Spoonbill	Non-breeding	in
A036. <i>Cygnus olor</i> ; Mute swan	Breeding	in
A036. <i>Cygnus olor</i> ; Mute swan	Non-breeding	in
A037. <i>Cygnus columbianus bewickii</i> ; Bewick swan	Non-breeding	in
A038. <i>Cygnus cygnus</i> ; Whooper swan	Non-breeding	in
A040. <i>Anser brachyrhynchus</i> ; Pink-footed goose	Non-breeding	in

**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

A043a. <i>Anser anser</i> ; Greylag goose	Non-breeding	in
A045b. <i>Branta leucopsis</i> ; Barnacle goose	Non-breeding	in
A046a. <i>Branta bernicla bernicla</i> ; Dark-bellied brent goose	Non-breeding	in
A046c. <i>Branta bernicla hrota</i> ; Light-bellied brent goose	Non-breeding	in
A048. <i>Tadorna tadorna</i> ; Common shelduck	Breeding	in
A048. <i>Tadorna tadorna</i> ; Common shelduck	Non-breeding	in
A050. <i>Anas penelope</i> ; Eurasian wigeon	Non-breeding	in
A051. <i>Anas strepera</i> ; Gadwall	Breeding	in
A051. <i>Anas strepera</i> ; Gadwall	Non-breeding	in
A052. <i>Anas crecca</i> ; Eurasian teal	Breeding	in
A052. <i>Anas crecca</i> ; Eurasian teal	Non-breeding	in
A053. <i>Anas platyrhynchos</i> ; Mallard	Breeding	in
A054. <i>Anas acuta</i> ; Northern pintail	Non-breeding	in
A055. <i>Anas querquedula</i> ; Garganey	Breeding	in
A056. <i>Anas clypeata</i> ; Northern shoveler	Breeding	in
A056. <i>Anas clypeata</i> ; Northern shoveler	Non-breeding	in
A059. <i>Aythya ferina</i> ; Common pochard	Breeding	in
A059. <i>Aythya ferina</i> ; Common pochard	Non-breeding	in
A061. <i>Aythya fuligula</i> ; Tufted duck	Non-breeding	in
A062 <i>Aythya marila</i> ; Scaup	Non-breeding	out
A063. <i>Somateria mollissima</i> ; Common eider	Non-breeding	out
A064. <i>Clangula hyemalis</i> ; Long-tailed duck	Non-breeding	out
A065. Common scoter <i>Melanitta nigra</i>	non-breeding	out
A067. <i>Bucephala clangula</i> ; Common goldeneye	Non-breeding	out
A069. <i>Mergus serrator</i> ; Red-breasted merganser	Non-breeding	in
A070. <i>Mergus merganser</i> ; Goosander	Non-breeding	in
A072. <i>Pernis apivorus</i> ; European honey-buzzard	Breeding	in
A081. <i>Circus aeruginosus</i> ; Eurasian marsh harrier	Breeding	in
A082. <i>Circus cyaneus</i> ; Hen harrier	Breeding	in
A082. <i>Circus cyaneus</i> ; Hen harrier	Non-breeding	in
A084. <i>Circus pygargus</i> ; Montagu's harrier	Breeding	in
A098. <i>Falco columbarius</i> ; Merlin	Breeding	in

**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

A098. Falco columbarius; Merlin	Non-breeding	in
A099. Falco subbuteo; Eurasian hobby	Breeding	in
A103. Falco peregrinus; Peregrine falcon	Breeding	in
A113. Coturnix coturnix; Common quail	Breeding	in
A123. Gallinula chloropus; Common moorhen	Breeding	in
A125. Fulica atra; Common coot	Breeding	in
A125. Fulica atra; Common coot	Non-breeding	in
A130. Haematopus ostralegus; Eurasian oystercatcher	Non-breeding	in
A132. Recurvirostra avosetta; Pied avocet	Breeding	in
A132. Recurvirostra avosetta; Pied avocet	Non-breeding	in
A133. Burhinus oediconemus; Stone-curlew	Breeding	in
A137. Charadrius hiaticula; Ringed plover	Breeding	in
A137. Charadrius hiaticula; Ringed plover	Non-breeding	in
A140. Pluvialis apricaria; European golden plover	Non-breeding	in
A140. Pluvialis apricaria ; European golden plover	Breeding	in
A141. Pluvialis squatarola; Grey plover	Non-breeding	in
A142. Vanellus vanellus; Northern lapwing	Breeding	in
A142. Vanellus vanellus; Northern lapwing	Non-breeding	in
A143. Calidris canutus; Red knot	Non-breeding	in
A144. Calidris alba; Sanderling	Non-breeding	in
A148. Calidris maritima; Purple sandpiper	Non-breeding	out
A149. Calidris alpina alpina; Dunlin	Non-breeding	in
A151. Philomachus pugnax; Ruff	Non-breeding	in
A151. Philomachus pugnax; Ruff	Breeding	in
A153. Gallinago gallinago; Common snipe	Breeding	in
A156a. Limosa limosa islandica; Black-tailed godwit	Non-breeding	in
A156a. Limosa limosa limosa; Black-tailed godwit	Breeding	in
A157. Limosa lapponica; Bar-tailed godwit	Non-breeding	in
A160. Numenius arquata; Eurasian curlew	Breeding	in
A160. Numenius arquata; Eurasian curlew	Non-breeding	in
A162. Tringa totanus; Common redshank	Breeding	in
A162. Tringa totanus; Common redshank	Non-breeding	in



**‘Shadow’ assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
(‘Habitats Regulations Assessment (HRA)’)**

A168. Actitis hypoleucos; Common sandpiper	Breeding	in
A169. Arenaria interpres; Ruddy turnstone	Non-breeding	out
A176 Larus melanocephalus; Mediterranean gull	Non-breeding	in
A176. Larus melanocephalus; Mediterranean gull	Breeding	in
A177. Hydrocoloeus minutus; Little gull	non-breeding	out
A183. Larus fuscus; Lesser black-backed gull	Breeding	out (some)
A183. Larus fuscus; Lesser black-backed gull	Non-Breeding	in
A184. Larus argentatus; Herring gull	Breeding	in
A187 Larus marinus; Great black-backed gull	Breeding	out
A188. Rissa tridactyla; Black-legged kittiwake	breeding	out
A191 Sterna sandvicensis; Sandwich tern	Breeding	in
A191. Sterna sandvicensis; Sandwich tern	Non-breeding	in
A192. Sterna dougallii; Roseate tern	Breeding	out
A193. Sterna hirundo; Common tern	Breeding	out (some)
A193. Sterna hirundo; Common tern	Non-Breeding	out (some)
A194. Sterna paradisaea; Arctic tern	Breeding	out (some)
A195 Sterna albifrons; Little tern	Breeding	in
A199. Uria aalge; Common guillemot	Breeding	out
A200. Alca torda; Razorbill	breeding	out
A204. Fratercula arctica; Atlantic puffin	Breeding	out
A222. Asio flammeus; Short-eared owl	Breeding	in
A224. Caprimulgus europaeus; European nightjar	Breeding	in
A246. Lullula arborea; Woodlark	Breeding	in
A294. Acrocephalus paludicola; Aquatic warbler	Non-breeding	in
A302. Sylvia undata; Dartford warbler	Breeding	in
A314. Phylloscopus sibilatrix; Wood warbler	Breeding	in
A394. Anser albifrons albifrons; Greater white-fronted goose	Non-breeding	in
A684. Phalacrocorax aristotelis aristotelis; European shag	Breeding	out
bird assemblage	Breeding	in
seabird assemblage	Breeding	out (some)
waterbird assemblage	non-breeding	in



**'Shadow' assessment of a plan or project under
regulation 63 of the Conservation of Habitats and Species
Regulations 2017 as amended.
('Habitats Regulations Assessment (HRA)')**
