

On behalf of: Defendant

No of statement: 3

Exhibit: **EB3**

Date made: 13 October 2020

**IN THE HIGH COURT OF JUSTICE**  
**QUEENS BENCH DIVISION**  
**ADMINISTRATIVE COURT**

**Claim No.CO/731/2020**

**THE QUEEN**  
on the application of

**WILD JUSTICE**

**Claimant**

**-v-**

**SECRETARY OF STATE FOR THE ENVIRONMENT, FOOD AND RURAL AFFAIRS**

**Defendant**

**-and-**

**NATURAL ENGLAND AND OTHERS**

**Interested Parties**

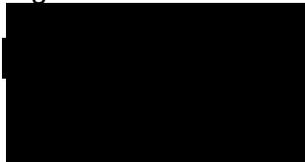
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**EXHIBIT EB3**

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This is the Exhibit EB3 referred to in my Third Witness Statement dated 13 October 2020 on behalf of the Defendant

Signed:



Dated: 13 October 2020

## **Summary of Findings and Conclusions on the Rapid Evidence Assessment (REA) “Ecological Consequences of Gamebird Releasing and Management on Lowland Shoots in England”**

### **Key Findings and Conclusions**

In summary, Natural England considers the key findings and conclusions of the REA<sup>1</sup> report to be:

- The body of evidence confirms that released gamebirds can have direct and indirect effects on the fauna and flora of the habitats into which they are released. The six potential direct effects are: (1) nutrient enrichment (2) birds pecking or trampling on vegetation and harming in that way (3) competition for food (4) parasites, pathogens and diseases (5) foraging (6) attracting predators. In addition there are associated and indirect effects which include predator management, woodland management, carcass availability for small mammals, and supplementary feeding for over-wintering birds for example.
- Over recent years the increasing numerical scale and spatial extent of releases and their associated management has the potential to exacerbate these effects.
- The negative effects supported by the strongest evidence relate to eutrophication (1) and depletion of vegetation (2) immediately within and around release pens and feeding stations.
- The identified negative effects (eutrophication, physical disturbance of flora) from gamebirds are density dependent. For smaller releases ( $\leq 1000$  birds/hectare), which are in line with existing good practice guidelines<sup>2</sup>, these effects are confined to the release pens and feeding stations themselves and a relatively limited distance (up to 15m) around them, with little or no discernible effect beyond that. .
- The keeping of larger numbers of pheasants ( $>1000$  per hectare) can lead to changes in the ground flora within and around a release pen, especially where that vegetation is sensitive to soil nutrient enrichment. Characteristic woodland flowers, especially long-lived herbs, tend to drop in number, whereas ‘weed species’ increase. Once lost, many characteristic woodland plants are slow to recolonise once the keeping of birds stops.
- There is strong evidence of associated benefits for biodiversity from general woodland management associated with shooting.
- Negative effects tend to be localised and the studies examined by the REA indicate minimal or no effects beyond 500m (on a precautionary basis) from the point of release, given the typical dispersal distance of birds from their release pen is less than 500m.

<sup>2</sup> The ‘Guidelines for sustainable gamebird releasing published by the Game and Wildlife Conservation Trust <https://www.gwct.org.uk/media/208606/Sustainable-gamebird-releasing.pdf>

- The REA also highlights where there are significant knowledge gaps and uncertainties. These include:
  - I. No evidence of wider effects through the landscape. Though dispersal seems to be limited to less than 500m from the release site, there are no actual studies of the effects of gamebirds at or beyond 500 m from the release site, including effects on generalist predator populations, foraging behaviour, disease spread, competition for food, and eutrophication. Thus, there is scientific uncertainty about effects in the wider landscape. The reason that Natural England has concluded that effects beyond 500m are likely to be minimal is that studies show that dispersal tends to be less than 500m from the release sites and the negative effects in consideration are linked to the presence of birds.
  - II. The poor compliance with the APHA Poultry Register may lead to underestimates of numbers of birds released by studies that use these data, generating higher levels of uncertainty in the evidence in respect of size and location of releases.
  - III. A very limited evidence base on the effects of diseases and parasites, introduced or harboured by released gamebirds; predation and disturbance effects on reptiles or amphibians; and the effects of gamebird release on localised predator population, productivity, movement and foraging behaviour.
  - IV. A limited evidence base on the positive effects of general habitat management associated with gamebird management which may benefit native biodiversity.

## **Basis for Conclusions**

- When drawing conclusions from any evidence review the whole body of available evidence is considered. The strength of evidence is taken into account, as is the directionality of multiple studies where present and factors that may be causing bias in the evidence base. The limitations of the available evidence are considered; for example, the knowledge gaps, ‘what isn’t the evidence telling us’, as well as any methodological limitations.
- When considering the evidence presented in ‘*Ecological Consequences of Gamebird Releasing and Management on Lowland Shoots in England*’ the *a priori* assumption in respect of the desired outcomes from a Natural England perspective is that we wish would eliminate or reduce negative effects that would lead to the deterioration of the notified feature condition on a site and or prevent the feature achieving favourable conservation status. This assumption is the lens through which the available evidence is viewed.
- As previously stated, the whole body of available evidence is considered. The conceptual framework presented in the review provides a simplified systematic map against which a range of complex factors can be considered in reaching conclusions related to an inherently complex

environmental issue. The totality of the evidence presented by the REA has been considered when reaching professional judgements.

- Annex A is a distillation of relevant key evidence points from the review. This is not an exhaustive list but highlights many of the factors taken into account in reaching the conclusions above.
- The good practice guidelines published by the Game and Wildlife Conservation Trust include guidance on the density of birds released (no more than 1,000 pheasants per hectare of release pen dropping to 700 birds per hectare of pen in sensitive woods); use of hedgerows linking releasing and holding areas; specific guidance on siting of pens for red-legged partridges; general guidance warning against placing release pens directly onto or close to particularly sensitive locations (e.g. reptile breeding or hibernation sites and patches of woodland that have notable ground flora or insect fauna).
- The REA report concludes that it was a consistent result across studies that smaller releases had a reduced effect (REA p.87). Natural England has looked at the 58 studies identified in Appendix 2 as highly relevant to the review. It is clear from these studies that where studies have been conducted of smaller releases (<1000/hectare) the evidence of impact is equivocal at best or non-existent. Significant effects are associated with releases above 1000 birds/hectare, some of the studies looking at the impacts of releases in the range of 2,000 to 4,000 birds per hectare. On this basis, Natural England has concluded that for smaller releases ( $\leq 1000$  birds/hectare), which are in line with existing good practice guidelines published by the Game and Wildlife Conservation Trust, eutrophication and ground disturbance effects are confined to the release pens and feeding stations themselves and a relatively limited distance (up to 15m) around them, with little or no discernible effect beyond that. There is strong evidence of eutrophication in and around the immediate vicinity of release pens. The available evidence further indicates that when keeping of birds stops, vegetation within release pens can recover from ground disturbance and eutrophication effects over a 10-15-year time period where bird density has been <1000/hectare, but recovery where birds have been at a greater density is significantly longer. The evidence also shows further vegetation effects in the more immediate proximity around pens for 'large' shoots (i.e. those with a bird density substantially greater than 1000 birds/hectare). There is no available evidence relating to substantially smaller shoots e.g. <500 birds/hectare i.e. there was no threshold stocking density reported at which effects began to occur (REA p31). Thus, Natural England's professional judgement based on the totality of the evidence on small and large bird releases is that smaller releases (those <1000birds/ha) would have little or no discernible effect outside the release pen, limiting the immediate eutrophication effects to within the pen. This is not saying that there is no negative effect in respect of the *a priori* assumption but rather that it is limited to a smaller controlled space.

- *Negative effects tend to be spatially distinct / localised and studies indicate minimal or no effects beyond 500m (on a precautionary basis) from the point of release.* Building on the above conclusion there is moderate but consistent evidence from the studies presented in the review that negative effects on the designated feature of a site were density dependent and localised to the vicinity of the pen of feeding stations where bird densities were highest. However, this interpretation is limited because the majority of the studies took place within 300m of pens. Nevertheless, they show a correlation between decreasing effect with distance from point of release arising from the density dependent relationship of gamebirds and effect variables: direct effects are greater at higher densities. There is moderate but consistent evidence in the form of a series of tracking studies<sup>3</sup> to indicate that the majority of birds do not generally disperse further than 500m from their point of release (REA p77-79). These studies look at dispersal distances and show that the mean dispersal distance is less than 500m which can be extrapolated to interpret bird densities are higher closer to release pens and feeding stations. Considering the totality of the evidence our professional judgement is that negative effects tend to be localised and minimal beyond 500m.
- *Though dispersal seems to be limited to less than 500m from the release site,* there are no actual studies of the effects of gamebirds at or beyond 500 m from the release site, including effects on generalist predator populations, foraging behaviour, disease spread, competition for food, and eutrophication. Thus, there is scientific uncertainty about effects in the wider landscape. The review acknowledges that there is a lack of evidence in respect of the effect of gamebird release in the wider landscape, including effects on generalist predator populations, foraging behaviour, disease spread, competition for food, and eutrophication. The reason that Natural England has concluded that effects beyond 500m are likely to be minimal is that studies show that dispersal tends to be less than 500m from the release sites and the negative effects in consideration are linked to the presence of birds. However, on a site by site, case by case basis where specific local evidence of negative effects or potential negative effects is available beyond 500m from point of release or feeding station, decisions would need to take this into

### **Response to Rapid Evidence Assessment (REA) Recommendations**

The REA was commissioned and jointly funded by Natural England and the British Association of Shooting and Conservation (BASC). The format of the work is that of a Rapid Evidence Assessment (REA): collating the available evidence, setting it within a comprehensible framework; describing material in terms of its relevance to the central question about the effects that releasing gamebirds

<sup>3</sup> Turner (2007), Bagliacca *et al.* 2008) and Ferretti (2012)

has on the habitats and wildlife of England and highlighting knowledge gaps. As such the REA does not recommend specific actions are taken by Natural England, BASC or others.

With a view to its statutory remit, Natural England's view is that the findings and conclusions of the REA reaffirm the need for Natural England to continue to give particular scrutiny to proposed gamebird releases within Protected Sites.

Where new applications, or applications for renewal of consent, for gamebird releases on Sites of Special Scientific Interest (SSSIs) are received by Natural England in accordance with the 1981 Wildlife and Countryside Act (as amended), we will continue to carry out thorough assessments, consistent with our operational guidance and standards, of the likely ecological impacts on the designated features (including Special Area of Conservation (SAC) / Special Protection Area (SPA) features where appropriate). Following assessment, we will provide consent only where we are of the view that the proposed activity is consistent with furthering the conservation or enhancement of the SSSI or, where there is a potential to impact on European Sites, only when we are able to ascertain that the proposal will have no adverse effect on site integrity. Each case needs to be evaluated on a site by site basis.

We will continue to use our statutory powers to attach conditions to a consent, or place time-limits on a consent, where this is necessary to avoid adverse effects on a site. Where it cannot be ascertained that adverse effects on a site's designated features would be avoided, Natural England can refuse to give its consent to the proposal.

Where instances of damage caused by unauthorised operations are found, Natural England will continue to take the appropriate steps (using negotiation or where this fails our relevant enforcement/regulatory powers) to prevent further damage occurring and to achieve restoration of harm that has occurred. This will be done on a case by case basis. Depending on the circumstances of the case, this could include the complete cessation of release within and around the site (if regulatory tools are required, by using its powers under the Wildlife and Countryside Act 1981, the Regulatory Enforcement and Sanctions Act 2008 or the Environmental Damage Regulations 2015, as amended in each case).

Natural England is not currently in a position to be able to address the knowledge gaps identified in the REA. The gap in respect of the APHA register completeness and accuracy is outside of Natural England's auspice. In general, the other knowledge gaps require a structured experimental approach to start to address them with a minimum of three years research. Natural England will encourage the academic community and other stakeholders to address these knowledge gaps, but advancement is likely to be dependent of availability of research funding, such as that provided by the Natural

Environment Research Council. Natural England may also take forward some limited research itself on sites within its direct land management control, but this would be resource dependent. SSSI condition monitoring will not address the knowledge gaps identified in the REA.

### **Implication of 2021 release of Common Pheasant and Red-legged Partridge for European Protected Sites**

As explained above, proposed releases within European Sites will be subject to the SSSI consenting regime which will ensure adverse effects are avoided. It is currently difficult to comment on the extent to which releases taking place outside of the European Sites during 2021 will result in deterioration or significant disturbance of them. This will depend on a number of factors such as the scale and nature of the release, and the nature and location of the release site.

In Natural England's view, and having considered the REA, releases of birds taking place within 500m of a European Site and at densities greater than 1000 birds/per hectare, and where the 'Guidelines for sustainable gamebird releasing' are not being followed, pose the greatest risk of causing deterioration of the sensitive features of adjacent sites.

Generally speaking, any direct impacts from game bird release (i.e. physical damage to habitats from birds and loss/disturbance to individual animals) during a single season are unlikely, on their own, to be considered to be sufficiently significant to result in a permanent or long-term negative impact on the SSSI or European site features. The same general point can be made about indirect impacts (i.e. nutrient enrichment). However, on an individual site basis, where damage/disturbance from game birds is already an issue or where new releases take place or other changes to the prevailing environmental conditions take place to increase the risk of game bird impacts, a further season of game bird release could impact upon the recoverability of the site features. The latter could mean increased time/cost relating to restoration of features, or impact on the likely success of recovery. This applies to both SSSIs (only) and to European sites where game bird release takes place inside and within 500m (or greater if there is specific evidence) of the site boundary.

It is difficult to know whether one further year of releases would reach the threshold of significant disturbance or deterioration at European protected sites as a general rule. The impacts of gamebird release depend on the sensitivity of the features present, the level of activity and prevailing environmental conditions. It is conceivable that in certain site-specific circumstances a further year of release could reach or exceed the significance threshold. We do not currently have evidence to suggest that this would be the case for the site series but for individual sites, where there is concern that continuation of gamebird activity would result in significant harm, action has been taken/is in train to address the activity. This applies to both SSSIs (only) and to European sites where game bird

release takes place inside and within 500m (or greater if there is specific evidence) of the site boundary.

For some sites the sensitivities and current condition of features may mean that even levels of release consistent with best practice could result in significant harm and/or impact upon the future restoration. This applies to both SSSIs (only) and to European sites where game bird release takes place inside and within 500m (or greater if there is specific evidence) of the site boundary.

Natural England will deal with these issues on an individual site basis and based on the evidence of impact. For those sites where we have evidence that damage/disturbance is occurring, or it is reasonably foreseeable that damage/disturbance will occur, as a result of ongoing gamebird activity, we have and will continue to use the regulatory tools available to us to remove the threat of further harm. This applies to both SSSIs (only) and to European sites where game bird release takes place inside and within 500m (or greater if there is specific evidence) of the site boundary.

Natural England does not currently have evidence that would allow it to say with certainty that gamebird release at European sites, not covered by the monitoring programme, are not the cause of significant disturbance/deterioration. However, based upon our best available evidence, we can say that where we have evidence pointing to disturbance/damage relating to gamebird release these issues are being investigated or actively tackled using the regulatory tools available to us. The monitoring information will act as a flag that further, more detailed, investigation into the impacts of game bird release is required, rather than providing sufficient evidence alone to take action during the 2021 season.

As a general rule, where condition assessments highlight that specific features on individual sites are in an unfavourable condition, this would initially prompt further investigation into the likely causes to identify the appropriate remedy/action. This will also occur in relation to the specific condition assessments being carried out those individual sites (or component parts of them) where gamebird releases have previously been highlighted as an issue. The action taken would depend on the circumstances; for example the issue could be resolved through dialogue with the land owner or manager, or it may require regulatory or enforcement action to be taken. As we anticipate that the condition assessments of these sites would take place during March-June 2021 (when it is the optimal time to carry out vegetation monitoring), we cannot guarantee that all subsequent actions would be taken prior to releases occurring during late summer 2021. Any significant cases of damage or deterioration would, however, be priorities for immediate action to prevent further harm.

## **Vulnerability of European Protected Sites based on REA Findings**

We consider that the most vulnerable European Sites will be those that support designated habitat types that are dependent on a naturally low nutrient status and so are sensitive to the direct effects of nitrogen enrichment, a key issue identified in the REA.

Based on their broad habitat types, we have assessed 263 European Sites (SACs/SPAs) as being potentially vulnerable, either in whole or in part, to some of the issues identified in the REA. (In many cases, these SACs and SPAs coincide and overlap with each other).

This is based on an indicative analysis of the sensitivity of those broad habitat types within the SSSIs that underpin European Sites to nitrogen enrichment. This has applied the general 'Exceedance Score' used in JNCC's nitrogen decision framework tool which summarises the national/theoretical evidence that nitrogen deposition may lead to unfavourable condition of a habitat at a site (see JNCC, 2016. *A decision framework to attribute atmospheric nitrogen deposition as a threat to or cause of unfavourable habitat condition on protected sites* at <https://hub.jncc.gov.uk/assets/0e68944d-8cec-4855-9016-3627ce8802c5>).

This has been applied to give a general indication of a habitat type's likely sensitivity to nutrient enrichment, especially the addition of nitrogen. The broad habitat types of these 263 European Sites are therefore considered, in theory, to have either medium, high or very high sensitivity. Whilst this analysis is not specific to nutrient enrichment from gamebird releases, or to individual sites, it can provide an indication of ecologically unfavourable condition as a result of excessive levels of nitrogen, and therefore the sites that are the most sensitive to such impacts. The European Sites identified on this basis are listed in Annex B.

## **Possible Conditions for a Licensing System for releasing gamebirds on or around European Protected Sites**

Natural England cannot provide definitive advice on the nature of any conditions that might be deemed appropriate without further clarity regarding the scope of the regulatory licensing system regime (i.e. would it apply to protected sites and buffers, or only to buffers). The conditions would also depend on the type of licensing system. Natural England believes that it would be possible to use a strategic licensing approach where a common set of conditions could be applied universally to cover the protective measures required for designated sites.

Whether the strategic approach would involve a class or general approach will depend whether there is a need to use the licence to collect information (i.e. if we need to know where releasing is taking place and numbers released then a class licence is the appropriate option).



## **Annex A Distillation of key evidence conclusions**

**[References in brackets are to most relevant sections of REA report. The references are not exhaustive]**

1. [Direct effect] Strong evidence of soil eutrophication in and around pens and feeding sites. Weak / moderate evidence of localised atmospheric nitrogen increases in and around pen and feed sites. Strong evidence of localised eutrophication effects on vascular ground flora. Weak evidence of localised negative effects on bryophyte and lichen flora. [Critical Appraisal ('CA') sections 1A, 1B]
2. [Direct effect] Strong evidence of physical disturbance effects on vegetation in and around release pens with a reduction in abundance and composition. i.e. reduced level of perennials such as dog violet but increases in annuals such as annual meadow grass. [CA sections 1A, 1B]
3. [Direct effect] Strong evidence that physical disturbance effects on vegetation diminish rapidly with increasing distance from release pens. [CA sections 1A, 1B]
4. [Direct effect] Weak evidence of adult pheasants reducing invertebrate populations at release sites / competition for food with native wildlife. [CA section 1E]
5. [Direct effect] Moderate evidence that released gamebirds act as a disease reservoir affecting closely related native bird species (e.g. grey partridge) Strong evidence that do not act as a disease reservoir for non-related native bird species. [CA section 1D]
6. [Direct effect] No evidence that released gamebirds increase ectoparasites (e.g. ticks) and associated pathogens. [CA section 1D]
7. [Direct Effect] moderate – strong evidence that foraging behaviour of pheasants has no significant effect on abundance and biomass of invertebrates in release areas. Weak evidence that invertebrate community types may be altered in and around pens (needs further research). [CA section 1E]
8. [Direct effect] Weak evidence of predation of herptiles. Moderate-strong evidence that herptiles are not a significant dietary component, any limited predation is likely to be incidental. [CA section 1F]
9. [Direct effect] Mixed evidence - carcass availability and predators: this is a complex picture with direct and indirect effects exerting an influence and this also being varied by landscape type. There is strong evidence that released gamebirds lead to localised periodic increases in generalist predators particularly foxes but also corvids and raptors. There is strong evidence that gamekeeping mitigates this effect in relations to foxes and corvids leading to no overall net increase when compared to areas without release pens. [CA section 1G]
10. [Associated effect] Moderate – strong evidence – of positive woodland management, maintenance and planting e.g. creation of rides, maintaining shrub layers, directly associated with the maintenance of gamebirds. [CA section 2C]

11. [Associated Effect] – Weak equivocal evidence – effects of over winter supplementary feeding on vertebrates. Some suggestion that it may help seed eating birds over winter; equally supports rat populations. So, a mixed picture with no strong evidence of effect either way. [CA section 2D]

12. [Associated effect] – moderate evidence of higher levels of vehicular disturbance in game woodlands associated with management and feeding, compared to non-game woods. [CA section 2F]

13. [Indirect effect] – moderate evidence – that planting and management of woody plants associated, and supplementary feeding with gamebird management has benefit (outside pen area) increases the abundance of woodland fringe butterflies, breeding songbirds and overwintering birds compared to non-manged woodland and non-cover crop sites. [N.B. – comparison is essentially intensive agriculture so that this is probably a predictable result]. [CA sections 3A – 3D]

14. Scale of release – moderate evidence – direct effects (above) indicate that size of effect is proportionate to the scale of release within a site. There is strong evidence that the scale of release has increased since the 1960s with the known numbers being about 9 times higher by 2010. What is unclear is the actual numbers that are being released. The range of estimated numbers varies substantially but all evidence agrees that the declared numbers are much lower than actual numbers released by as much as 75% in some estimates. [CA section 1]

15. Dispersion through the wider landscape after release from pens – moderate evidence – indicates pheasant home ranges up to 250ha but mean home range is less than this with a radius of approx. 560m for females [Turner, 2007]. Other studies have shown similar or smaller dispersal distances generally less than 500m. At this point densities are low. Dispersal of red legged partridge is of a similar magnitude [moderate - weak evidence] [Mediating factors chapter: section E]

## **Annex B – Vulnerable European Sites Based on REA Findings**

Alde, Ore and Butley Estuaries SAC, Alde-Ore Estuary SPA,  
Arnecliff & Park Hole Woods SAC,  
Arun Valley SAC, Arun Valley SPA,  
Asby Complex SAC,  
Ashdown Forest SAC, Ashdown Forest SPA,  
Aston Rowant SAC,  
Avon Gorge Woodlands SAC,  
Barnack Hills & Holes SAC,  
Bath & Bradford on Avon Bats SAC,  
Beast Cliff-Whitby (Robin Hood's Bay) SAC,  
Bee's Nest & Green Clay Pits SAC,  
Benacre to Easton Bavents Lagoons SAC, Benacre to Easton Bavents SPA,  
Benfleet and Southend Marshes SPA,  
Berwickshire and North Northumberland Coast SAC, Northumbria Coast SPA,  
Birklands & Bilhaugh SAC,  
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA  
Blean Complex SAC,  
Bolton Fell Moss SAC,  
Border Mires, Kielder-Butterburn SAC,  
Borrowdale Woodland Complex SAC,  
Bowland Fells SPA,  
Bracket's Coppice SAC,  
Breckland SAC,  
Breckland SPA,  
Bredon Hill SAC,  
Breydon Water SPA,  
Bridlesford Copses SAC,  
Broadland SPA, The Broads SAC,  
Brown Moss SAC, ,  
Burnham Beeches SAC,  
Butser Hill SAC,

Calf Hill & Cragg Woods SAC,  
Cannock Chase SAC,  
Carrine Common SAC,  
Castle Eden Dene SAC,  
Castle Hill SAC,  
Cerne & Sydling Downs SAC,  
Chesil and the Fleet SAC,  
Chew Valley Lake SPA,  
Chichester and Langstone Harbours SPA,  
Chilterns Beechwoods SAC,  
Colne Estuary (Mid-Essex Coast Phase 2) SPA,  
Cothill Fen SAC,  
Cotswold Beechwoods SAC,  
Craven Limestone Complex SAC,  
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA,  
Crowdy Marsh SAC,  
Culm Grasslands SAC,  
Cumbrian Marsh Fritillary Site SAC,  
Dartmoor SAC,  
Dawlish Warren SAC,  
Deben Estuary SPA,  
Denby Grange Colliery Ponds SAC,  
Devils Dyke SAC,  
Dew's Ponds SAC,  
Dixton Wood SAC,  
Dorset Heathlands SPA,  
Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC,  
Dorset Heaths SAC,  
Dover to Kingsdown Cliffs SAC,  
Downton Gorge SAC,  
Duddon Mosses SAC,  
Duncton to Bignor Escarpment SAC,  
Dungeness SAC,  
Durham Coast SAC,

East Devon Heaths SPA, East Devon Pebblebed Heaths SAC,  
East Hampshire Hangers SAC,  
Ebernoe Common SAC,  
Eillers Wood & Sand Dale SAC,  
Emer Bog SAC,  
Epping Forest SAC,  
Essex Estuaries SAC,  
Eversden and Wimpole Woods SAC,  
Exe Estuary SPA,  
Exmoor & Quantock Oakwoods SAC,  
Exmoor Heaths SAC,  
Fal and Helford SAC,  
Fen Bog SAC,  
Fenland SAC,  
Fenn's, Whixall, Bettisfield, Wem & Cadney Mos SAC,  
Folkestone to Etchinghill Escarpment SAC,  
Fontmell & Melbury Downs SAC,  
Ford Moss SAC,  
Foulness (Mid-Essex Coast Phase 5) SPA,  
Gang Mine SAC,  
Godrevy Head to St Agnes SAC,  
Great Yews SAC,  
Grimsthorpe SAC,  
Hackpen Hill SAC,  
Hamford Water SAC,  
Hamford Water SPA,  
Harbottle Moors SAC,  
Hartslock Wood SAC,  
Hastings Cliffs SAC,  
Hatfield Moor SAC,  
Helbeck & Swindale Woods SAC,  
Holburn Lake & Moss SPA,  
Holme Moor & Clean Moor SAC,  
Holnest SAC,

Hornsea Mere SPA,  
Humber Estuary SAC, Humber Estuary SPA,  
Ingleborough Complex SAC,  
Isle of Portland to Studland Cliffs SAC,  
Isle of Wight Downs SAC,  
Isles of Scilly Complex SAC,  
Isles of Scilly SPA,  
Kennet & Lambourn Floodplain SAC,  
Kennet Valley Alderwoods SAC,  
Kingley Vale SAC,  
Lake District High Fells SAC,  
Lee Valley SPA,  
Leighton Moss SPA,  
Lewes Downs SAC,  
Little Wittenham SAC,  
Lower Derwent Valley SAC, Lower Derwent Valley SPA,  
Lydden & Temple Ewell Downs SAC,  
Lyppard Grange Ponds SAC,  
Manchester Mosses SAC,  
Marazion Marsh SPA,  
Medway Estuary and Marshes SPA,  
Mells Valley SAC,  
Mendip Limestone Grasslands SAC,  
Mendip Woodlands SAC,  
Minsmere to Walberswick Heaths & Marshes SAC, Minsmere-Walberswick SPA,  
Mole Gap to Reigate Escarpment SAC,  
Moor House-Upper Teesdale SAC,  
Morecambe Bay and Duddon Estuary SPA,  
Morecambe Bay Pavements SAC,  
Mottey Meadows SAC,  
Mottisfont Bats SAC,  
Naddle Forest SAC,  
Nene Washes SAC, Nene Washes SPA,  
Newham Fen SAC,

Newlyn Downs SAC,  
Norfolk Valley Fens SAC,  
North Downs Woodlands SAC,  
North Meadow & Clattinger Farm SAC,  
North Norfolk Coast SAC, North Norfolk Coast SPA,  
North Northumberland Dunes SAC,  
North Pennine Dales Meadows SAC,  
North Pennine Moors SPA,  
North Somerset & Mendip Bats SAC,  
North York Moors SAC, North York Moors SPA,  
Northumbria Coast SPA,  
Orfordness - Shingle Street SAC  
Orton Pit SAC,  
Ouse Washes SAC, Ouse Washes SPA,  
Outer Thames Estuary SPA,  
Ox Close SAC,  
Oxford Meadows SAC,  
Pagham Harbour SPA,  
Parkgate Down SAC,  
Pasturefields Salt Marsh SAC,  
Peak District Dales SAC,  
Peak District Moors (South Pennine Moors Phase 1) SPA,  
Peter's Pit SAC,  
Pevensey Levels SAC,  
Pewsey Downs SAC,  
Plymouth Sound and Estuaries SAC,  
Polruan to Polperro SAC,  
Poole Harbour SPA,  
Portholme SAC,  
Porton Down SPA,  
Portsmouth Harbour SPA,  
Prescombe Down SAC,  
Quants SAC,  
Queendown Warren SAC,

Rex Graham Reserve SAC,  
Ribble and Alt Estuaries SPA,  
Richmond Park SAC,  
River Avon SAC,  
River Camel SAC,  
River Derwent & Bassenthwaite Lake SAC,  
River Derwent SAC, Martin Mere SPA,  
River Itchen SAC,  
River Wensum SAC,  
Rixton Clay Pits SAC,  
Rodborough Common SAC,  
Roman Wall Loughs SAC,  
Rook Cliff SAC,  
Rooksmoor SAC,  
Roudsea Wood & Mosses SAC,  
Roydon Common & Dersingham Bog SAC,  
Salisbury Plain SAC,  
Salisbury Plain SPA,  
Sandlings SPA,  
Severn Estuary SAC,  
Severn Estuary SPA,  
Shortheath Common SAC,  
Sidmouth to West Bay SAC,  
Simonside Hills SAC,  
Skipwith Common SAC,  
Solent and Isle of Wight Lagoons SAC,  
Solent and Southampton Water SPA,  
Solent Maritime SAC,  
Somerset Levels & Moors SPA,  
South Dartmoor Woods SAC,  
South Hams SAC,  
South Pennine Moors Phase 2 SPA,  
South Pennine Moors SAC,  
South Solway Mosses SAC,

South West London Waterbodies SPA,  
St. Albans Head to Durlston Head SAC,  
Staverton Park & The Thicks, Wantisden SAC,  
Stodmarsh SAC, Stodmarsh SPA,  
Stour and Orwell Estuaries SPA,  
Strensall Common SAC,  
Subberthwaite, Blawith & Torver Low Commons SAC,  
Tamar Estuaries Complex SPA,  
Tankerton Slopes and Swalecliffe SAC,  
Tarn Moss SAC,  
Teemouth and Cleveland Coast SPA,  
Thames Basin Heaths SPA,  
Thames Estuary and Marshes SPA,  
Thanet Coast and Sandwich Bay SPA,  
The Broads SAC,  
The Lizard SAC,  
The Mens SAC,  
The New Forest SAC,  
The New Forest SPA,  
The Stiperstones & The Hollies SAC,  
The Swale SPA,  
The Wash and North Norfolk Coast SAC,  
Thorne & Hatfield Moors SPA,  
Thorne Moor SAC,  
Thrislington SAC,  
Thursley, Ash, Pirbright & Chobham SAC,  
Thursley, Hankley & Frensham Commons SPA,  
Tintagel-Marsland-Clovelly Coast SAC,  
Ullswater Oakwoods SAC,  
Walmore Common SPA,  
Walton Moss SAC,  
Waveney & Little Ouse Valley Fens SAC,  
Wealden Heaths Phase II SPA,  
West Dorset Alder Woods SAC,

West Midlands Mosses SAC,  
Wimbledon Common SAC,  
Windsor Forest & Great Park SAC,  
Witherslack Mosses SAC,  
Woolmer Forest SAC,  
Wormley-Hoddesdonpark Woods SAC,  
Wye & Crundale Downs SAC,  
Wye Valley & Forest of Dean Bat Sites SAC,  
Wye Valley Woodlands SAC,  
Yewbarrow Woods SAC,

## **Review of economic studies on the value of the shooting industry and the possible economic impacts of an interim licensing regime for the release of pheasants and red legged partridge**

### **Background**

Defra has undertaken an internal review to consider the legislative arrangements for the release of gamebirds on and around European protected sites to ensure they occur on a correct legal footing. This review was launched in Autumn 2019 in response to a pre-action protocol (PAP) letter from Wild Justice (WJ) on 10 July 2019 covering the release of common pheasants and red-legged partridges on or around European protected sites. WJ seeks declaratory relief from the Court “to ensure that the Gamebird Review and any 2021 release proceeds on the correct legal footing such that gamebirds are only released in 2021 so far as that is lawful”. The hearing is scheduled for 3 and 4 November 2020.

The Interested Parties and the Claimant referred to a few economic studies around the shooting industry, namely: *‘The Value of Shooting: The economic, environmental and social contribution of shooting sports to the UK’* (PACEC 2014), and *‘Having an impact – The economic and environmental effects of countryside sports shooting’* by Sheffield Hallam University and Cormack Economics. These two reports are accepted as being the source of current estimates of its contribution to the economy and numbers employed. As well as giving a view on the claims made in these sources, this note considers the likely economic impacts of introducing a licensing regime for the release of gamebirds in and within a 500m zone around European protected sites. Other options have been considered but this appears the most appropriate potential solution, subject to consultation on the detailed scope and design of such a regime. It identifies the limitations of current studies and discusses further information that would need to be gathered in order to carry out a Regulatory Impact Assessment.

### **What we know about size of the industry**

A report from PACEC (2014): *‘The Value of Shooting: The economic, environmental and social contribution of shooting sports to the UK’* suggests that shooting sports are worth £2 billion per year and support the equivalent of 74,000 full-time jobs.

This research was independently undertaken but was commissioned by 17 organisations involved with shooting and the countryside. The report claimed that 600,000 people in the UK shoot live quarry, clay pigeons or targets (existing industry information shows that there are at least 1.6 million individuals who shoot live quarry with an airgun). The research suggests that nearly 2 million hectares are actively managed for conservation as a result of shooting and that shooters spend 3.9 million work days on conservation – the equivalent of 16,000 full-time jobs. This report covers both live shooting of a range of species and clay pigeons/targets and it is not clear what contribution each has. This means that the specific value of pheasant and red legged partridge shooting to the economy is not defined.

Another review conducted by Sheffield Hallam University and Cormack Economics: *‘Having an impact – The economic and environmental effects of countryside sports shooting’* suggested that the evidence contained in the above report was not testable or robust, and that it presented several methodological weaknesses, omissions and

flaws. Their alternative analysis of the data suggested a value to the UK economy of less than half of what the earlier report claimed.

Whilst both reports were undertaken by independent parties, they were commissioned from opposing sides of the debate. Furthermore, what is of relevance to this judicial review challenge is the release of pheasants and red legged partridge and more precisely their release in and around European protected sites which represents a much smaller value than the overall shooting industry.

### **What we know about releases in and around sites**

Although there is underrepresentation on the APHA poultry register, which we estimate to cover around 40% of the number of birds registered compared to industry figures, there is no evidence to suggest that the figures are in anyway distorted geographically. The APHA poultry register has 3,498 registered keepers on it of which 800 are recorded as being in either SACs including a 500m buffer around them (76 sites) or SPAs including a 500m buffer (41 sites). We therefore estimate that up to 25 % of registered keepers could be impacted by a licensing regime based on such a zone. In practice this figure may be much lower as whether or not the licensing regime applies will depend on where infrastructure is sited and on the densities of release.

### **What we know about the impact a licensing regime would have**

The report produced by Madden and Sage<sup>1</sup> indicate that the most likely impact on keepers releasing birds on sites or within a 500m buffer zone is that they would be restricted in terms of the density of release of birds and/or the location of where birds are being released. The precise impacts will depend on the particular situation of the shoot concerned – i.e. whether there is scope to move activity away from sites or to reduce activity to within acceptable levels. At a practical level the administrative costs for managing the licensing system would involve:

- Cost of putting in an application for an individual licence which, depending on complexity, we estimate to be in a range £184-£800. A worst case scenario would involve all releases on European protected sites being licensed individually which we estimate to be in the region of 800 to 2,000 individual license applications. Were all applications to be relatively straightforward the total cost is likely to be in the region of £370,000 to £500,000.
- Repositioning of pens and feeding stations which could require new consents.
- Loss of earnings as a result of reduced numbers of birds – this may be minimised if there is scope to reduce densities by releasing over larger areas. It is difficult to gauge how much this would be as it would depend on individual shoots.
- In the most sensitive areas it may be that no releases are possible at all but at this stage we do not know where those situations will arise.

<sup>1</sup> 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.

In addition to the administrative costs required to manage the licensing system, we estimate that a licensing regime based on individual licences for all releases on European protected sites and a 500m zone would require 6 – 15 full time employees to administer depending on how accurate the APHA poultry register proves to be. This is a worst case scenario and impacts could be reduced by measures set out below.

The biggest impact however would be through the abrupt disruption to shoots as a result of having to quickly make changes to their planning. Shoots are likely to be planning numbers in December/January and preparing releases pens in February. Indications of the extent of restrictions would therefore be needed by this point. The process of rearing will commence in March before eventual releases start in June. Disruption will therefore be to the shoots themselves but also further down the supply chain. This uncertainty is likely to come on top of continuing uncertainty around Covid-19.

### **How those impacts could be minimised**

Were any such regime to be based on following industry best practice - for example of releasing up to 1,000 birds per hectare - a smaller proportion are likely to be impacted. We do not know what proportion of the industry follows industry best practice guidelines but given that they are endorsed by the industry itself it would be expected to be reasonably high although this cannot be confirmed.

We are aware that this year's releases are likely to be substantially down on last year's due to uncertainty around Covid-19. This uncertainty could continue into next year's releases. Anecdotally this year's releases could be reduced by up to 50% on last year and we have heard anecdotally too that breeders have reduced stocks by 30%. The impact of further restrictions on an industry that has already suffered significant disruption this year would therefore need to be considered carefully.

### **What further work would be required to carry out a full impact assessment**

At this stage it is difficult to anticipate what proportion of this segment of the shooting industry would be impacted by licensing. A full assessment of the impacts would require:

- A bespoke study that looks at the size of the industry and how it will be affected by the policy proposal;
- An assessment of what proportion of those impacted would already be following industry best practice guidelines;
- Identification of those sites that would need to be under such a regime because gamebird releases pose a risk as a result of particular site features – e.g. vegetation or where geographic features may remove the risk

Gamebird Review Team and Defra Economists  
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