

Wildlife and Countryside Act 1981 (as amended)

Licences to kill/take birds/mammals (non-piscivorous)

NATURAL
ENGLAND

Note: This report may be disclosed in response to Freedom of Information requests.

Technical Assessment of Application

Summary of Application and Decision

Case reference	2016/25354/SPM/WLM	Purpose	Preventing damage to livestock
Species			
Common buzzard			

Brief Description of Application

This is an application from the gamekeeper from [REDACTED] for a licence to permit common buzzards to be shot to protect pheasant and partridge poults. The applicants consider buzzard predation of game birds to be having a serious impact on the profitability/viability of the shoot. Non-lethal methods of preventing the problem have been tried and are considered to have been unsuccessful at reducing the level of predation being suffered to released poults.

Recommendation	Action Permitted: To shoot birds (to aid scaring)
Recommend Licence	Reason for refusal: N/A
	Date for reconsideration: N/A
Adviser Name: [REDACTED]	Date of Report: 14/09/2016

Application Details

1. Applicant

Title	[REDACTED]	Forename/Initials	[REDACTED]	Surname	[REDACTED]
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2. Site Details

Address	Describe precise location
[REDACTED]	[REDACTED]
Grid Reference N/A	

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Ownership of Site

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Technical Assessment

3. Assessment Details

Type of Assessment	Site Visit	Date of Assessment	06/09/2016
Risk Level	High	Sensitivity Level	3

Risk Assessment

Site visit carried out on 6 September 2016 by [REDACTED] (Wildlife Management Adviser [REDACTED]) to gain a better understanding of the problem and to examine measures already in place to try and reduce it. Potentially sensitive as this is a species that is not normally subject to lethal control for this purpose.

Persons Interviewed (if other than applicant)

Name	Address (if not as 2 or on application)	Role	Telephone Number
Applicant	N/A	N/A	N/A

4. Background Information

[REDACTED]

The applicant has provided supporting evidence for his application by way of shoot returns going back to the 2006-07 season, photographic evidence of predation that he has recorded this year and his own observations of the problems encountered over the recent years which include his conclusion that there has been a noticeable increase in the buzzard population on and around the farm for at least the last 4-5 years. The applicant is unable to give an accurate count of the current population of buzzards within the general area of the farm but reports that since he has been involved in this year's rearing program he has been seeing anything up to 18 buzzards per day, with most days sightings being in double figures. On the day of the site visit in excess of 20 buzzards were seen the bulk of which were in the woodland associated with the pheasant release pens and the remainder close to or flying around the partridge pen cover crops.

New internal guidance ("Licensing lethal control of birds to prevent serious damage"- SD/IGN/2016/001, 04/05/2016, v1.0) for advisors assessing damage applications for lethal control of birds causing serious damage to livestock (which pheasant and partridge poults are classed as when in and around their respective release pens and are reliant on the gamekeeper to provide food, shelter water and to some degree protection from the elements). This guidance was issued in May 2016, and clarified the principals contained within DEFRA's Wildlife Management Policy and how these principles (which include taking into account what can reasonably be expected to be undertaken by the applicant and also the level of proportionality of what the applicant can actually deliver) should be used, along with the assessors own knowledge and experience of assessing similar types of applications This guidance was used to assist in the assessment of this current application.

The IGN identifies four licensing principles which need to be met before a licence can be issued. These are:

- Principle 1: All other reasonable non-lethal solutions have been tried and/or shown to be ineffective.
- Principle 2: There is a genuine problem/need.
- Principle 3: There are no satisfactory alternatives.
- Principle 4: The licensed action will be effective at resolving the problem and the action is proportionate to the problem. Wherever possible, humane methods of lethal control are used.

In addition, there is a requirement that Natural England should consider the implications for the conservation status of the species that is to be the subject of lethal control, that the species being applied for via the application are considered to be "livestock" as defined within S16 (1) (K) of the Wildlife and Countryside Act and also that the applicant is able to provide supporting evidence that "serious damage" is being caused to the predated species.

This assessment has had to take into account the differing methods used to rear and release pheasant and partridge poults on to the land. Pheasants are placed into open topped pens within woodland at around 8 weeks of age and as they mature they start to explore the habitat around the initial release site and then gradually expand this to the wider cover and habitat around the release site.

The red leg partridges are released at a slightly older age and they are released in batches (trickle released), to assist them to form groups (coveys) which tend to stay together as they explore the surrounding habitat. The applicant trickle releases the partridges over a period of several weeks, the release pens are placed within sizable cover crops (not within woodland) to provide suitable habitat for them, supplementary feeding via feed hoppers is undertaken throughout the season, as it is with pheasants.

The differing rearing and release methods between pheasants and partridges both need to be able to show that they are within the definition of livestock, in that released poults are dependent on the keeper for the provision of food and water, return to the pen for shelter and stay within close proximity to the release pen. Due to the fact that the partridges are trickle released over a period of time, once released they do not have access back into the pen, but they stay close to the pen and are dependent on the keeper for the provision of food and water for a period of time that matches that of pheasants. It is during this period of release and dependency that brings released partridges within the scope of being livestock and predation is just as much an issue for them at this stage of their lives as it is for pheasants in release pens.

Due to the fact that the site visit was undertaken several weeks after the poults had been released into pens, the level and quality of ground cover seen during the visit had already been affected by the poults, so, in relation to assessing the pen quality, pre-release of the pheasant poults we sought confirmation from the applicant that suitable ground cover existed within the pens. We have also taken into account the ground and shrub cover in close proximity to each pen to gain an idea of the species that were present in that location.

The partridge release pens are located within large, fairly well established cover crops, therefore judging their quality and suitability as providers of cover was easy to do.

Due to the manner in which partridges are released, the important factor to protect the young birds is the provision of suitable (via plant species selection and sheer size) cover crops.

5. Evaluation

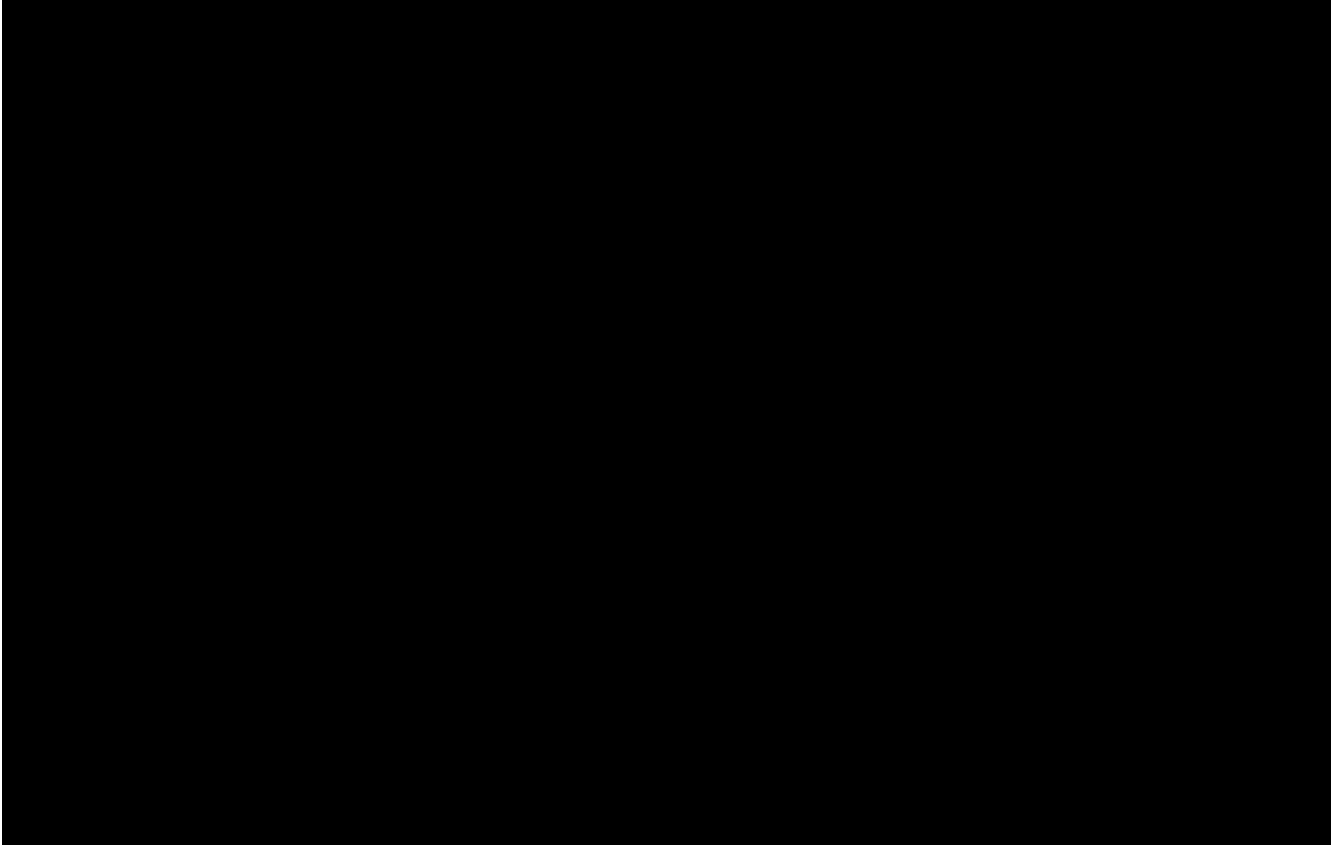
Descriptions of release pens in use:

The farm has recently started (within approx the last 18 months) an ongoing woodland management program across the farm which aims to develop a rolling 5-8 year cutting and thinning cycle for all areas of woodland, the first section of woodland subject to this policy does not contain a release pen, but the improvements in ground quality and sunlight penetration was very noticeable despite the work only being approx 12 months old. This ongoing project will be beneficial to the 3 areas of woodland containing pheasant release pens.

Pheasant release pens-

██████████. This pen is located within a long but not very wide (30 metre) strip of woodland spinney. The east and west sides of the pen extend approx 10 metres out from the spinney into a grassed area. A cover crop that extends to a length of approx 400 metres (comprising of millet, red/white clover, maize and triticale) is located along the eastern side of the pen, the western side has a grass track running along its perimeter that is a similar length to the cover crop on the other side of the pen. Trees present within the pen are hawthorn, sycamore, oak and a few coniferous trees are also present, they are all of a fairly uniformed height of 25-30 feet.

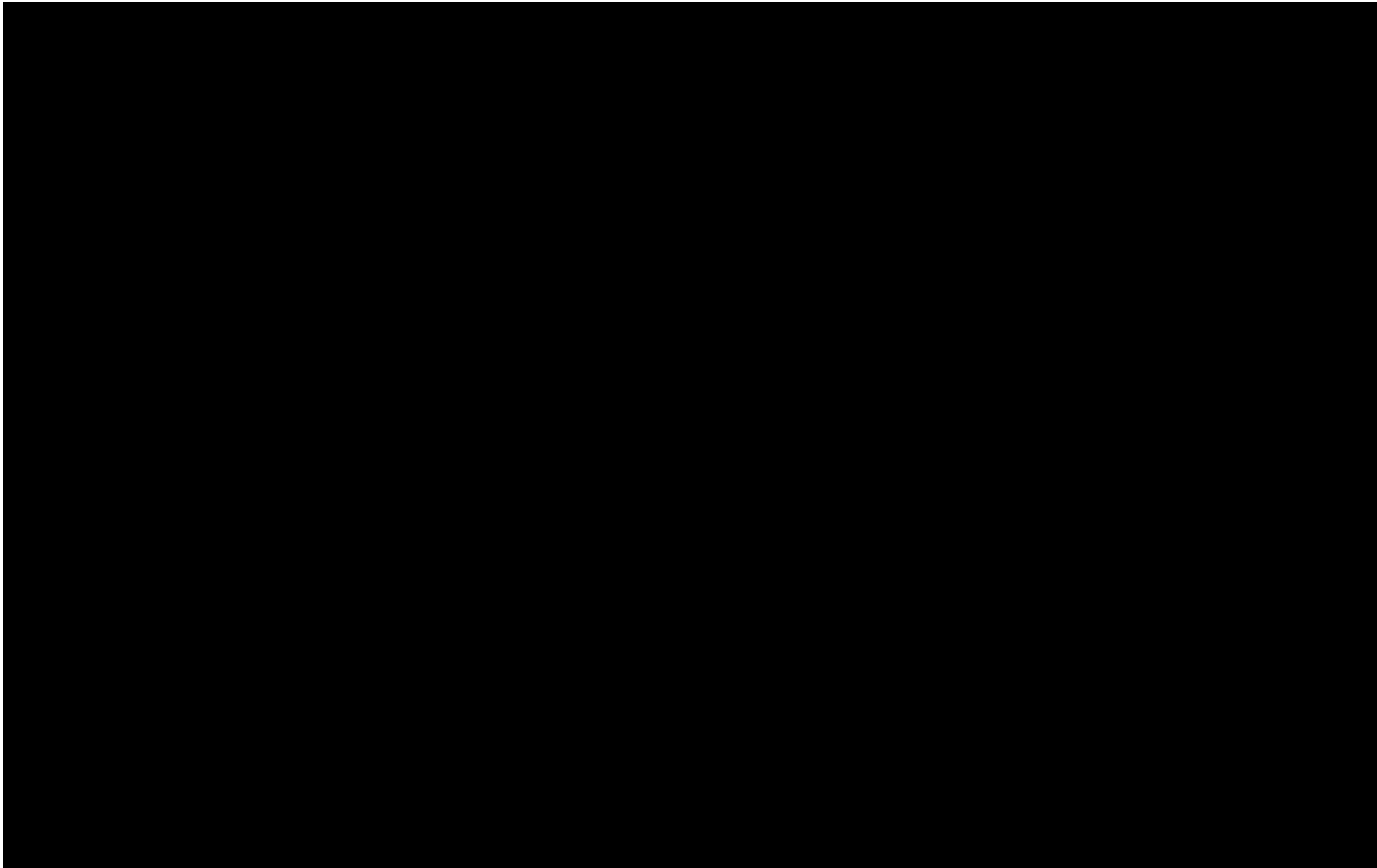
At the time of the site visit poults could be seen throughout the pen and a good number were also taking advantage of the grass stripes to preen and warm up in the sunlight. The feed hoppers and water drinkers had all been positioned tight against the side of the spinney to ensure that the poults had adequate and close by cover to retreat into if any predators were seen. Additional water drinkers were located running down the middle of the pen. Due to the age and growth pattern of the trees within the spinney, the canopy and upper two thirds of the trees were quite dense but not to an extent that it excluded light from getting to ground level inside the pen. I could not see any obvious places at ground level which were devoid of any kind of ground cover growth. There were signs that in several locations lower branch growth had been removed to further aid both light penetration and to reduce enclosure of the lower section of the pen.



Photograph of Eastern side [REDACTED].

[REDACTED] This pen is located within an "arm" of more recently planted trees that extends from the southern edge of the mature [REDACTED]. Trees present within and around the pen included well established oak, willow, sycamore and a few coniferous trees are also present. There were two areas within the pen where previous management of the trees had been undertaken and this work has produced areas of open sunny ground which still contained good ground cover which included grass, nettle, bramble and self-seeded sycamore re growth. Corrugated iron shelters were present throughout the pen to provide extra cover and dusting points for the poults. The western side of the pen is located against an open agricultural field and the eastern edge is within a ride that runs the full length of the "arm" that forms [REDACTED]. This central ride is of a width that would easily accommodate a tractor traveling along it. The canopy over this ride is not fully enclosed and this means that good grass growth is present along its length. Feed hoppers located along this ride are, as with the [REDACTED] located tight against the side of the ride and poults have ample protective cover available to them to provide a retreat if a predator is present.

Poults were seen throughout the pen and ample ground and mid-level cover was available throughout the pen.

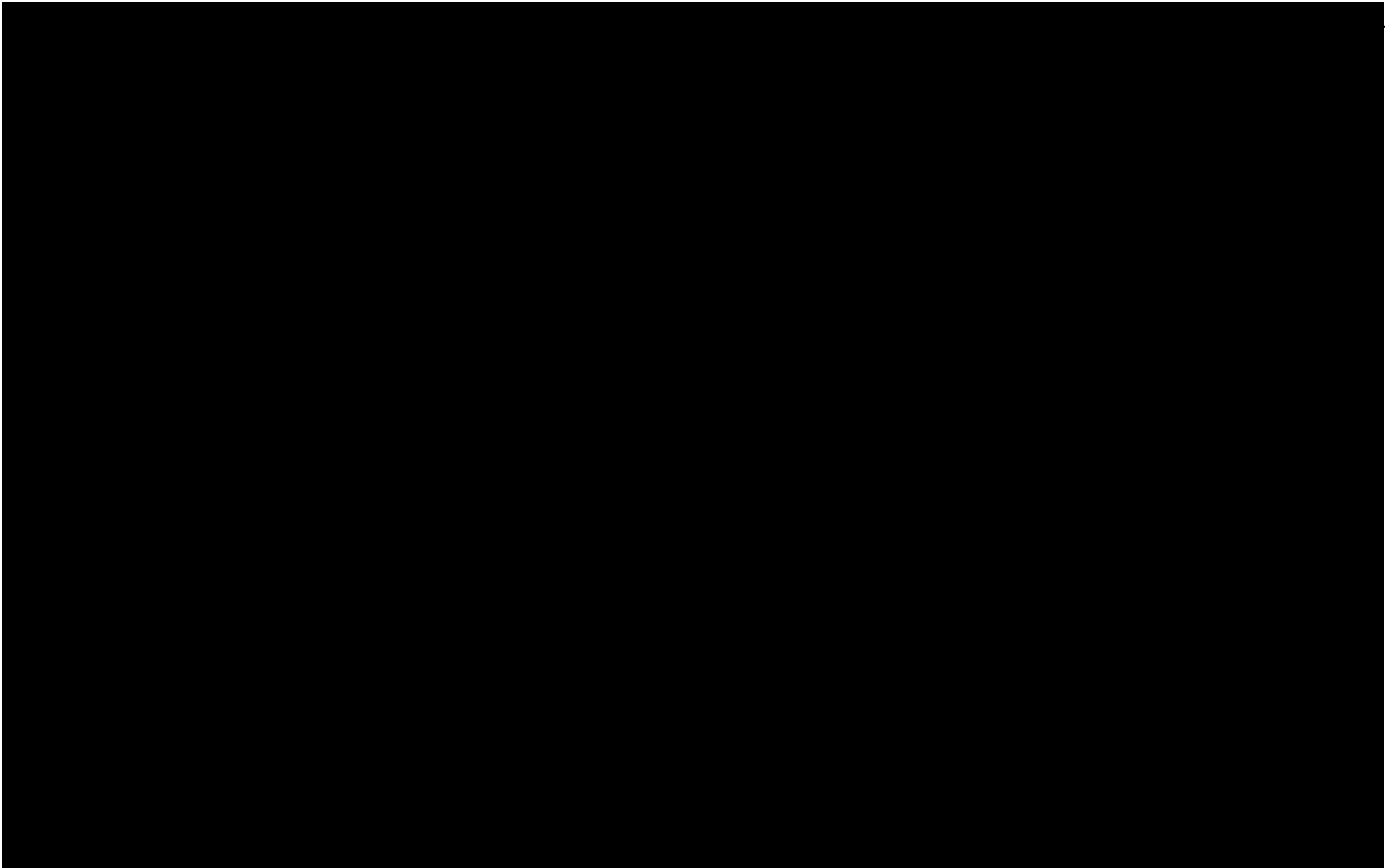


Photograph of interior [REDACTED].

[REDACTED] The location and set up for this pen closely mirrors that of [REDACTED] in that it is located within a long narrow strip of woodland with an adjoining 400 metre long cover crop along its eastern edge and open arable field to its west. This pens location does have one difference in that the spinney is wider and a narrow ride (tight fit for a Landover) runs along the western side of the pen with a belt of conifers present between the pen and the adjoining agricultural field. The trees present within the spinney include pine, oak, sycamore and hawthorn, there was noticeably more pine trees present than in the [REDACTED] location.

Both sides of the pen extend out onto grassed tracks and provide a large amount of open sunny ground for the poult to utilise, the feed hoppers and water drinkers are placed tight against the edge of the tree line. The canopy within the pen is quite dense and in places light penetration to ground level is restricted. Along both of the long sides of the pen, the tree canopy extends over the grassed tracks and sits just above the fence line providing an additional barrier to potential avian predators as a result of them having to negotiate the narrow gap between the canopy and fence line.

The non-pen section of the spinney has been subject to recent thinning and the improvement in ground cover regrowth is very noticeable in comparison to that within the pen.



Photograph of eastern side [REDACTED].

Partridge release pens-

Description of release pens and associated cover crops in use.



All but one of the netted partridge release pens (which will be described separately at the end of this section) sit within cover crops in the region of 400 metres long by 60 metres wide and containing almost identical plant species within them (mixtures of chicory, sunflower, maize, kale, red and white clover, millet and triticale). At the time of the site visit these were all well established and the quality of protective cover available to released partridges was very good. Feed hoppers and water drinkers are located around the pen and at various locations within the cover crops. Additional feed hoppers and water drinkers are located around (especially within the network of hedgerows) the farm to provide supplementary food and water as required to main the poults in good health.



Photograph showing typical layout of partridge pen cover crops [REDACTED] in this instance).

[REDACTED].

The birds are actually housed within an adapted open (but netted) fronted barn in this location which sits beside a long established hedgerow that extends to the north of the barn. [REDACTED] pheasant pen and associated cover crop is approx 50 metres south of this barn and as with the other partridge related cover crops on the farm this cover crop was well established and provides a large and secure protective crop for the partridges when released.

Principle 1: All other reasonable non-lethal solutions have been tried and/or shown to be ineffective.

The applicant stated, in the application and during the site visit, that a range of preventative measures had been tried over the years. These included: Using scarecrows in the pens, hanging CDs, plastic feed bags suspended from branches have also been tried. Cover crops planted adjacent to woodland containing pheasant pens is also undertaken to provide additional “safe haven” habitat for exploring poults. This season the applicant has deployed scarecrows, hanging CD’s and tatter bags.

As has been reported by previous applicants of this type of licence, it is claimed that the range of deterrent and non-lethal options used has a very limited effect on reducing predation, some reporting that they can become ineffective within days of being deployed and actions such as shooting to scare around stocked pens raises concerns about adverse effects on released poults.

At least twice daily visits to the pens are made by the gamekeeper to tend to the poults and also aids disturb hunting buzzards by human presence.

Removal of perches is sometimes recommended as a way of reducing avian predation. However, the pheasant release pens at this location are within woodlands with an almost infinite number of perches. Consideration could be given to putting spikes on the top of fence posts around the pens, especially where the pens have an edge that runs along the side of the woods, but this alone is unlikely to solve the problem.

Other factors that can affect buzzard predation rates include the timing of release into the pens, the age of the birds when they are released, the number of birds released and the stocking density (Parrott, D., *Impacts and management of common buzzards Buteo buteo at pheasant Phasianus colchicus release pens in the UK: a review.* Eur J Wildl Res (2015) <http://link.springer.com/article/10.1007/s10344-014-0893-1>). The number of birds released and stocking density are discussed under Principle 2. Predation of birds released in June and July is higher than birds released in August and September. This may just be because the birds are exposed to

predators for a shorter time before they are shot. BASC advise waiting until birds are 7 to 8 weeks of age to reduce vulnerability to predators. At [REDACTED] this year the pheasant poults were released in mid-July and they were 8 to 9 weeks old when released. As mentioned earlier, the partridges are released at an older age to reduce the time spent within pens and to allow them to form coveys. The main activity undertaken to reduce predation is to provide good cover within and around the release pens.

Principle 2: There is a genuine problem/need.

Shoot stocking levels and returns- 2011-12 till 2015-16

YEAR	PHEASANTS RELEASED	PHEASANTS SHOT	% RETURNS
2011-12	[REDACTED]	[REDACTED]	58.2%
2012-13	[REDACTED]	[REDACTED]	51.4%
2013-14	[REDACTED]	[REDACTED]	38.6%
2014-15	[REDACTED]	[REDACTED]	38.5%
2015-16	[REDACTED]	[REDACTED]	32.9%

YEAR	PARTRIDGES RELEASED	PARTRIDGES SHOT	% RETURNS
2011-12	[REDACTED]	[REDACTED]	43.7%
2012-13	[REDACTED]	[REDACTED]	40.5%
2013-14	[REDACTED]	[REDACTED]	36.1%
2014-15	[REDACTED]	[REDACTED]	33.7%
2015-16	[REDACTED]	[REDACTED]	39.7%

Applicants' comments and observations concerning predation of released partridges by buzzards.

The applicant and this assessor spent a fair bit of time discussing this issue and I think it is pertinent to this application to be able to record the comments made.

The problem of buzzards predated pheasant poults within release pens have made up the bulk of the applications that this advisor has been involved in assessing during 2016 and I am confident that good evidence and published data covering this type of predation now exists in the organisation. Predation of partridge poults is just as much a problem as the predation of pheasant poults but the methods available to undertake non-lethal and scaring/disruption activities for released partridges is not as wide as for pheasants. The use of netted release pens and the placing of pens within cover crops virtually removes any chance of avian predation up to the point of release and the action of trickle releasing of partridge poults over a number of weeks is also an aid to potentially reducing predation, but once released and moving around within cover crops and adjoining stubble fields they are as much of a predation target as pheasant poults are within a pen.

As has been mentioned by other applicants for this type of licence, all of them believe that it is in all probability the result of the adult breeding birds having previously discovered and developed skills to predate pheasant and partridge poults and then teaching their young to do the same that is the crux of this problem. All applicants have sought licences to attempt to target the adult birds in the hope that this will lead to a reduction in predation. In fact Natural England has evidence (acknowledging that this is only one incident) that when buzzards were removed into captivity via a licence to prevent ongoing predation of free range chickens by an adult pair and one young buzzard the removal of the adult female and the immature female birds resulted in an immediate cessation of predation.

As mentioned earlier in this report, buzzards were seen in close proximity to all the pens visited during the site visit and it was when one was seen only 10 feet above the general area of a partridge pen that the applicant shared his almost daily observations of buzzards flying low over the cover crops in what he believes is an attempt to scare the poults into either struggling to fly through the crop to escape them or making them head out of the crop into the open fields and then attacking them. He showed me photos on his phone of what he claimed were poults that had been killed in a matter of minutes before he found them, and it was the fact that he disturbed the buzzards on the ground within the crops with the dead poults that allowed him to take a picture of a dead poults with only puncture wounds present and no attempt had been made by the buzzard to start eating its prey. This

behaviour, along with that of buzzards chasing poults along the tram lines within the crops were both methods he had witnessed being used by buzzards.

Predator control.

The main predator is the fox. Fox control is undertaken by the applicant. Fox control is done mainly by shooting at night, using thermal imaging and night vision equipment fitted to centre fire rifles. This is done on a very regular basis. The applicant also undertakes target control of mustelid species (stoats and weasels) and Larsen and ladder traps are used to control corvids during the spring and summer months.

Straying of birds onto adjacent land.

The applicant does not believe this to be a serious problem, the provision of good quality cover crops and feed hoppers in strategic locations to keep the poults within the farm boundary are thought to be effective.

Disease issues.

The applicant reported no problems with disease within either the pheasant or partridge poults.

Road kill.

Although there are B and minor roads in the area of the farm, the applicant reports that he is not aware of this being a major contributor to poult mortality.

Research suggests that typical gamebird losses to buzzards are 1% to 2% with 5% being exceptional (one in thirty shoots may suffer this level of loss with an even smaller number suffering losses of up to 10%) (Parrott, D. Op. Cit. (2015) mentioned in the abstract). The applicants are therefore suggesting that the losses they are suffering are not just above the norm but exceptional. It is likely that the dead poults found within the pens and cover crops will have been killed by buzzards – the pens are proofed against mammalian predators and buzzards are the most numerous and most likely avian predators. During the site visit signs of three fresh kills were observed but a large number of poult carcasses (both pheasant and partridge) and feathers could be seen. Losses of gamebirds tend to be higher where more than 500 birds are released into a pen.

The presence of buzzard nests does not relate to levels of buzzard predation and the presence of buzzard nests alone is not enough to demonstrate there is a genuine problem (Kenward et al, Op Cit. 2001). However, it is useful to have some idea of the number of buzzards on the farm, apart from anything it will allow us to better understand the impact of removing some birds from the population. The applicant stated in his application that he thought there are approximately 16 individuals in the area. During the site visit in excess of 20 buzzards were seen and all of the pens visited had between 1-3 individuals close to them which ties in with the applicants account that he sees 14-18 on an almost daily basis. Buzzards are territorial and the territories are determined by the availability of nest sites and not the availability of food. Buzzards are apparently willing to commute to favourable hunting grounds outside of their territories.

Principle 3: There are no satisfactory alternatives.

Possible alternatives to lethal control include destroying nests and eggs, to try and discourage breeding buzzards from building their nests close to the rearing pens, translocating buzzards and taking adult birds into captivity.

In 2013 Natural England issued a licence to a gamekeeper to destroy nests and eggs [REDACTED] but the licensee did not consider this a success as the birds built new nests nearby. In any case, it is the wrong time of year to try this. This option could help in future if the aim of a licence were to reduce the buzzard population but at present the aim is to remove problem birds. This is therefore not considered a satisfactory alternative in this instance.

Taking adult birds into captivity is, in conservation terms, no different to shooting them although it may be more acceptable to some people as it does not involve lethal action. The obvious drawback is that there is a limit to the number of falconers who will want wild caught buzzards. However, it may be a solution for a small number of birds. A Wildlife Adviser contacted the British Falconers Club to see if anyone could be found who would be keen to take wild captured buzzards for a previous application. One falconer was initially interested in taking two to three but was going to be on holiday for three weeks at the crucial time. Unfortunately, this option could not be pursued on that occasion and in this case there is a time constraint in that the applicants are looking for a licence urgently as now is the time most damage is done to the birds (whilst the poults are younger and smaller).

Capturing birds and releasing them elsewhere would be problematic. Buzzards are territorial and as a common species there are unlikely to be free territories in which to release them.

Shooting a few buzzards to enhance scaring was considered and ruled out due to the likelihood of causing stress to the pheasant poults as this would require the use of auditory scarers in the release pens.

Shooting buzzards to reduce the buzzard population was considered and ruled out as it is unlikely to be successful as the dead buzzards are likely to be quickly replaced by 'surplus' buzzards from the surrounding area.

Targeting problem buzzards by only shooting individuals seen feeding on gamebird carcasses would appear to be the best method, as this is highly targeted and based upon visual and tangible evidence of predation.

As previously mentioned, smaller releases of less than 500 birds appear to suffer less buzzard predation. Pheasants are currently released into [REDACTED] with between [REDACTED] poults released in each. This does not produce an overstocking issue and the size of the pens allows plenty of room for the poults to move around and seek cover if required.

Principle 4: The licensed action will be effective at resolving the problem and the action is proportionate to the problem. Wherever possible, humane methods of lethal control are used.

The applicant has asked for a licence to shoot four buzzards. The proposal is to target particular problem buzzards in and around his pheasant and partridge release pens.

Evidence for whether there are problem buzzards that target gamebirds more than other buzzards appears to be limited although there does appear to be evidence that some buzzards frequent release pens more than others. The applicant certainly believes there are buzzards that target game birds more than others and feels that their removal could provide respite for the gamebirds during a vulnerable period, the theory being it would take time for other buzzards to replace them and/or adapt their behaviour to also start targeting gamebirds ahead of other prey. In the USA licences are apparently issued under similar circumstances and are believed to potentially contribute to solving conflicts (Parrott, 2015). In the UK the method of taking two buzzards into captivity where they were predated on free range hens appears to have worked in the recent past. The approach of removing specific problem buzzards through lethal means or capture appears to be relatively novel in the UK as most similar licences are issued with the aim of enhancing scaring. Enhancing scaring would not be appropriate in this case due to the likely stress that would be caused to the gamebirds.

Assuming there are problem buzzards that can be targeted by only shooting individuals that are feeding on a kill, there appears to be a reasonable likelihood of successfully reducing predation. The vulnerable period for the released birds is considered to be from when poults are release until they are virtually fully grown, as this period will differ from place to place, a clearly defined period of vulnerability is not easy to establish.

Implications for the conservation of the species.

See Section 7 below.

6. Consultations

Is the proposed site on or near a designated site (NNR, SSSI, SPA, SAC etc)? No

Where the proposal might impact on a designated site, have you consulted Natural England colleagues? N/A

For SPAs and SACs, is an Appropriate Assessment necessary? N/A

Reason for Consultation and Summary of Response

N/A

Colleague/body Consulted	Date of Consultation	Date Response Received

7. Consideration of Conservation Factors

BTO figures show 67,000 pairs of common buzzards in the UK in the summer (2009 figures) with additional birds wintering here. It is currently the UK's most common raptor. There are 510-700,000 pairs in Europe of which 11% breed in Britain. The European population has shown a moderate increase over the past 25 to 30 years although the BTO/JNCC Breeding Birds of the Wider Countryside data reports a 132% increase in the UK between 1993 and 2008 with a spread into central and eastern areas where they had previously been scarce. The Common Bird Census for 1998-2008 reports an 85% increase in population. There does not appear to be any recent data on the status of the species in Wiltshire

Buzzards are not currently of conservation concern and are therefore green listed.

Lethal control of a small number of buzzards is unlikely to impact on the buzzard population. Approximately 75% of juvenile buzzards fail to survive to adulthood and the most likely cause of death is starvation. It is likely that any shot birds will be replaced by juveniles that might otherwise have starved. Licences are already given to shoot buzzards to preserve air safety and buzzards are illegally killed. However, consideration may need to be given into the cumulative impacts of several similar licence applications in the same area should other applications be received in the future.

8. Disease Considerations

Is the proposed action likely to present a disease risk to wildlife, domestic animals or people? No
If "yes", a Disease Risk Assessment (DRA) is required for this case. Consult the SOP for guidance.

Consideration of Disease Risk:

9. Licensing Criteria

Is there clear evidence that the species in question is causing or is likely to cause serious damage?	Yes
Are there other evident causes of the serious damage?	No
Where appropriate <ul style="list-style-type: none"> • have non-lethal methods been used? • have they been found to be ineffective or impractical and not just difficult to implement? 	Yes Yes
Is there any other satisfactory solution?	No
Will the proposed action contribute to preventing the damage?	Yes
For birds on Sch 2, Part 1 of the Wildlife and Countryside Act 1981 (the quarry list) only, are there good reasons why action could not have been taken in the open season?	N/A

Conclusion

10. Conclusions and Justification for Recommendation

The application has been assessed in accordance with Internal Guidance Note SD/2016/001 which, as previously

mentioned, gives four tests that should be met before a licence is issued:

Principle 1: All other reasonable non-lethal solutions have been tried and/or shown to be ineffective.

The main current non-lethal solution tried within and around the pheasant release pens is to provide enhanced levels of protected cover. This applicant, in common with other recent applicants, has concerns about reducing canopy cover within pens as he considers a denser canopy to be beneficial in reducing or making it harder for buzzards to get into the pens below. Open areas and the levels of ground and mid-level cover within the pheasant pens was considered to be good. The addition of planting sizable cover crops in close proximity to release pens further aids attempts by the applicant to reduce predation. The crucial thing is that the poults have good access to cover when they are released into the pens and when they start to explore their wider surroundings as they mature. There is no set pattern to when and where poults are predated. Visual scaring techniques have been used over time, but the applicant was unable to find a method which worked for more than a few days. Birds are released as late as possible and at an age recommended by the British Association of Shooting and Conservation (BASC). The stocking densities within the pens appear to be comfortably below the national mean and the birds seen all appeared healthy and the pens did not appear crowded. The new internal guidance states that an applicant is not expected to have tried all available techniques but must have made an attempt to try a reasonable level of methods; the applicant has tried a selection of non-lethal options over time, and claims they either have not worked or have only been partially successful. The practice of placing feed hoppers and water drinkers along the side of rides or areas of cover are further examples of seeking to reduce predation. The ranges of activities that have been tried are at least as good as for most similar licence applications. In relation to the release of red leg partridges, the non-lethal and disruptive techniques open to the applicant are considerably less than those used around pheasant pens. It is standard practice to have netted roofs on partridge pens and it is also standard practice to place them within or very close to cover crops, so standard practice actually aids but does not lead to a cessation in predation.

Principle 2: There is a genuine problem/need.

The applicants have provided data showing a steady decline in bag returns over the past 5 years. The slight recovery of partridge returns during the 2015-16 seasons is attributed to the fact that weather patterns that year were more stable. While foxes are acknowledged as a contributing predator, they mostly do their damage once the gamebirds have been released and they cannot be responsible for losses in the pens from which they are excluded. In any case, fox control is undertaken throughout the year and there is little more that can be done in that respect. Corvids are controlled via cage trapping and the applicant has an ongoing mustelid control project as well. Strays, road kill and disease also do not appear to contribute significantly to high loss rates. We only have the applicant's word for the number of carcasses found and record keeping could be improved (e.g. keeping a daily diary record of carcasses found) to make the evidence more robust. Signs of kills were seen within the pens during the visit and the numbers of observed carcasses seemed plausible given the number of poults in the pens and a potentially high buzzard population. There may be other factors that partly contribute to the high losses, such as the large numbers of birds released, but on the balance of probabilities it seems that buzzards are causing significant damage to the shoot with an associated cost implication for the enterprise.

The industry average for pheasants and red leg partridges shot, based on the National Game bag Census, is 40% although this may be an over estimate as it includes wild birds and birds released on other estates (Game and Wildlife Conservation Trust <http://www.gwct.org.uk/game/research/species/pheasant/releasing-for-shooting-in-lowland-habitats/>).

The return rate for pheasants at [REDACTED] for the past 5 seasons has varied between 58%-32% with a noticeable reduction from the 2013-14 season onwards.

In relation to released red leg partridges at [REDACTED] the past 5 seasons have varied between 43.7%-33.7% and as with the pheasant returns; a noticeable reduction from the 2013-14 season onwards is shown.

Information covering the rabbit control on the farm shows a possible connection between the crash in rabbit numbers from 2013-14 onwards (which may have formed the bulk of the resident buzzards' diet up until that point) and an increase in poult predation. This crash may potentially be cyclical and is something that needs to be monitored in future years to see if a recovery in rabbit numbers leads to a reduction in poult predation on the farm.

Of course there are many other causes of game bird mortality including other predators, disease and road casualties plus some birds may stray from where they were released on to neighbouring properties and some presumably avoid getting shot and become feral. It is worth examining the significance of each of these factors as it helps inform the contribution of buzzard predation to the high levels of game birds lost.

Further information was requested from the applicant clarifying the number of shoot days that had taken place over the past 5 years on 19/09/2016; he was able to confirm that the number of shooting days had remained constant at 11-12 for the past 5 years. An observation by the applicant about the numbers of game birds present on the shoot throughout the recent seasons and continuing declines in returns (especially after the number of released pheasants had been increased) was attributed to a continuing increase in the buzzard population on and around

the farm.

Principle 3: There are no satisfactory alternatives.

A range of alternatives have been tried which are considered to have failed or have only been partially successful (as described above).

Other options considered for this application include destroying eggs and nests (not an option at this time of the year), translocation (buzzards are territorial and as a common bird it is likely to be impossible to find a vacant territory where the landowner is happy to receive buzzards). Other options include capturing birds and taking them into captivity for use by falconers. There was insufficient time for this assessor to further explore the option of capture and taking into captivity, but this is something that can be further researched.

Shooting a few buzzards to enhance scaring was considered and ruled out due to the likelihood of causing stress to the pheasant poults as this would require the use of auditory scarers in the release pens.

Shooting buzzards to reduce the buzzard population was considered and ruled out as it is unlikely to be successful as the dead buzzards are likely to be quickly replaced by 'surplus' buzzards from the surrounding area.

Targeting problem buzzards by only shooting individuals seen feeding on gamebird carcasses would appear to be the best method, as this is highly targeted and based upon visual and tangible evidence of predation.

Principle 4: The licensed action will be effective at resolving the problem and the action is proportionate to the problem. Wherever possible, humane methods of lethal control are used.

Evidence on the likely success of the proposed method of removing problem buzzards is thin but then it is a relatively novel method as most similar licences (e.g. for piscivorous birds) are issued to kill birds to enhance scaring. What is uncertain is whether there are individual problem buzzards that target gamebirds more than is usual, in which case killing them (when they are seen feeding upon birds) would be effective, or would the shot birds quickly be replaced by other birds that are equally likely to predate on gamebirds? The limited evidence there is suggests there is a reasonable chance the method will work and the relative lack of evidence should not be a factor in deciding against it given the lack of research carried out. This licence should therefore be used to try to gather evidence which might help inform any future applications (from this farm and elsewhere).

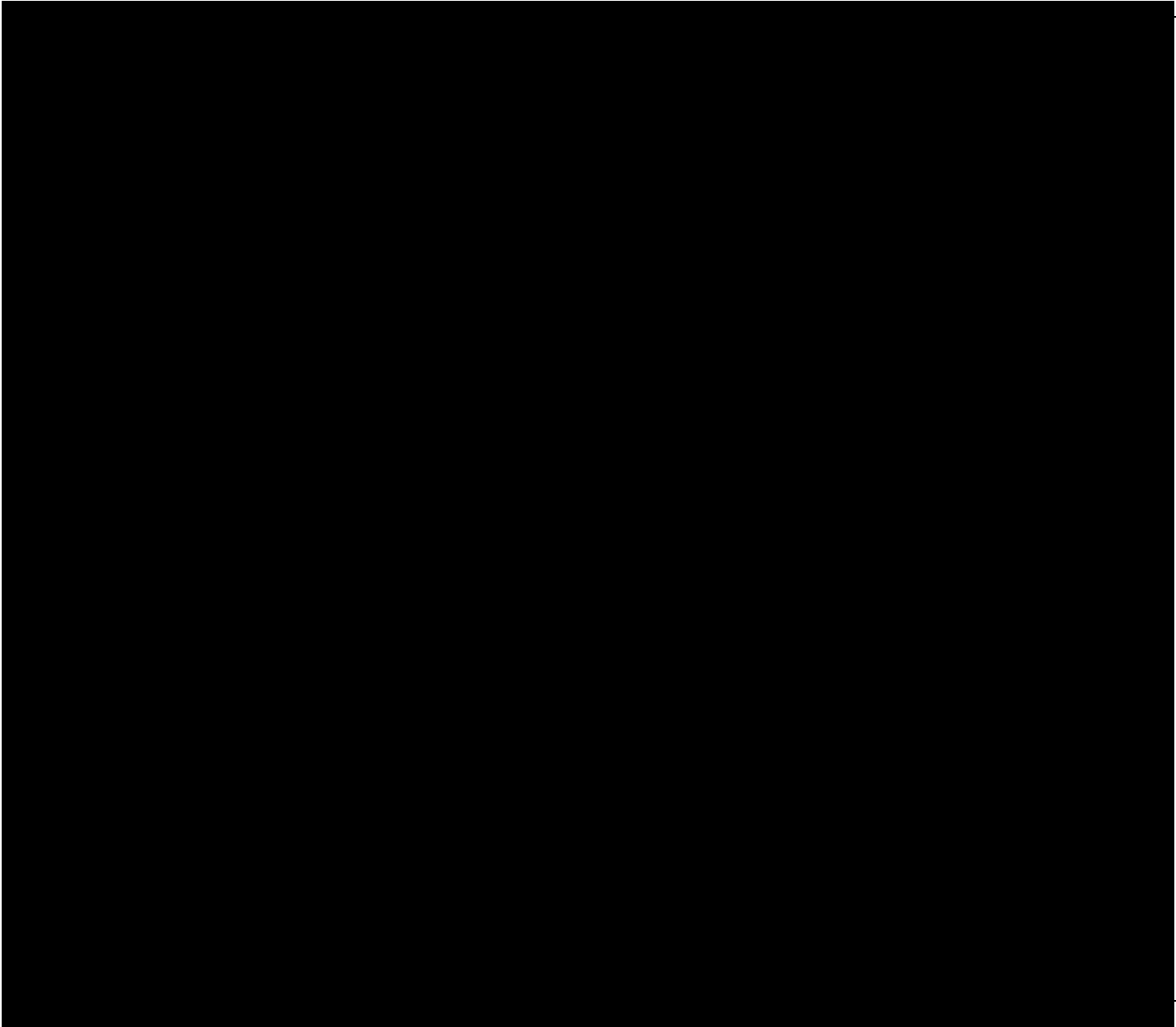
Conservation of the species

Buzzards are a common species and shooting a small number is unlikely to have any impact on the population. Buzzards that are removed are likely to be quickly replaced by 'surplus' buzzards in the surrounding areas.

Proposed options

It is proposed that a licence be issued to permit up to four buzzards to be shot with a suitable firearm when predating pheasants/partridges within and around their release pens and associated cover this will allow the applicant to target specific problem birds. It has not been recommended for a higher number of buzzards to be killed as we are already a considerable way into the vulnerable period for the gamebirds to suffer avian predation. Due to the novel method employed and the high sensitivity of controlling raptors to protect gamebirds it is advised that a compliance check before the licence expires in mid-October is undertaken. This will also afford an opportunity to gauge the applicant's view of the success, or otherwise, of the methods employed.

11. Attachments



 pen locations
