

Wildlife and Countryside Act 1981

LICENCE DETERMINATION RECORD

1 Licence application details		
1.1	Species	Peregrine falcon <i>Falco peregrinus</i>
1.2	Legislation	Wildlife and Countryside Act 1981 (the '1981 Act')
1.3	Licence purpose (proposed)	Licence to take birds from the wild for the purpose of falconry or aviculture under Section 16(1)(e) of the 1981 Act.
1.4	Geographical area	Unspecified counties in England (landward of the mean low water mark)
1.5	Licence application reference(s)	2018-36047-SPM-WLM. ('Lead Applicant') 2018-36055-SPM-WLM. 2018-36008-SPM-WLM.
1.6	Summary of licence application(s)	<p>Applications have been received from three individuals to take a small number of peregrine falcons (<i>Falco peregrinus</i>) from the wild to establish a breeding cooperative. The aim of the cooperative is to breed birds for use in falconry.</p> <p>A total of six peregrine chicks are proposed to be taken from the wild (two per applicant) in order to establish the breeding cooperative.</p> <p>Most of the information and evidence in support of the applications has been provided by the Lead Applicant and the applications have been considered collectively with reference to this material. The presentation of the applications has been poor with key evidence scattered throughout various documents and correspondence. This evidence has not been consistently presented or relied upon, hindering the assessment process. Notwithstanding these difficulties, it has ultimately been possible to undertake a robust assessment, as set out below.</p>

Licence determination record	
2.	Is the application for a permitted purpose?
2.1	<p>These applications are for a licence to take a small number (two chicks per applicant) of peregrine falcons (<i>Falco peregrinus</i>) from the wild in England to establish a breeding cooperative. The aim of the cooperative is to breed these birds, and their offspring, for subsequent use in falconry.</p> <p>The general purpose is therefore to take wild birds for the purpose of falconry or aviculture. This is a purpose permitted by section 16(1)(e) of the Wildlife and Countryside Act 1981.</p> <p>The applicants specifically wish to breed birds which share the characteristics of the native British population of peregrine falcons, in terms of genetics and/or or phenotype. This aim is considered further under the 'no other satisfactory solution' heading below.</p>
3	Is there no other satisfactory solution?
3.1	<p>This section considers the statutory test under section 16(1A)(a) of the 1981 Act.</p> <p>Three potential other satisfactory solutions have been identified:</p> <ol style="list-style-type: none"> 1. Use of birds which <u>do not</u> share the characteristics of the native population of peregrine falcon. 2. Sourcing birds from the captive population, which <u>do</u> share the characteristics of the native population. 3. Use of disabled birds which have come directly from the native population. <p>These potential other satisfactory solutions are considered in detail in sections 3.2, 3.3 and 3.4.</p>

3.2

1. USE OF BIRDS WHICH DO NOT SHARE THE CHARACTERISTICS OF THE NATIVE POPULATION OF PEREGRINE FALCON

As stated above, the applicants wish to breed birds which share the characteristics of the native population of peregrine falcons, in terms of genetics and/or or phenotype.

Section 3.3 below addresses the extent to which the native population of peregrine falcons have identifiable genetic or phenotype characteristics and whether these are distinct amongst the British population or shared with a broader population that exists in other countries or regions. However, even assuming in the applicants' favour that the native population of peregrine falcons has some identifiable characteristics, the prior question arises of whether it would be a satisfactory alternative for the applicants to breed birds and undertake falconry with birds that do not share those characteristics (e.g. other similar raptor species or hybrids which are readily available in captivity). If that were a satisfactory alternative then the justification for the licence would fall away.

Assessment

Using birds which do not share the characteristics of the native population would not be a satisfactory alternative for two principal reasons.

First, falconry is an ancient tradition which has been practised in England/Britain for centuries. If it is objectively correct that the birds which naturally occur in Britain have particular characteristics, it is reasonable for the applicants to wish to breed birds of that nature for use in falconry.

In this regard, the Lead Applicant has provided information regarding the traditional practice of falconry and noted its identification by UNESCO on the representative list of the intangible cultural heritage of humanity. In relation to the 'use' of wildlife, the Lead Applicant has quoted the EU Birds Directive (Article 2) and UN Convention on Biological Diversity (Article 10). The former states that it is the Member State's responsibility to maintain populations of species to a level that corresponds to ecological, scientific and *cultural* requirements. The latter includes a specific reference to cultural use by which each contracting party should protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements. This is in accordance with EC Sustainable Hunting Guidance (EC, 2008) which supports the sustainable use of populations for cultural reasons provided their Favourable Conservation Status is not affected - whilst the Hunting Guidance is not directly applicable, it supports the notion that the Birds Directive accommodates cultural use in appropriate cases.

Secondly, as the applicants have pointed out, there is a well-documented risk of the accidental release into the wild of birds which are flown for falconry. If it is objectively correct that that the birds which naturally occur in Britain have particular characteristics, then there are conservation benefits to encouraging practitioners of falconry to use birds which are not going to hybridise the British population (and it is reasonable for the applicants to wish to promote these benefits).

The Lead Applicant has provided evidence of numbers and species of 'escaped' birds taken from the Independent Bird Register's data for July 2019. This shows that 38 birds went missing and that there are 27 outstanding birds which have not been (re)captured. Escaped birds notably include 19 lost falcons. Falcons are generally flown in the autumn and winter months (generally only displays or Public Health & Safety related flying of falcons outside this period, such as at airports to reduce bird numbers) and thus data regarding escaped birds from July, when falcons are not typically being flown, is likely to considerably under-represent the position for months when falconry is more widely practised. This data therefore suggests a reasonable likelihood for birds to be lost in course of falconry pursuits and supports the flying of 'native' falcons to prevent hybridisation of wild birds for conservation reasons.

Concerns over lost falconry birds and hybridisation with wild falcon populations are considered to be a significant threat to falcon populations (Eastham and Nicholls, 2005). For example Lindberg and Nesje (2015) showed that DNA analysis of breeding confirmed hybridisation of peregrine X gyrfalcons and state that hybrid birds in the wild can result in the expulsion of native peregrines from breeding territories, disturb peregrine breeding, and also mate with wild birds.

The study by Vin Fleming et al. (2011) identified that for the period 1983 to 2008, a total of 1564 birds were identified as being lost to the wild, typically through falconry; 44% of these were peregrine falcon with a further 42% being hybrid falcons. These figures are considered to be underestimates due to there being no legal requirement to report escaped birds. Fleming notes that possible perturbations such as competition for mates, food and/or nesting sites can result. In addition there are concerns with regards to hybrid birds paring with native birds and introducing alien genes into the population; for which there is some limited evidence available of the production of native/non-native off-spring. Fleming does however qualify that there is often reduced fertility in hybrid breeding and that despite large numbers of escaped birds, a non-native falcon population is yet to establish. However he further states:

“Escaped captive-bred peregrines breeding in the wild are even less likely to be detected than hybrids, such escaped peregrines being significantly under-recorded by birdwatchers compared with other escaped falcons. Different subspecies and genotypes of captive-bred peregrines, released as part of recovery programmes, are known to persist in the wild in proportions which do not differ significantly from those of released birds (Tordoff & Redig 2001) and which are sufficient to alter the genetic composition of the wild population” (Fleming et al., 2011. p.255)

Fleming concludes:

“Regardless, as the impact of escaped falcons on wild populations is not known, we strongly recommend that evidence be sought for any human induced genetic introgression into native peregrine populations arising from escaped captive-bred falcons

	<p><i>and that the fate, survival and recruitment to the wild of such escaped birds be studied to enable any risks, or indeed any benefits, to be evaluated and quantified.” (Fleming et al., 2011. p.255)</i></p> <p>In summary, the full extent of impact from escaped falcons is uncertain. However, there is clearly the potential for adverse impacts to arise on wild populations as a result of the escape of non-native/hybrid falcons into the wild. Given the knowledge that falconry escapes are relatively commonplace, there are therefore conservation benefits to encouraging practitioners of falconry to use birds which are not going to hybridise the British population (as well as disturb breeding) and the promotion of such benefits by the applicants is considered reasonable.</p> <p>A third consideration was also raised by the applicants who have stated that the breeding cooperative could also serve as a captive ‘wild’ population should re-introductions of the native peregrine population ever be required. This assessment has not relied on that reason since this is not an application for a licence for conservation purposes and there are two other reasons (identified above) which support the rejection of the first hypothetical alternative as “satisfactory”. However, it is noted that there could be in principle be ‘precautionary’ conservation benefits arising from the establishment of a ‘genetically pure’ native breeding population of peregrine falcon with a recorded, and thus verifiable, lineage.</p> <p><u>Section conclusion</u></p> <p>Requiring the applicants to use birds which do not share the characteristics of the native population would not be a satisfactory alternative.</p>
3.3	<p><u>2. SOURCING BIRDS THAT HAVE BEEN RAISED IN CAPTIVITY AND WHICH DO SHARE THE CHARACTERISTICS OF THE NATIVE POPULATION.</u></p> <p>It is important to give careful consideration to whether the applicants could fulfil the purpose of their application by sourcing birds that are already in captivity. This section focuses on birds that have been bred and raised in captivity (separate consideration is given below to the possibility of using disabled wild birds that have been taken into captivity).</p> <p>The use of birds raised in captivity would not be a satisfactory alternative if:</p> <ol style="list-style-type: none"> a. it is not reasonably practicable to reliably source birds from captivity that share the characteristics of the native population in terms of genetics and/or phenotype. This might be because it can be demonstrated that the native population has characteristics which are not replicated in the stock of birds found in captivity (e.g. because the birds in captivity are falcons with different genetic characteristics and/or are hybrid birds). Alternatively, it might be the case that the quality of the stock of

captive birds, in terms of verifiable genetic descent, is so poor that it is not reasonably practicable to source captive birds in order to match the traits of the native population (in other words, there has been a large amount of hybridisation and/or poor monitoring and documentation so the captive population is not a reliable source); or

- b. it is necessary to introduce fresh genetic input from wild birds in order to avoid the deterioration of the gene pool amongst captive birds.

Assessment

Evidence for a distinct native population - genetics

It is appropriate to start by considering the evidence on the characteristics of the native population of peregrine falcon and whether it constitutes a unique population or is part of a broader population found in a wider region (e.g. western and northern Europe). However, as explained above, it may not be necessary to conclude that the *British* population is unique in order to determine that the use of captive birds is not a satisfactory alternative solution.

A study by Nesje *et al.*, (2000) studied the genetic relationship in peregrine falcon through analysis of micro-satellite DNA markers. The study concluded that birds in Scandinavia were genetically distinct to those in Scotland. Peregrine falcon within Scotland and Scandinavia are both part of the sub-species *Falco peregrinus peregrinus*. The findings of this study that there are genetically distinct populations based on geographic distribution highlights the potential for genetically distinct populations within the *Falco p.peregrinus* sub species.

The Lead Applicant has also provided a study by Talbot *et al.* (2017) which was conducted in the USA where three sub-species of North American peregrine genetics were compared. The study concludes that there are geographically distinct regional populations, with discrete populations within these that are intra-regionally connected. The conclusions of this study, whilst not directly applicable to Britain/England, again highlight the possibility of genetically distinct peregrine populations across geographical areas, even within sub-species.

The applicant has also cited a study by Frankham (1997) who found that a significant majority of island species show reduced genetic variation compared to “mainland” species (including bird populations). Frankham does however qualify that genetic variance is also likely to be affected by the size of the island (greater size, more variation), dispersal rates (greater distance, greater variance) and the distance from the island to the mainland. This study therefore further suggests that there is, at least, the potential for genetically distinct population of peregrine falcon in England/Britain, compared to continental Europe. This is supported by a further study provided by the Lead Applicant - Mengoni *et al.* (2018) – email dated 25th September 2019 [Lead Applicant to NE]. The Lead Applicant states that this paper highlights the “*insular*” genetics of the Sicilian population of Peregrines, an island race like the British population, *insular even though its not quite as isolated as the British population*”. The paper does indeed appear to suggest the Sicilian

population of peregrine may evidence distinct genetics as a result of being insulated from surrounding populations. Whilst the study does conclude further work is necessary it further adds credence to Frankham's study that island populations are likely to have distinct genetics from mainland populations.

The RSPB (2019) state that peregrine falcon typically stay within 100km of their birthplace, which is in accord with data from ringing studies alluded to by SBSG (2013). This is because peregrine in Britain are considered to be largely sedentary and non-migratory (RSPB, 2019). Whilst these sources provide no scientific evidence to support their statements, they can be considered to represent expert opinion, in particular the RSPB.

Mead (1973) in Bird Study discusses the movements of British raptors. Table 1 (p.260) provides data on ringing returns. This shows that for the 259 birds ringed (up to 31.12.1970), 26 were recovered within the British Isles; and zero from the British Isles to abroad. Eight birds were recorded as coming to the British Isles from abroad. This adds credence to the applicant's claim that British peregrines are largely sedentary (i.e. non-migratory) and that there are not large amounts of genetic input from the continent

Studies from the USA, whilst not directly relevant, have shown that there is also a relationship between the sex of birds and distance travelled from natal site; with females travelling greater distances than males (150km compared to an 88km average for males) – with the majority of birds dispersing distances of 50 to 100km (Faccio *et al.*, 2013). The US Center for Conservation Biology also reports that peregrine dispersal distances in coastal Virginia range from 4 to 207 kilometers for males (median of 24 km) and 0 to 473 kilometers for females (median of 105 km) (as reported in Phys., 2016).

Dispersal distances from nest sites are however also thought to be being density dependent (Smith *et al.*, 2015). A study by the Centre for Ecology and Hydrology (Morton *et al.*, 2018), for the UK, reported that peregrine falcon showed a median natal dispersal range of 74km overall (interquartile range 30.85 to 134km). Females showed a median range of 102km (IQR 41-156km) and males a median of 47km (IQR 23 to 92km). These figures relate to a study period of 1974 to 1982 and 2002 to 2016. Morton *et al.* however report that natal dispersal distances are decreasing as breeding numbers increase – with the number of birds going greater than 100km decreasing from 30% to 16% for males; and 56% to 48% for females when comparing the period 1974-1982 to 2002-2016 – the breeding population having increased and stabilised in the 21st century compared to a 'recovering' population in the 1970s and 80s.

As the literature shows that the peregrine falcon population within Britain can be expected to be largely sedentary and does not typically travel distances greater than 100km from its birthplace, this adds weight to the argument that a genetically distinct population of peregrine falcon may exist in England/Britain, compared to continental Europe. This argument is summed up by Dixon *et al.* (2012):

"The level of 'gene flow' essentially relates to the likelihood that a chick from one breeding population will eventually settle to breed in another breeding population; a process known as natal dispersal. If natal dispersal is high then there will be greater gene flow between populations and they are less likely to exhibit distinctive 'subspecies' characteristics."

Based on the evidence reviewed, Natural England considers that a genetically distinct native population is, on balance, likely to exist. It is also noted that no evidence has been presented or found to the contrary. Correspondingly, for the purpose of determining these

applications, it is considered reasonable to conclude that there is, based on the current evidence that has been reviewed, likely to be a genetically distinct native population of peregrine falcon in Britain.

Evidence for a distinct native population - phenotype

The phenotype is defined by the Oxford English Dictionary as: *“the set of observable characteristics of an individual resulting from the interaction of its genotype with the environment”* (Lexico, 2019). The Lead Applicant has stated (email of 14/10/19) that: *“its beyond scientific/biological doubt their phenotype is a result of the British landscape, climate and prey species”*. The Lead Applicant has however not provided any specific evidence to support this assertion that the British population of peregrine falcon has particular phenotypic characteristics - when compared to the *F.p.peregrinus* sub-species and particularly those located in similar environments such as north-western Europe.

Despite the applicants not providing evidence, their argument is supported by Cade et al. (1988), who can be considered experts in peregrine falcon following involvement in the reintroduction of the species into the USA. Cade et al. (1988, p.797) state that:

“We have referred to races as though each represents a homogeneous taxon. This is generally not the case except with some island forms. More often there are recognizable subpopulations within the range of named subspecies..... Individuals of F.p.peregrinus from central Europe (Germany, for example) are uniformly barred right across the breast while those of England have different, more irregular barring, and many are spotted in the central breast.”

Whilst not objectively-verifiable scientific evidence, this statement can be given some weight as expert opinion.

However, whilst it is possible that there is a phenotypically distinct English/British population of peregrine falcon (compared to mainland Europe), the Lead Applicant has not provided and Natural England has not identified robust scientific evidence/literature to directly support this. Nor is it necessary to determine this point given the conclusion above in relation to the genetic distinctiveness of the English/British population and the conclusion below in relation to the quality of available captive specimens. Accordingly, this assessment does not rely on the proposition that there is a distinct native peregrine falcon phenotype.

The availability of peregrine falcon from the captive bred population

As stated above, regardless of whether the native British population is unique (or simply shares traits with a broader population found in a wider region), it is necessary to consider whether the captive bred peregrine population can act as a reasonably practicable source of peregrines which share characteristics of the native population.

Natural England understands that persons undertaking falconry and associated activities must be registered and licenced as a falconer in the vast majority of other EU countries and that other EU countries do not permit export of birds for such purposes. As such, only birds from within the UK are considered a viable source and considered in this section of the assessment.

The Lead Applicants states that the captive peregrine falcon population is unable to provide birds to meet their need. Details of Convention on International Trade in Endangered Species (CITES) Article 10 certificates which have been issued by the Animal and Plant Health Agency (APHA) have been provided in support of this. The Lead Applicant interprets this information as follows – *“At first glance there have been A10’s issued for about 30 wild sourced birds with only 5 “F” source code birds which would indicate first generation but it appears that these “F” source birds are likely to be US imports which usually come in under “F” if the source is a non-Cites registered US breeder. There is nothing on there that would indicate that a source of documented Falco.p.peregrinus is available to me.”*

The Applicant’s interpretation of the APHA information does appear to be reasonable. There are indeed only five birds whose source is given as ‘F’ (out of almost 2500 entries). Three of these have ‘origin permit numbers’ with a US in them which suggests their country of origin is the United States. US peregrine falcon typically belong to a different sub-species (i.e. *Falco peregrinus tundrius*; *F.p.anatum* and *F.p.pealei*) than the one present in Britain, Northern Europe and much of Central and Eastern Asia (*Falco p.peregrinus*). One of the others is listed as a hybrid which leaves just one bird which could possibly have been bred from wild parents, although this cannot be confirmed. Whilst the use of a genetically pure first, or second, generation *Falco p.peregrinus* might theoretically be possible, there are issues with establishing the lineage of any such captive bird in the UK, discussed below.

Natural England has also confirmed with the Joint Nature Conservation Committee (JNCC) that the current ‘origin’ or ‘genetic’ status of captive peregrine populations in the UK is not known or properly understood either through CITES Article 10 Certificates or Schedule 4 registrations. Vin Fleming of JNCC cited his paper (Fleming et al., 2011) and stated: *‘it is not clear what proportion, if any, of the captive falcon gene pool in Britain has been managed to maximise any future contribution to conservation needs’* – going further in his email to clarify: *“the captive gene pool is probably an unrecorded mess”*. This was confirmed again with JNCC as of 13/11/19 to ensure that no new information or recording systems had become available since.

It is also understood by Natural England that Wildlife and Countryside Act ‘Schedule 4’ registrations are unlikely to provide a practical, reasonable or verifiable source of ‘native’ peregrine for use in the proposed breeding cooperative. This is due to difficulties in securing birds in the first instance from Schedule 4 registered holders - which is, in large part, due to numerous private ownership of birds, data protection regulations (preventing owner details being shared) and not being able to sufficiently establish a bird’s lineage.

In conclusion of this section, the quality of the stock of captive birds (in terms of verifiable genetic descent) is considered too poor to represent a reasonably practicable source of captive birds in order to match the genetic traits of the native population. This is due to the poor monitoring and documenting of the captive bred population to such an extent that it is not possible to sufficiently determine the genetic origin, or level of hybridisation, of captive birds.

Whether the introduction of fresh genetic input from wild birds is necessary in order to avoid the deterioration of the gene pool amongst captive birds

This section considers whether it is necessary to introduce fresh genetic input from wild birds in order to avoid the deterioration of the gene pool amongst captive birds since this would be a potential further reason that the exclusive use of the captive population was not a satisfactory alternative.

The applicants have stated concerns regarding the degradation of natural instinct in captive bred populations of birds due to a lack of 'natural selection' taking place. No objective evidence has been provided to support this statement however Bradshaw (2009) does support the proposition that wild genetic input is required into the captive population to maintain the 'wild' genetics and prevent deviation. Bradshaw suggests there only needs to be minimal levels of wild genetic input to maintain relative proximity to wild genetics in the captive population. It is appropriate to exercise some caution in relation to this source (a falconer).

It is also noted that Burhan et al., (1984 – as reported by Sielicki & Mizera, 2009) reported observations of eggs laid by captive breeding peregrine decreasing in size over a period of years. This further suggests the need for some genetic input from wild birds to avoid deterioration of the captive peregrine genepool.

However, as identified above, it is not possible (or reasonably practicable) to sufficiently establish the lineage of peregrine falcon within the captive bred population in the first instance. The issue of whether additional genetic input into the captive bred population is, or could, be required is therefore not of pertinence to these licence applications. That is to say, in order to consider whether the captive population requires genetic input from wild peregrine falcon, requires there to be a captive bred population that is of a verifiable lineage in the first place.

Section conclusion

The sourcing of birds from the captive population does not represent a satisfactory alternative solution.

Sourcing birds from the captive bred population would not be a satisfactory alternative solution even if (contrary to the conclusion above) the native population does *not* have genetic characteristics that are unique to the population of *Falco p.peregrinus* found in England/Britain. This is because the poor quality of the stock of captive birds (in terms of verifiable genetic descent) would be an impediment to breeding birds that can be guaranteed to share the genetic characteristics of the native population, regardless of whether that population is confined to England/Britain or is part of a larger European population.

3.4

3. USE OF DISABLED BIRDS WHICH HAVE COME DIRECTLY FROM THE NATIVE POPULATION

Assessment

The applicants, in supporting information submitted with their application, have provided the following information about this matter:

“Data obtained from Defra’s data system has made it very difficult, if not impossible, to research the origin of specimens. Data obtained from Defra that was refused through an Fol request, but obtained by SNH, suggests that none of the wild disabled native peregrines that have been held in captivity in recent years have produced young but even if small numbers had been bred it would certainly not be at a level that could provide numbers for a viable and sustainable captive native population. In general wild disabled [birds] are seen as unsuitable for captive breeding which was something that was discovered by the Peregrine Fund in the USA when setting up its breeding project to reintroduce the Peregrine east of the Rockies. It’s not possible to establish any degree of pedigree from Defra’s records or through issuance of Article 10 certificates even though we believe there have been attempts at upgrading the software system that could have helped in accessing this situation. The only way to establish a stud book population of native Peregrines for use in falconry is through the licensing of wild take.”

In email correspondence with Natural England, one of the applicants was asked to provide further information about the suitability of breeding from wild disabled birds and offered the following:

“With reference to your comment on the use of "wild disabled" birds, the Peregrine Funds manual, link below, on captive breeding of Peregrines which although written in 1991 is still considered the "bible" of falcon breeding details the poor captive breeding success rates in using Peregrines that have lived in the wild. The sub-chapter on page 10/11, entitled "Breeding Stock" will outline why we seek to take birds from the nest as opposed to trying to obtain wild disabled birds that have spent some period in the wild

The passage in question includes the following:

“There can be no doubt that the birds trapped as migrants [as opposed to those taken as young] show the least potential as breeders in the captive situation. There are always exceptions to such a generalization, but they are few and surely the slim chance of success does not warrant the effort. Realize, of course, that we are speaking only of the large falcons and of the peregrine in particular.” (Weaver, James D. & Cade, Tom J., 1991. Falcon Breeding – a manual on captive breeding).”

Information provided as part of the application does therefore suggest that it is substantially more difficult to breed from captive wild disabled birds (typically due to issues of imprinting); and it is also stated that wild disabled birds are generally seen as being unsuitable

to establish captive breeding programmes (citing the experiences of the 'Peregrine Fund' in the USA). The Peregrine Fund are noted as being 'worldwide leaders' in the field of peregrine breeding, having facilitated the recovery (re-introductions) of the species into the USA, so considerable weight can be given to their statements.

A NE Senior Environmental Specialist, stated in 2018 that 'although an option that some might see as obvious, it may be by no means easy to breed from a wild bird – especially in comparison to an imprinted captive reared bird'. This is supported by information obtained by Natural England from APHA (email 29th November 2018) which highlights that there is little evidence of peregrine breeding in captivity. Notably APHA state *"All non-releasable wild disabled Peregrines currently registered with us are... England = 35 (17 of those are female, 6 are male and the remaining are unknown sex)... The total number of F1 offspring that have been bred from one or both parents which are wild disabled are [assumed UK-wide]: 2015 = 0; 2016 = 3; 2017 = 2 (one bird has since died), so now only 1; 2018 = 0"*

The above adds further weight to the argument that captive wild birds are substantially more difficult to breed from. There is however some contradiction to the above in the study by Fleming et al. (2011) which states that ~20% of wild birds in captivity could have bred. Vin Fleming et al (2011) in 'Captive breeding of peregrine and other falcons in Great Britain and implications for conservation of wild populations', looked at evidence for breeding from wild disabled birds:

"In order to assess how many of these may have bred, we took, as a sample, all the birds of wild (36) or wild-disabled (107) origin registered in captivity on 15 November 2005 and then examined how many of these birds were subsequently recorded as parents in the database. Of this sample of wild and wild-disabled birds, 4 birds of wild origin (11%) and 25 of wild-disabled origin (23%) had bred; extrapolating these proportions to all 627 retained birds suggests that 13 birds of wild origin and 117 of wild disabled origin could have bred in captivity, equivalent to 21% of all retained birds."

Vin Fleming also noted that from the mid-1990s numbers of wild and wild disabled peregrines registered in captivity declined.... *"The reason for this trend is not clear, especially as the number of peregrines in the wild was increasing over this period (and so more disabled birds were likely). The greater availability and affordability of captive-bred birds may have reduced the incentive for keepers to retain and tend disabled birds"*. He concludes that *"In the continuing absence of licensed removal of peregrines from the wild for falconry or aviculture, the majority of wild birds known to be taken into captivity have been predominantly disabled birds. With up to 21% of these wild origin birds breeding in captivity, combined with previous imports of, presumably unrelated, birds from outside the UK and EC, it seems that there should be little risk of inbreeding in the current captive 'population' overall."*

The applicant states in his email correspondence that he had *"discussed this paper with Vin Fleming and it's clear that some of the comments about wild disabled finding their way into the captive breeding population are based on assumption, the fact is there is no documentation to support whether this is the case but plenty of evidence that the UK captive population is a mish mash of various sub-species."*

	<p>Vin Fleming’s paper thus suggests that whilst there are continuing numbers of wild disabled birds being introduced into the captive population, any off-spring are poorly recorded and thus not suitable to establish a breeding cooperative from.</p> <p>In addition to the limited breeding success, further correspondence from JNCC (Vin Fleming, email 27 March 2015, again confirmed with JNCC on 12/11/19) confirms that it is probably not possible to verify the lineage of any offspring from wild disabled birds, due to poor documentation of captive-breeding. In addition the JNCC have confirmed (email dated 26/11/19) that breeding from wild disabled birds to establish a cooperative is not likely to be a viable or practical solution, in large part due to Data Protection Regulations restricting release of the information of owners of such birds.</p> <p>On balancing the evidence provided, it is reasonable to conclude that: A) breeding from wild disabled birds is likely to be significantly more difficult than non-disabled birds taken from the wild as chicks; and B) that it is also impractical to source captive wild disabled birds in sufficient numbers due, principally, to issues regarding ownership (and thus sourcing the birds in the first instance) as well as insufficient records being kept on the lineage of any such birds.</p> <p><u>Section conclusion</u></p> <p>The use of disabled birds, which have come directly from the native population, does <u>not</u> represent an alternative satisfactory solution.</p>
<p>4</p>	<p>Would the licence be on a selective basis, in respect of a small number of birds, and compatible with the conservation of the species?</p>
	<p>This section considers the requirement under section 16(1A)(b) of the 1981 Act (which reflects Article 9(1)(c) of the Birds Directive) and the requirement to ensure that any licence does not adversely affect the conservation status of the species (reflecting Article 13 of the Birds Directive).</p> <p><u>Assessment</u></p> <p><u>Selective basis</u></p> <p>The licence applications relate to individual licence applications (not General or Class Licences for example) and are the only applications currently held by Natural England. Should Natural England receive further applications, these would be subject to individual assessments and, if required, could be approved on a further ‘selective basis’ such as by ranking according to merit or a lottery system (such as operated in Ireland), with only a small number of licences being granted.</p>

These licence applications, if granted, can therefore be considered to be granted on a 'selective basis'.

Small numbers criteria

The licence applications request the taking of two chicks from the wild per applicant (six chicks in total to establish the cooperative). Natural England has considered the EC guidance on only permitting 'small numbers' (viewed as being <1% of annual mortality of the population based on the ORNIS committee judgement) and considers this level of wild take below the 1% of annual mortality threshold. Elementary, but highly precautionary, calculations have identified the 1% annual mortality figure at 10.3 chicks (see below). With the combined applications to establish the cooperative requiring six chicks in total the small numbers criteria can be viewed as being met in this instance.

General points regarding the calculation:

- The 1% threshold is a relative increase in mortality, rather than an absolute figure (i.e. 10% to 10.1% rather than 10 to 11%).
- Demographic rates are used, however this calculation is not a detailed population modelling exercise.
- Effects below this 1% threshold are unlikely to be detectable against background variation and within any confidence limits, should a more involved population modelling approach be attempted.
- This threshold does not equate to the level at which a population might be impacted owing to losses at this scale.

Specific points:

- BTO (2019) survival rates of 0.8 for adults and 0.54 (juveniles in the first year) are used.
- The calculation is to establish the effect of peregrine chicks being taken.
- Chicks are being taken at a late stage, close to the point of fledging. Thus the assumption is that 1 chick will result in 1 fledged juvenile.
- Assumes annual mortality period runs from one breeding season to the next.
- The size of the non-breeding population is not known.
- On a precautionary basis, the calculation only includes the breeding population and one season's productivity.
- The calculation does not consider aspects that more detailed modelling might, such as the number of non-breeding recruits available; the rate of recruitment; availability of nest sites; or density dependent effects. This is a proportionate basic 'test' calculation and these issues are acknowledged but not considered relevant in this instance.
- Mean Peregrine breeding productivity (young fledged per nest site) in Cumbria was recorded as 1.31 per range-holding pair (Horne and Fielding, 2002, p. 230) and Wilson et al., 2018 state there is no data on fledging success for 2014 but 2002 records show a 'low' rate of 1.3. Estimates of 1.1 breeding productivity for peregrine falcons are identified for areas with poorer

'productivity' rates (Natural England, 2018) and will be used as a potential 'worst case scenario' for estimating nesting productivity.

- There are only two age classes taken into account for this mathematical exercise such that any peregrine older than a year = an adult. We recognise that, biologically speaking, 1st summer peregrines are actually still immature.
- When working out how many chicks equates to mortality / take of one adult bird, this calculation is based on treatment of adults as exclusively 1st year birds - such that the uplift in chick numbers only takes into account 1 year's juvenile mortality, and not ongoing annual mortality to which surviving breeding adults will have been exposed. The original 1% calculation of adult mortality is based simply on population size and cannot possibly provide the age of those adult birds.

The calculation for determining the '1% of annual mortality' figure is detailed below:

Adults

- Adult pairs = 826
- Adult individuals = 1,652
- Adult survival / mortality rate = 0.8 / 0.2
- Adult annual mortality = $0.2 \times 1,652 = 330.4$
- 1% increase = 3.3 adults

Juveniles

- Productivity = 1.1 per pair
- Annual productivity = $1.1 \times 826 = 908.6$
- Juvenile survival / mortality = 0.54 / 0.46
- Juvenile annual mortality = $0.46 \times 908.6 = 417.95$
- 1% increase = 4.2 juveniles

The 1% threshold is therefore considered to be 3.3 adults and 4.2 juveniles however only chicks are being taken under this licence and one chick does not equate to one adult when considering mortality rates. That is, 3.3 adults equates to a larger number of chicks. In order to determine the annual mortality for chicks only, the number of chicks can be calculated by taking the number of adults and dividing by chick survival (i.e. 1st summer birds / adults represent 54% of the previous year's surviving juveniles).

The number of chicks to have 'produced' 3.3 adults is therefore: $3.3 \text{ (adult birds)} / 0.54 \text{ (juvenile mortality)} = 6.1$

Total number of chicks = 4.2 + 6.1 = 10.3 chicks (1% annual mortality for chicks or juveniles)

Conservation of the species

The peregrine falcon is currently listed as being of 'Least Concern' in Europe and Worldwide and is currently 'Green' listed under Birds of Conservation Concern 2009. The most recent survey of the United Kingdom, Isle of Man and Channel Islands peregrine falcon (*Falco peregrinus*) population, coordinated by the BTO, estimated that in 2014 the English population to be 826 breeding pairs present within 2km, and 890 breeding pairs at a 5km, radius of a suitable breeding site. This is a substantial increase from the 2002 estimate of 469 breeding pairs.

Natural England's FCS Statement (Natural England, 2018), which sets out Natural England's view on the contribution England needs to make to achieve Favourable Conservation Status (FCS) for the peregrine falcon, states that the English population is required to reach 920 breeding pairs in order for FCS to be achieved. Given the 76% increase in the peregrine population in the 12 years from 2002 to 2014, it is reasonable to assume that in the six years since 2014 the peregrine population has reached or exceeded (or at the very least is rapidly approaching) the FCS target at the national level.

However, based on the 2014 figures, there was a regional variance in estimated breeding numbers which indicated that, unlike the other regions, the North was not rapidly approaching its FCS target:

- England – 826 breeding pairs (920 pair FCS Target)
- Southeast – 210 (220 FCS-T)
- Southwest – 264 (270 FCS-T)
- Midlands – 104 (110 FCS-T)
- North – 248 (320 FCS-T)

Natural England has concluded that the reason for poorer breeding success in the 'North' region is due to illegal persecution of this species (principally in upland areas). Annex 3 of the Natural England (2018) FCS document highlights the location of areas where further population increase and range expansion is required. This allows specific counties to be excluded from any licence issued to ensure that the FCS of peregrine is not affected by the licenced activity. On a precautionary basis the following counties should therefore be excluded by way of licence conditions: Cumbria; Northumberland; North Yorkshire; and County Durham.

- Recommend Condition: No chicks shall be taken from nests within the following counties in England: Cumbria; Northumberland; North Yorkshire; and County Durham.

The licence applications propose the taking of a chick from nests where there are equal to, or greater than, three chicks present. Estimates of peregrine nest productivity suggest that between 1 and 2 chicks will successfully fledge from a nest. Taking a chick from

nests with three or more chicks is therefore considered to be unlikely to affect the breeding productivity of nests significantly. Any chick taken should also be the smallest chick in the nest (and thus the least likely to survive) to further ensure that FCS is not adversely affected.

- Recommend Condition: Chicks are only to be taken from nests where there are three (3) or more live chicks present.
- Recommend Condition: The first chick taken under this licence must be the smallest chick in the nest. The second chick taken under this licence must be taken from a different nest to the first chick and must be the smallest chick present of the gender required.

Following a Further Information Request, Natural England received a response on behalf of the applicants on the 25th February 2020 – see Annex 1 at the end of this document. The applicants have stated that the taking of any chicks “*will comply with the BTO "Access and Permission" guidance and guidance contained within "Raptors - A Field Guide For Surveys and Monitoring"*” and have provided Natural England with appropriate additional clarifications and reassurances in order to ensure the taking of any birds from the wild does not result in adverse conservation, disease or welfare implications (e.g. disturbance of the nesting adults resulting in nest abandonment).

It is recommended that the following conditions are applied to any licence granted to ensure negative conservation impacts do not arise, such as disturbance of breeding pairs, and also to ensure the welfare of any chicks taken:

- Clarification that disturbance of breeding adult peregrine falcon is not permitted under this licence; only chicks/juveniles.
- With the exception of replacing any chick taken from a nest, the survey, monitoring and subsequent taking of chick(s) from a nest under this licence is to be undertaken in strict accordance with the procedures outlined in “Hardy et al. 2013. Raptors: a Field Guide for Surveys and Monitoring. 3rd Ed. SNH: Edinburgh” with particular consideration of Section 7 ‘Good Practice for Fieldwork’ [Pages 39 to 63] and ‘Species Accounts: Peregrine Falcon’ [Pages 184 to 190]; unless otherwise permitted or contradicted by this licence or a condition of this licence. Where any contradiction occurs, this licence and any conditions shall take precedence over the methodology detailed in ‘Raptors: a Field Guide for Surveys and Monitoring’ (Hardy et al. 2013).
- Written consent demonstrating landowner’s permission must be supplied to Natural England prior to the taking of any chick.
- Adequate and appropriate food, liquids and materials are to be available on-site during the taking of any chick, to ensure its welfare.
- A mute sample is to be sent to a qualified vet within 48 hours of the chick being taken to check for parasites. Any parasites identified shall be appropriately treated on advice from a qualified vet.
- Any chicks taken shall be micro-chipped by a qualified vet when fully grown (within 10 weeks of taking from the nest). At the time of microchipping, the vet to also conduct a health check of the bird and blood taken to test for disease, as considered

appropriate by the vet. Any disease identified shall be treated accordingly and Natural England notified via wildlife@naturalengland.org.uk within 48 hours of identification of any such disease.

In addition, it is noted that peregrine falcon and their young are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Accordingly it will be necessary to consider the disturbance of peregrine falcon chicks under any licence granted. The proposed methodology outlined is considered appropriate in ensuring that any disturbance will be kept to a minimum. Residual adverse impacts arising from handling of chicks (those left in the nest after the wild take) are not considered likely to occur given the short duration and type of any disturbance (Ruddock and Whitfield, 2007). As stated above, disturbance of adult peregrine falcon will be explicitly forbidden in order to ensure that negative conservation impacts, such as the abandonment of a nest, do not occur as a result of the licenced wild take. In order to further ensure the conservation status, notably breeding success, of peregrine falcon is not adversely impacted, under the precautionary principle, it would be wise to ensure that the same parent birds are not subject to potential disturbances from the wild take activities which might conceivably, with repetition in successive breeding seasons, result in adverse impacts such as the abandonment of a breeding territory. Accordingly it would be prudent to provide in the licence that:

- Recommend Condition: Chicks are not to be taken from the same nest location in successive years.

It would also be prudent to ensure that the breeding cooperative has been appropriately established prior to any chicks being taken from the wild. This is considered important to prevent the 'failure' of the proposed project (i.e. the licence purpose) and thus the potential for further wild take of birds to replace those which may have been 'lost'.

Natural England has received further information from the Lead Applicant with regards to this matter. The information provided by the applicant in Annex 1 is considered satisfactory in evidencing that the cooperative is a viable concept and that the risk of failure of the enterprise (i.e. licence purpose) has been minimised so far as reasonably practical. Accordingly, the taking of chicks for the purpose of establishing the breeding cooperative is considered to be acceptable. In order to further ensure that chicks are used for the purpose applied for and minimise risk of project failure, it is recommended that the following conditions are applied:

- No chicks shall be taken from the wild until Natural England has received, and approved in writing, notification that the breeding cooperative known as the 'British Peregrine Conservancy' has been established and its associated studbook created. Such notification shall include members of the cooperative, signed declarations of members' adherence to the cooperative operating procedures and key information relating to the studbook.
- Once a chick has been taken from a nest, Natural England will be notified within 10 working days, including the sex of the bird taken.
- Natural England shall be notified within 10 working days of any change to the operating procedures of the cooperative, as submitted in response to Natural England's Further Information Request on 25th February 2020.

- Birds taken under this licence shall only be bred with other birds, of the same species and sub-species and listed under the cooperative studbook which are either directly taken from the wild in England OR confirmed offspring of birds with a wild lineage that does not include any breeding with non-native or hybrid species.

The applicants have sufficient experience and knowledge in order to successfully undertake activities for the purpose of this licence. The applicants also confirmed the likely experience requirements of any future members of the cooperative and this is considered acceptable. Furthermore, any further members of the breeding cooperative will be 'supervised' or 'trained' by other experienced members of the cooperative thereby helping to further allay any concerns with regards to the experience of persons involved. Natural England is therefore satisfied the applicants have sufficient expertise/access to expertise in order to undertake the proposed activities.]

Natural England is therefore satisfied that the proposed wild take of chicks from the Southeast, Southwest, and Midlands regions will not have a detrimental impact on the favourable conservation status of peregrine falcon, subject to the following conditions being attached to the licence (alongside other relevant conditions):

Conditions required

- No chicks shall be taken from nests within the following counties in England: Cumbria; Northumberland; North Yorkshire; and County Durham.
- Chicks are only to be taken from nests where there are three (3) or more live chicks present
- Clarification that disturbance of breeding adult peregrine falcon is not permitted under this licence; only chicks/juveniles.
- With the exception of replacing any chick taken from a nest, the survey, monitoring and subsequent taking of chick(s) from a nest under this licence is to be undertaken in strict accordance with the procedures outlined in "Hardy et al. 2013. Raptors: a Field Guide for Surveys and Monitoring. 3rd Ed. SNH: Edinburgh" with particular consideration of Section 7 'Good Practice for Fieldwork' [Pages 39 to 63] and 'Species Accounts: Peregrine Falcon' [Pages 184 to 190]; unless otherwise permitted or contradicted by this licence or a condition of this licence. Where any contradiction occurs, this licence and any conditions shall take precedence over the methodology detailed in 'Raptors: a Field Guide for Surveys and Monitoring' (Hardy et al. 2013).
- Written consent demonstrating landowner's permission must be supplied to Natural England prior to the taking of any chick.
- Adequate and appropriate food, liquids and materials are to be available on-site during the taking of any chick, to ensure its welfare.
- A mute sample is to be sent to a qualified vet within 48 hours of the chick being taken to check for parasites. Any parasites identified shall be appropriately treated on advice from a qualified vet.
- Any chicks taken shall be micro-chipped by a qualified vet when fully grown (within 10 weeks of taking from the nest). At the time of microchipping, the vet to also conduct a health check of the bird and blood taken to test for disease, as considered

	<p>appropriate by the vet. Any disease identified shall be treated accordingly and Natural England notified via wildlife@naturalengland.org.uk within 48hours of identification of any such disease.</p> <ul style="list-style-type: none"> • Chicks shall not be taken from the same nest location (or breeding pair territory) in successive years. • No chicks shall be taken from the wild until Natural England has received, and approved in writing, notification that the breeding cooperative known as the 'British Peregrine Conservancy' has been established and its associated studbook created. Such notification shall include members of the cooperative, signed declarations of members' adherence to the cooperative operating procedures and key information relating to the studbook. • Once a chick has been taken from a nest, Natural England will be notified within 10 working days, including the sex of the bird taken. • Natural England shall be notified within 10 working days of any change to the operating procedures of the cooperative, as submitted in response to Natural England's Further Information Request on 25th February 2020. • Birds taken under this licence shall only be bred with other birds, of the same species and sub-species and listed under the cooperative studbook which are either directly taken from the wild in England OR confirmed offspring of birds with a wild lineage that does not include any breeding with non-native or hybrid species. <p><u>Section Conclusion</u></p> <p>The licence <u>will</u> be on a selective basis, in respect of a small number of birds, and compatible with the conservation of the species (peregrine falcon), if granted under the conditions outlined above.</p>
5	<p>Is it proportionate in all the circumstances to grant the licence?</p>
	<p>These licence applications are for a legitimate purpose under the Wildlife and Countryside Act 1981 (as amended). The licences would be issued in respect of a small number of birds and will not impact on the conservation status of the species.</p> <p>These licences will not be issued with expectation of any subsequent 'renewal' and any further applications will be assessed on their own merits.</p> <p>In all the circumstances, it is proportionate to grant the licences.</p>

6	<p>Is the grant of the licence compatible with the protection afforded to European Sites and SSSIs?</p>
	<p><u>Assessment</u></p> <p><i><u>SPAs and SSSIs where peregrine falcon are a qualifying feature/notified feature:</u></i></p> <p>A separate HRA of the licence applications has been conducted (see separate document). This HRA has concluded that there will be no adverse effect on the integrity of European Sites for which peregrine falcon are a qualifying feature, subject to the imposition of appropriate licence conditions. The primary condition required to ensure no adverse effect is:</p> <ul style="list-style-type: none"> • No chicks shall be removed from nests within, or within 10km of the boundary of, the following Special Protection Area (SPA): North Pennine Moors SPA (England). <p>As regards SSSIs, peregrine falcon are a notified feature for a number of SSSIs in England. The same condition will be applied to such sites, namely:</p> <ul style="list-style-type: none"> • No chicks shall be removed from nests within, or within 10km of the boundary of, any Site of Special Scientific Interest (SSSI) for which peregrine falcon are a notified feature. <p><i><u>Further provisions and process safeguarding European Sites:</u></i></p> <p>The licence will contain a further condition requiring advance notification of the proposed location of licensed action:</p> <ul style="list-style-type: none"> • Natural England is to be provided notice prior to the proposed taking of a peregrine falcon chick from a nest. Such notice shall include the specific location of the nest, number of chicks present, confirmation of landowner's agreement and any site-specific variance in methodology (from the agreed methodology) for the taking of the chick. Prior to any chick being taken from a nest location, written confirmation must be received from Natural England approving the taking of a chick from that nest and any requirements specified under that approval must be adhered to in full.

	<p>Natural England will ensure that, once this additional information is known, a further HRA is completed prior to approving the taking of a chick from any nest location within a European Site in order to ensure that any potential impacts of the licenced activity on European Sites are appropriately considered.</p> <p>Natural England will maintain the power to revoke the licence at any point in time should it have cause to do so, including if (contrary to expectations) any evidence emerges which suggests that there is a risk to European Sites or SSSIs.</p>
7	<p>Summary of Recommended Conditions</p>
	<p><u>Licensable activities:</u></p> <ul style="list-style-type: none"> - Taking and Possessing a bird from the wild for the purpose of falconry / aviculture – under section 16(1)(e) of the 1981 Act. - Permit the disturbance of the young of a bird listed under Schedule 1 of the 1981 Act. <p><u>Licence conditions:</u></p> <p>General conditions</p> <ol style="list-style-type: none"> 1. These conditions apply to the licensee and any additional authorised person. The licensee and any additional authorised person(s) are responsible for ensuring that any licensed operations/activities comply with all terms and conditions of the licence. 2. The licensee and any additional authorised person(s), shown on the licence, may act under the authority of this licence. The licensee or any additional authorised person(s) may also employ assistants provided they work under the direct personal supervision of the licensee or authorised person. 3. Whilst engaged in activities permitted by this licence, the licensee and/or any additional authorised person(s), must have access to a copy of this licence and produce it to any police officer or any Natural England officer on demand. 4. The licensee and any additional authorised person(s) shall permit an officer of Natural England, accompanied by such persons as he/she considers necessary for the purpose, on production of his/her identification on demand, reasonable access to the site for monitoring purposes and to be present during any operations carried out under the authority of this licence for the

purpose of ascertaining whether the conditions of this licence are being, or have been, complied with. The licensee shall give all reasonable assistance to an officer of Natural England and any persons accompanying him/her.

5. No licensed activity shall be carried out under this licence on a National Nature Reserve or Marine Nature Reserve except with the prior written permission of Natural England.
6. A person authorised by the licensee shall provide him/her with such information as is within his/her knowledge and is necessary for the Report, which the licensee is required to make to Natural England.

Additional conditions

7. This licence permits the licensee and any authorised individuals to take only juvenile peregrine falcons (*Falco peregrinus*) by hand, in specified counties in England. It permits up to two (2), one male and one female, juvenile peregrine falcon to be taken over the duration of the licence period.
8. This licence permits only the disturbance of juveniles (chicks) of peregrine falcon *Falco peregrinus*. For the avoidance of doubt, the disturbance of adult peregrine falcon is not permitted under this licence.
9. The licensee must ensure that all appropriate permissions are in place to undertake the licensed activities and that these are in place, as necessary, prior to the licensed activity commencing.
10. The survey and monitoring of nest sites and subsequent taking of chick(s) from a nest under this licence is to be undertaken in accordance with the procedures outlined in “Hardy et al. 2013. Raptors: a Field Guide for Surveys and Monitoring. 3rd Ed. SNH: Edinburgh”; unless otherwise permitted or contradicted by this licence or a condition of this licence. Where any contradiction occurs, this licence and its conditions shall take precedence over the methodology detailed in Hardy et al.’s (2013): ‘Raptors: a Field Guide for Surveys and Monitoring’. Natural England shall be contacted where there is any doubt via email to: NEWLSSpeciesTeam@naturalengland.org.uk.
11. No chicks shall be taken from the wild until Natural England has received, and approved in writing, notification that the breeding cooperative known as the ‘British Peregrine Conservancy’ has been established and its associated studbook created. Such notification shall include named members of the cooperative, signed declarations of members’ adherence to the cooperative operating procedures and key information relating to the studbook and information to be contained therein.
12. Prior to any chick being taken from a nest location, the applicant shall provide to Natural England (send to: NEWLSSpeciesTeam@naturalengland.org.uk) information on potential nest sites where they are seeking to take peregrine falcon chick(s) from. Such information shall include the licence reference, specific location of the nest(s) (including eight figure grid reference in the format ‘XY 1234 5678’), number of chicks thought to be present and whether any variation is required to the methodology outlined in Condition 10 in order to conduct the wild take at the nest location(s). A maximum of 3 nest sites are to be submitted to Natural England for consideration at any time. Written confirmation must be received from Natural

England approving the taking of a chick from a particular nest site prior to the taking of any chick. Any further requirements specified under Natural England's approval of a nest site location must also be adhered to in full by the licence holder and any additional authorised persons operating under the licence. [*Note: Natural England is required to ensure designated sites will not be affected by the proposals. Natural England will endeavour to provide written confirmation within 10 working days of notification of a nest location.*]

13. Once a nest site is approved by Natural England for wild take (as per Condition 12), Natural England is to be provided with at least 5 days' notice prior to the proposed actual taking of a peregrine falcon chick from the nest (contact NEWLSSpeciesTeam@naturalengland.org.uk). Such notice shall include the specific location of the nest (including eight figure grid reference in the format 'XY 1234 5678'), names and contact details of persons involved, the number of chicks present and written evidence of the landowners' consent.
14. Adequate and appropriate food, liquids and materials shall be available on-site during the taking of any chick, to ensure its welfare.
15. A mute sample shall be sent to a qualified vet within 48 hours of the chick being taken to check for parasites. Any parasites identified shall be appropriately treated on advice from a qualified vet.
16. Any chicks taken shall be micro-chipped by a qualified vet when fully grown (and at most within 12 weeks of taking from the nest). At the time of microchipping, the vet shall also conduct a health check of the bird and blood shall be taken to test for any disease, as considered appropriate by the vet. Any disease identified shall be treated accordingly under advice from the vet and Natural England will be notified via NEWLSSpeciesTeam@naturalengland.org.uk within 72 hours of identification of any such disease.
17. No chicks shall be taken from nests within the following counties in England: Cumbria; Northumberland; North Yorkshire; and County Durham.
18. No chicks shall be removed from nests within, or within 10km of the boundary of, the North Pennine Moors Special Protection Area (SPA) (England).
19. No chicks shall be taken within, or within 10 km of the boundary of, a Site of Special Scientific Interest (SSSI) where peregrine falcons are a notified feature.
20. Chicks are only to be taken from nests where there are three (3) or more live chicks present.
21. The first chick taken under this licence must be the smallest chick in the nest. The second chick taken under this licence must be taken from a different nest to the first chick and must be the smallest chick present of the gender required to meet licence Condition 7.

22. Chicks shall not be taken from the same nest location (or breeding pair territory) in successive years.
23. Natural England must be notified in writing (send to: NEWLSSpeciesTeam@naturalengland.org.uk) within 10 working days of any chick being taken from a nest, including the sex of the bird taken.
24. Natural England shall be notified within 10 working days of any change to the operating procedures of the cooperative, as submitted in response to Natural England's Further Information Request on the 25th February 2020. Notification shall be sent to: NEWLSSpeciesTeam@naturalengland.org.uk.
25. Birds taken under this licence shall only be bred with other birds, of the same species and sub-species, and which are listed under the cooperative studbook. Such birds shall also be either directly taken from the wild in England. OR confirmed offspring of birds with a verifiably wild (native) lineage that does not include any breeding with non-native or hybrid species.
26. Natural England will be informed of any change of ownership of any birds taken under this licence within 5 (five) days of this occurring. Notification shall be sent to: NEWLSSpeciesTeam@naturalengland.org.uk.

Reporting

27. A 'Report' by the licensee, of action taken under licence, must be completed twice each year even if no action is taken, and sent to wildlife@naturalengland.org.uk. The first Report shall arrive within six weeks of any chicks being taken and the second report shall arrive no later than 14 days (two weeks) after the anniversary of the licence being issued. This Report should include sufficient information about actions taken for Natural England to assess compliance with all licence conditions. Failure to make reports may result in the licence being revoked and/or the refusal to grant subsequent licences.

Additional Licence Notes

- a. An additional authorised person is a suitably trained and experienced person who is able to carry out work under a licence without the personal supervision of the licensee. To carry out licensed activities their name will be on the licence. To comply with the licence conditions, additional licenced persons should have a copy of the licence accessible when acting under the licence.
- b. An assistant is a person assisting the licensee or the additional authorised person(s). Assistants are only authorised to act under a licence whilst they are under the direct supervision of either the licensee or the additional authorised person(s).
- c. The provisions of the Animal Welfare Act (2006) must be complied with at all times.
- d. Note that further legal documents or consents (such as a Registration under Schedule 4 of the Wildlife and Countryside Act 1981 or a CITES Certificate) may be required in order to operate under this licence or subsequently keep or breed a bird in captivity. For the avoidance of doubt, this licence does not constitute any additional consents that are required; or imply that they will be granted.

8	Compliance It is recommended that Natural England carry out a number of compliance visits and telephone checks in addition to a requirement for regular compliance reports from the licensee. It is recommended that an officer of Natural England is present when at least one of the chicks is taken in the first year and that a visit is carried out to at least one of the rearing facilities. Telephone compliance checks are recommended in July each year of the licence duration to any licence holders not visited by Natural England.
9	Conclusion On the basis of the above assessment, with appropriate conditions and compliance safeguarding, it is considered appropriate to grant a licence for a period of two years.
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ANNEX 1: RESPONSE TO NATURAL ENGLAND'S FIR (RECEIVED 25TH FEBRUARY 2020)

Further Information Request and Response:

Note: For ease of review, this document is an amalgamation of an email and separate document provided to Natural England by the Lead Applicant on the 25th February 2020.

- *Black text = Natural England's FIR request*
- *Red text = Lead Applicant's response to FIR request*

1. Wild Take (and Keeping) Methodology

We note from email correspondence that you propose to conduct the taking of chicks in line with guidance provided in 'Raptors: a field guide for surveys and monitoring' and 'BTO Access & Permission' guidance. We accept these documents as an appropriate basis for the methodology you will use. But in order to discharge our obligations, we need to see and make an assessment of a separate document which sets out, in detail, how you will apply this and any other relevant guidance in the procedure which you will follow when undertaking activities for, and in association with (such as pre-take surveys), any licence granted.

"The guidance quoted is sufficient to undertake the procedure requested by the license application, nest monitoring for pre-take surveys is covered in the guidance, i.e. observation from 500-700 mtrs and withdraw at any sign of anxiety from the breeding pair. Issue's that licensee's need to take particular notice of is disease risk to themselves, such as being up to date with tetanus inoculations and being particularly aware of tick bites in upland area's. The only thing I would add to the guidance is the wearing of safety glasses and helmets by everyone at the nest site plus the carrying of a first aid kit. "

The document will need to include, but should not be restricted to, the provision of sufficient detail for the following points and criteria:

a. Minimum experience level of involved persons and how you will check and record this

"a. the level of experience required to take birds for breeding is a matter for the licensing authority but I believe a minimum of five years falconry experience should be required. Although some breeding experience would be beneficial I don't believe its critical as long as the first ten licenses go to people who have captive bred falcons previously then there will be sufficient knowledge to help people who would like to be involved in the coop but have none or little captive breeding experience. At this point I see enthusiasm for the objective more important than experience and with the use of licensing condition making the use very restrictive I believe only those with enthusiasm for the objective will want to be involved."

b. Procedures for identification of suitable nest sites prior to taking chicks

"b. a licensee will rely on local knowledge, e.g. contact with gamekeepers, hill farmers or landowners. Ease of access would be the main priority then those that meet the minimum 3

chick criteria. Nests that can be monitored from a higher vantage point would also be of higher priority. The objective would be to pinpoint at least 3 possible donor sites.”

- c. Wider conservation issues (such as minimising or avoiding disturbance to other nesting birds or presence of protected nature conservation sites)

“c. again, local knowledge to determine what other protected species are in the vicinity of a nest site, together with observation of area while monitoring peregrine nest from a distance.”

- d. Chick selection (from the nest)

“d. priority for chick selection would be extraction of the required sex with the least disturbance to the remaining chicks.”

- e. Steps to be taken to ensure the welfare of any chick(s) taken

“e. main issue is to keep chick hydrated, this is usually done via their food but glucose/saline can be added during times of stress and if a chick is slow to eat it can be injected into the armpit of its leg, the flap of skin between the top (rear) of its leg and its body.”

- f. Handling and transport

“f. chick would be placed into a dark environment for removal from nest and during transport. Darkness is the best method of keeping falcons calm, hence the hooding of adult birds.”

- g. Health screening and disease risk

“g. mute sample would be sent to vet to check for parasites in the first 48 hours after taking from nest.”

- h. Description of breeding facilities (minimum standards)

“h. breeding facility to comply with animal welfare standards. Minimum size for peregrines - 3mtrs wide, 5mtrs long and 2.4mtrs high, skylight and seclusion aviary with gravel floor.”

- i. Rearing method

“i. rearing by foster (falcon) parent where possible, if not creche reared with another falcon chick with minimal human contact.”

- j. Procedures and timings for microchipping

“j. microchipping by vet when fully grown, i.e. 9 weeks old.”

- k. DNA sampling and submission of Wildlife and Countryside Act 1981 Schedule 4 applications to APHA

“k. application for registration under schedule 4 of WCA within 24 hours of taking from nest. 1/20th millilitre of blood to be taken by vet when birds is being microchipped and stored until genetic analysis is available.”

- l. Confirmation that any peregrine falcon taken from the wild will only be bred with native peregrine falcon associated with the cooperative

"l. declaration of non commercial use is covered by license conditions and declaration of license application."

- m. Minimum standards for the on-going care of birds taken from the wild (welfare considerations)

"m. daily monitoring to detect any sign of disease or injury. Food intake being the primary indicator of bird health."

British Peregrine Conservancy cooperative– Articles of Association and Operating Protocol

We acknowledge and thank you for your email providing some details on how the British Peregrine Conservancy cooperative will operate. We do however need a more formal document which makes it clear what model the British Peregrine Conservancy cooperative will follow (e.g. a co-operative that provides services to its own members, an unincorporated association or some other form of company). This should take the form of a written constitution, Articles of Association or similar together with the broader operating procedures of the cooperative. This should be set out in sufficient detail for it to be clear to its members and those wishing to join how all common scenarios will be handled by the cooperative (e.g. the membership rules such as how persons join or how members leave, how any trading or commercial activities will be handled, any voting arrangements, if there will be a management committee or AGM, how that will be elected, the process for changing the rules, and how any governance action will be taken and individuals held to account in event of breaches of the cooperative rules).

"Operation of "cooperative" covered by supplementary statement." [SEE OVERLEAF]

APPLICANT'S RESPONSE TO FIR – (COOPERATIVE INFORMATION):

"The British Peregrine Conservancy will be a breeding cooperative for the captive breeding of native British Peregrine Falcons with the objective to maintain a stud book controlled captive population of birds with at least one parent being wild sourced, F1 or F2.

- *Licensing will be the gateway into the cooperative group.*
- *Members will communicate through a closed Facebook page.*
- *Initially myself and [NAME REDACTED] will be group coordinators.*
- *Maximum of one coordinator for every 5 licensee's when cooperative has 10 participants. Minimum of 2 coordinators for the cooperative as a whole.*
- *Coordinators can be voted into position by the majority of existing coordinators or majority of licensee's subject to maximum/minimum criteria.*
- *A coordinator can be removed by a 2/3rd vote of licensee's / coordinators. Only one coordinator can be removed annually.*
- *Operating conditions of the group can be changed or additional requirements added (subject to licensing conditions) by a 2/3rd vote of total number of licensee's.*

- *Total number of licensee's will be a minimum of 10 before any voting can be undertaken.*
- *I ([**NAME OF LEAD APPLICANT**']) will maintain the studbook using "poplink" software produced by Lincoln Park Zoo. It will be known as the "British Peregrine Conservancy Studbook". Should I be unable to continue the licensee's will nominate and vote by majority for another studbook keeper. The studbook will be accessible to all members of the group, the licensing authority and Defra.*
- *<https://www.lpzoo.org/conservation-science/projects/poplink>*
- *Breeders will have a studbook ID no which will be issued by the studbook keeper.*
- *Every licensee and breeding group member will maintain records, including details of birds bred, young birds ring no, parent ID / ring no and distribution of young which will be required as a licensing condition to be submitted to the studbook keeper by the 31st September following that years breeding season. The death of any bird listed within the studbook will be reported to the studbook keeper asap.*
- *Each license holder will be responsible for the distribution of F1 birds that they don't wish to retain for their own breeding programme and any birds released from their project will first be offered to other producers within the group. Anyone receiving an F1 or F2 bird will be required to become a member of the group on receiving a bird.*
- *Each license holder will donate the second and sixth (alternating between sexes) F1 bird produced each year to the cooperatives "Nest", these will be distributed to qualified falconers, who apply to the coordinators, on a lottery basis. These birds will be flown for falconry and only used for breeding within the studbook population. This will balance a focus on creating a captive bred native population and reducing the numbers of non-native sub-species being flown for falconry at the earliest possible opportunity. Birds from the cooperative "Nest" will also be made available for any re-introduction programme if requested by the licensing authority, this will be given priority.*
- *Documented wild disabled birds, and the captive bred progeny of a pair of such that are documented as such, from the British Isles can be added to the studbook on the unanimous decision of the coordinators.*
- *Wild taken birds will be subject to movement restrictions logged on their registration documents. The movement restriction will also require a responsibility to inform the coordinators and stud book keeper of any such movement.*
- *A licensing condition that gives permission for the cooperative coordinators to communicate with Defra, or relevant authority, on any issue relating to the registration and movement of wild taken and F1 birds. Termination of this permission means movement of wild taken and F1 birds will be refused.*
- *The use of wild taken, F1 and F2 will be subject to a license condition that any breeding will be confined to studbook genetics, also logged on registration documents.*
- *Should the licensee wish to dispose of the wild taken birds they will be offered back to the group and rehomed by the coordinators, any disagreement on this will be decided by a majority vote of coordinators (licensing condition ?) Prior notification of the licensing authority will be required for movement restriction to be lifted.*
- *A breeder of F1 can receive a contribution of up to £200 towards food / rearing costs when passing an F1 bird onto a new keeper, including those relocated to falconers/breeders via the group "Nest".*
- *There will be no commercial use of wild taken and F1 birds, implemented through licensing condition. F2 cannot be sold, F3+ will be subject to Cites regulations*
- *Licensee's will be responsible for approaching landowners for permission. The licensing authority will be given locations of active nest sites being considered as soon as that information is available.*
- *Licensee's will follow the SRSG's "Field Guide for Surveys and Monitoring" in relation to visiting nest sites.*
- *The licensing authority will be notified 48 hours prior to the taking of a chick, this following the criteria stated in the license application, from a nest with a minimum of three chicks.*
- *The licensee will be accompanied by two assistants during the taking of a chick and an experienced rock climber should the location require it.*

- *The licensing authority will be notified within 24 hours of the taking of a chick and Defra Schedule 4 registration applied for.*
- *The BPC will endeavour to work with any conservation group, NGO or Government body to further the conservation of the Peregrine Falcon and other raptors.*
- *The BPC will make genetic material available for the scientific study of the dna structure of the British Peregrine when that option becomes available.”*