

Wild Animal Welfare Committee

The killing and taking of birds under the Wildlife and Countryside Act 1981: A review of the animal welfare implications

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Introduction

In taking decisions about lethal intervention against wild birds, animal welfare is an important consideration. This consideration must apply to all species irrespective of abundance, conservation status or assumed social value. This is in addition to ethical considerations (eg Dubois, 2017)

For many years General Licences (GLs) governing the killing and taking of certain species of bird have been issued under the Wildlife and Countryside Act 1981. There has been little scrutiny of either the scientific basis of the licences or of the conduct of those involved in the licensed activities.

Following a legal challenge in early 2019, three GLs covering the killing and taking of specified Corvidae and other species in England were withdrawn (Natural England, 2019). The licences, with amendments, were subsequently re-issued (Defra 2019a). Government reviews of the evidence supporting the licences are taking place in England (Defra 2019b) and the Devolved Administrations.

In England, GLs are issued to:

- kill or take Canada geese to preserve public health and safety (GL28)
- kill or take carrion crows to prevent serious damage to livestock (GL26)
- kill or take woodpigeons to prevent serious damage to crops (GL31)
- kill or take wild birds to conserve wild birds and to conserve flora and fauna (GL34)
- kill or take wild birds to preserve public health or public safety (GL35)
- kill or take wild birds to prevent serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber, fisheries or inland waters (GL36) (Defra 2019a)

Similar but not identical licences are issued in Wales (Natural Resources Wales, 2019) and Scotland (Scottish Natural Heritage, 2019).

Although the legal challenge, the subsequent reviews and call for evidence concentrated on conservation impacts of the killing and taking of birds under these GLs, animal welfare and ethical considerations about the shooting and trapping (and subsequent killing) of birds which need to be taken into account in formulating any new licences.

In killing birds covered by the GLs, there are the following welfare considerations:

- Does the equipment used and the skill of the shooter ensure that the all birds are killed humanely? 'Humane' in this context means that shooting causes rapid and irreversible loss of consciousness in the target animal.

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- In the event of a shot bird being wounded but not killed, are prompt efforts made to find the wounded bird and is it promptly and humanely dispatched?
- Is every effort made to avoid leaving dependent young?
- Where traps are deployed, is every effort made including the design, deployment, operation and inspection of traps that the Five Freedoms (Wikipedia contributors, 2019) are met for decoy and trapped birds?
- Are traps operated in accordance with Section 9.2 of the Animal Welfare Act 2006?

This review considers:

- Evidence about the efficiency of shooting, wounding rates and related animal welfare implications of birds covered in the GLs.
- Evidence about the physical and physiological effects and the consequential animal welfare impacts associated with the live trapping of corvids.
- Evidence about the social impact of the removal of a proportion of a population of birds and the implications for animal welfare.
- Ethical considerations.
- Evidence gaps and pointers to further study.

This review inevitably gives emphasis to corvids since these species are believed numerically to be the most affected by the GLs. However, the findings are broadly applicable to all the species listed.

Evidence about the efficiency of shooting, wounding rates and related animal welfare implications of birds covered in the GLs.

There are few studies on the welfare impacts of shooting wild birds; the majority of these were conducted in North America and continental Europe and even then the primary consideration was determining the efficiency of different shot types. The subject of most of these have been Anatidae (ducks and geese) and none cover the shooting of Corvidae.

There are very few data on the proportion of birds shot in Europe that are not killed immediately. Meltofte (1978) found that of 45 wildfowl and waders shot in Denmark 88.9 per cent were wounded. 'Crippling' rates for ducks shot in the USA varied between

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4.5 and 20 per cent (Anderson & Burnham, 1976; Humburg, 1982; Humburg & Sheriff, 1980; Mikula, 1977), and in geese between 35.8 and 40.9 per cent (Anderson & Sanderson, 1979; Smith & Roster, 1980). Merkel & others (2006) found that common eiders *Somateria mollissima* shot but not killed had poor body condition.

In Denmark, a reduction in wounding rates of Pink-footed Geese *Anser brachyrhynchus* was effected by improving the training and competence of shooters with the most effective intervention being reducing distance at which birds could be shot. Despite shooters' concerns that this would reduce the size of the bag, the average annual bag size rose (Noer & others, 2007). Similar effects were reported by Hebert & others (1984); irrespective of the type of shot and other variables, the closer the bird when first shot at, the lower the proportion of birds that were wounded without being killed. Aside from the obvious reduction in suffering, a reduction in wounding benefits animal welfare since there is evidence that wounding affects welfare negatively and in a number of ways. In a study by telemetry of 'crippled' mallards *Anas platyrhynchos* with wing injuries, van Dyke (1981) found that 94 per cent died within two weeks (n = 35). Although the majority were predated, weight loss occurred prior to death and appeared to contribute to the likelihood of being taken by a predator. Van Dyke (1981) also found that the most common injuries in ducks 'crippled' in a shoot were wing fractures and that each bird was likely to have several wounds. Shooting injuries and the loss of function associated with them are likely to cause severe pain and distress (Sainsbury & others, 1995).

Studies on the efficiency of shooting of Corvidae are absent and there appear to be, unlike for Anatidae, no studies on the welfare impacts of shooting. Reasons for this are unclear but may be related to their low monetary and social value. However, the anatomical and physiological similarities between the two groups are such that it is safe to assume that the consequences for animal welfare of wounding rather than rapid death are broadly similar. Further, in the absence of data on wounding it is reasonable to assume that the proportion of corvids that are shot and wounded but not recovered is at least as poor as it is for ducks and geese. While good shooting practice requires shot birds to be picked up, dogs are rarely used to pick up shot corvids because of the greater risk, in comparison with ducks and geese, that the wounded bird might injure the dog (Matthew Cross, personal communication). The British Association for Shooting and Conservation's Code of Practice for Picking Up (BASC, 2016) is silent about corvids. In any case, since corvids are rarely, if ever, eaten, the incentive to pick up is reduced and it is likely that many of the carcasses of killed and wounded corvids are never recovered. This is less likely to be true for the shooting of the goose species listed in GLs (Egyptian Goose *Alopochen aegyptiaca*; Grey Lag Goose *Anser anser*;

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Canada Goose *Branta canadensis*) and for Wood Pigeons *Columba palumbus* since these species have some value as food.

The current GLs do not include competence requirements for those shooting birds. Shooters neither have to demonstrate shooting accuracy, nor do they have to demonstrate competence in humane dispatch. In contrast, the vast majority of deer stalkers and others who shoot deer have formal qualifications (British Deer Society, 2019) whereas, while other shooters are encouraged to get appropriate training in Codes of Practice (BASC, 2019), there are no data about the proportion that do and no widely adopted system of training, re-accreditation and recording competence. The lack of scrutiny of compliance with the licence conditions means that there is scant data about the competence of shooters and hence no conclusions can be drawn about whether animal welfare is protected.

Evidence about the physical and physiological effects and the consequential animal welfare impacts associated with the live trapping of corvids.

Larsen, ladder and similar traps are designed to hold a single decoy bird and attract and trap congeners which are then supposed to be humanely dispatched. The GLs authorising their use have conditions designed to protect the welfare of the decoy bird. This includes checking the traps at a frequency of no greater than every 24 hours. Decoy birds must be provided with water, food and shelter. These requirements do not extend to the captured birds. There are no requirements for decoy or captured birds which take account of behavioural needs, the stress of confinement or the forced close and protracted proximity with congeners and other species, including predators. This despite the law requiring persons responsible for animal welfare to ensure the needs of an animal under his/her charge are met. This includes, amongst other things its need to be able to exhibit normal behaviour patterns and its need to be protected from pain, suffering, injury and disease (Animal Welfare Act, 2006).

Corvids are intelligent, resourceful and highly social animals (eg Taylor & others, 2006; Logan & others, 2014; Swift & Marzluff, 2015). Species congeneric to the rook *Corvus frugilegus*, jackdaw *Corvus monedula* and carrion crow *Corvus corone* are known to have advanced tool making capabilities (Troscianko & Rutz, 2015) and to communicate information about threats within their social groups (Cornell & others, 2012). Magpies *Pica pica* show mirror self-recognition, an ability which is unique in a non-mammalian species (Prior & others, 2008).

There are no data about the degree of stress experienced by individual corvids confined and exposed to congeners and other species for prolonged periods.

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However, anecdotally, carrion crows in cage traps often display what appears to be stereotypical behaviour. An assessment of the welfare impacts of Larsen and similar types of trap (Campbell & others, 2016) found few physical problems associated with the use of the traps but did not investigate the physiological impacts of prolonged confinement such as indicators of stress eg plasma corticosteroids. However, in the absence of evidence to the contrary and taking into account the evidence of the highly developed cognitive abilities of the corvid, it is safe to assume that even if the physical needs of the captured birds are met, the capture and confinement of such highly intelligent birds can only have a detrimental effect on their welfare. Le Maho & others (1992) reported that geese when handled only for five minutes showed a dramatic increase in the level of humoral indices of stress. These increased several-fold within 2 minutes, and the return to initial values could take up to 1 hour.

Baker & others (2016) compared cage trapping of crows with shooting and scaring. A desk-based welfare assessment model concluded that cage trapping with cervical dislocation had the greatest impact because trapped birds may suffer distress, injury or panic during confinement in the trap while birds being killed will be distressed by handling and the response of the decoy bird to the handler, and can experience hypoxia following cervical dislocation. In addition, non-target species including protected species such as birds of prey are also caught and, even if released alive, may suffer and potentially die as a result of entrapment. As for decoy birds, their welfare is adversely affected by captivity and the inability to behave naturally, especially in ground-level traps such as Larsen traps.

Evidence about the welfare and social impact of the removal of a proportion of a population of birds and the implications for animal welfare

There are no data about impacts on the social structures of corvids when a proportion of the population is removed by shooting or trapping. Anecdotally, the removal of crows and other species from a territory, particularly in the breeding season, is believed to encourage congeners into the territory vacated. The conditions of the GLs do not include a 'closed season'. All listed species may be killed at any time of the year. For several weeks each spring it is highly likely that the adults killed will leave dependent young, nestlings or fledglings, and a high proportion will undoubtedly starve or be predated.

Ethical Considerations

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Ethical concerns about the destruction of free-living wildlife have received little attention from animal welfare scientists, legislators or the public, particularly when the species involved is abundant or not perceived as having a high social value. Nevertheless, all vertebrates can experience pain and distress, regardless of whether they are valued by the public or not. A wide range of methods is used to kill or otherwise control unwanted wildlife. The animal welfare impacts of most of these methods are not known (Littin & Mellor, 2005) but this rarely appears to concern either regulators or conservation organisations even when the subject matter is controversial. For example, a review of the evidence about inclusion of certain species in GLs includes no mention of animal welfare (Newson & others, 2019). Similarly, neither a management strategy for Barnacle Goose *Branta bernicla* in Islay, Scotland (Scottish Natural Heritage, 2014) nor a legal challenge submitted by conservation organisations to the European Union (Royal Society for the Protection of Birds & the Wildfowl and Wetland Trust, 2014) mentions animal welfare despite public concern about the apparent high proportion of birds wounded during 'lethal scaring' (The Scotsman, 2018).

Evidence provided above demonstrates that a substantial proportion of shot birds are injured and, with no evidence that suggests 'crippled' birds are immediately found and humanely dispatched, there is reason to question whether current practice protects or even has regard for animal welfare. Studies on chickens provide convincing evidence that birds do experience the feeling of pain. Gentle & Wilson (2004) showed that chickens subject to beak trimming, a legal mutilation intended to stop feather-pecking and cannibalism, avoided using their beaks, preening less and performing less exploratory behaviour for several weeks longer when compared to controls.

Comparing pain in birds with mammals it is clear that, with regard to the anatomical, physiological and behavioural parameters measured, there are no major differences and therefore the ethical considerations normally afforded to mammals should be extended to birds (Gentle, 1992). Such considerations need to be taken into account in the shooting and trapping of birds, particularly in the absence of evidence that the welfare of birds in both circumstances is protected.

If the increasing knowledge of animal sentience is taken into account, a case for better governance of human activities where these affect the welfare of wild animals emerges. The keepers of farm, companion, zoo, research and other captive animals in the UK are subject to animal welfare laws and codes of practice which, while having a basis in science, have also been shaped by ethical debate amongst parliamentarians and the general public. A comparable approach which combines science and ethics to reduce harm to sentient wild animals and prevent suffering caused by human activity is warranted.

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The case for a combined scientific and ethical approach to assessing the value and impact of killing birds becomes stronger still when the growing evidence of the higher cognitive powers of corvids is taken into account (see above). While these studies do not relate solely to species covered by the GLs, they are closely related and, in the absence of evidence to the contrary, it is reasonable to assume they have similar cognitive ability. Further, Kabadayi & others (2016), in a study into the motor self-regulation of three species of corvids, concluded that they performed on a similar level to the great apes, despite vastly smaller absolute brain sizes. It is worth noting that, on ethical grounds, in 1986 research on great apes was banned in the UK. Although the Animals (Scientific Procedures) Act 1986 does not specifically preclude research on great apes, Jack Straw, the then Home Secretary, told the Government's advisory committee on the use of animals for research that such experiments should not be allowed, saying that 'This is a matter of morality. The cognitive and behavioural characteristics and qualities of these animals mean it is unethical to treat them as expendable for research' (The Daily Telegraph, 2006). Similar ethical considerations may need to be brought to bear for other species including corvids.

Ethical frameworks to govern intervention against wild animals have been proposed by Littin & Mellor (2005) and Dubois & others (2017). If control actions are used on an *ad hoc* basis without being integrated into a long-term management programme, any benefit is likely to be short lived and control actions may be used repeatedly without achieving a sustainable solution (Clayton & Cowan, 2010) negatively impacting on animal welfare and effectively constituting a sustainable harvest. Adopting an ethical framework does not preclude all intervention but it would be incumbent on proponents to justify intervention and to present rigorous cost-benefit analyses of the alternative interventions and their likely success which take account of the intrinsic value of the species in question. The aim is to adopt the least intervention.

Evidence gaps and pointers to further study.

It is clear that there are substantial gaps in the evidence about the welfare of birds when subjected to measures covered under the GLs. These can be summarised as:

Shooting

1. Data on the efficiency of shooting eg the proportion of target birds which caused rapid and irreversible loss of consciousness.
2. Data on the proportion of birds that are not covered by the above category which die within minutes, hours or days and what proportion recover.

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Note: Methodology as adopted for assessing the welfare of shot rabbits may be applicable (Hampton & others, 2015)

Trapping

3. Data showing the physical and physiological effects and the consequential impacts on animal welfare following abrupt capture and confinement in a cage trap. This applies to birds trapped individually (the decoy bird) and where several birds are confined together for substantial periods of time.
4. Data on trapped birds and compliance with the Five Freedoms.

Both

5. Data on the welfare impact on those 'left behind' (eg dependent young) following the removal of a proportion of birds from a population particularly during the breeding season.

Conclusion

Evidence about the welfare of birds covered by the GLs is scant. However, there is sufficient evidence from other sources to suggest that the welfare of birds killed and taken is likely to be poor, even when best practice is followed. Birds can experience pain and poor shooting and trapping practice will cause prolonged suffering. There is little or no monitoring of licensed activity, little or no picking up of shot birds and no competence requirement for either the efficiency (and hence welfare) of shooting nor the humane dispatch of wounded or trapped birds. In respect of live trapping, there is no evidence of observance of the Five Freedoms nor compliance with the Section 9.2 of the Animal Welfare Act 2006.

Our immediate recommendations are that consideration needs to be given to amending GL conditions to take the foregoing into account. Given the increasing evidence and recognition of sentience and intelligence in birds and in particular corvids, this needs to be taken into account when devising policy

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About the Wild Animal Welfare Committee

The Wild Animal Welfare Committee (WAWC) (<http://wawcommittee.org/>) is a charity providing independent advice and evidence about the welfare of free-living wild animals in the UK, aiming to reduce harm to wild animals and prevent suffering caused by human activity. WAWC offers informed independent comment based on scientific research and modern understanding of animal welfare and animal sentience, with a view to influencing public policy, so that wild animal welfare is optimised.

The primary aim of this voluntary Committee is to reduce harm to wild animals in the UK and to prevent suffering caused by human activity where possible. It is a fact of life that free-living wild animals will suffer and die, and as much as humans may regret that harsh reality, we know that it is generally inappropriate to interfere with the natural course of events. The consequences are often unpredictable and can be negative, both for individual animals and for populations.

Many traditional activities that affect wildlife, from sport shooting to pest and predator control, have carried on largely unquestioned for decades or even centuries – either because the practices were unknown or unobserved, or simply because they have always been done that way. Newer activities such as wildlife rehabilitation, identification tagging, research, translocation and other conservation-related activities all have consequences for the welfare of the individual, which are sometimes overlooked or unanticipated. And then there are the many novel developments that affect the environment and create new hazards for the individuals living in it – higher buildings, more extensive transport links and changing land use patterns. These anthropogenic impacts on sentient, individual wild animals are the focus of the WAWC's attention. The keepers of farm, companion, zoo, research and other captive animals in the UK are all subject to animal welfare laws which, while having a basis in science, have also been shaped by ethical debate amongst parliamentarians and the general public. The welfare of wild animals should, in our view, be treated no differently. The increasing evidence of sentience in a growing number of species means that wild animal welfare must be given greater emphasis.

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