

# Management of waterfowl shooting during periods of severe weather in the UK

M. B. Ellis

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## Abstract

*Management of waterfowl shooting during periods of severe weather in the UK.*— During prolonged periods of severe weather waterfowl habitats are affected by snow or ice. Recreational users of the countryside can move waterbirds off prime feeding areas, potentially resulting in reductions in body condition, at a time when energy reserves are key to overwinter survival and subsequent breeding success. Over the last 30 years the British Association for Shooting and Conservation has been closely involved, along with the government and other conservation NGOs, in developing and implementing a criteria-driven process for defining severe weather and managing waterfowl shooting during it in order to minimise unnecessary disturbance to overwintering waterbirds. The system works well and is widely respected and applauded by conservation agencies. There are increasing efforts to bring more countryside activities, including dog walking, bird watching/ringing and other wetland users, into the system so as to reduce further unnecessary waterfowl disturbance during difficult winter weather.

Key words: Waterfowl, Management, Hunters, Weather.

## Resumen

*Gestión de la caza de aves acuáticas durante los periodos de condiciones meteorológicas adversas en el Reino Unido.*— Periodos prolongados de condiciones meteorológicas muy adversas provocan que los hábitats de las aves acuáticas se vean afectados por la nieve o el hielo. El uso recreativo de estas zonas puede desplazar las aves fuera de sus áreas de alimentación principales, lo que potencialmente ocasionaría una reducción de sus condiciones físicas en un momento en que las reservas energéticas son claves para la supervivencia invernal y el subsecuente éxito reproductivo. Durante los últimos 30 años la Asociación Británica para la Caza y la Conservación se ha implicado mucho en este problema, junto con el gobierno y otras ONGs ecologistas, desarrollando y aplicando un criterio que defina, en función de los datos, condiciones meteorológicas muy adversas y la gestión de la caza de aves acuáticas durante este periodo, para minimizar las molestias innecesarias a dichas aves, que están invernando. Este sistema funciona bien y es muy respetado y aplaudido por las instituciones conservacionistas. Se están haciendo cada vez más esfuerzos para establecer más actividades en el espacio natural, incluyendo el paseo de perros, la observación/anillado de aves y otros usos de los humedales, con el fin de reducir las perturbaciones innecesarias a las aves acuáticas durante el difícil tiempo invernal.

Palabras clave: Aves acuáticas, Gestión, Cazadores, Tiempo meteorológico.

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Matthew B. Ellis, British Association for Shooting and Conservation, Marford Mill, Wrexham Road, Rossett, Wrexham, LL12 0HL, Wales, UK.

## Introduction

During winter waterbirds can be placed under extra stress due to the joint demands of increasing thermo-regulation and foraging in areas of diminishing food reserves (Goss–Custard et al., 1977; Clark, 2002). In severe winters this can lead to the depletion of fat reserves and eventually to death (Camphuysen et al., 1996; Suter & Vaneerden, 1992; Davidson & Evans, 1982). Disturbance of these birds, either by predators (Cresswell & Whitfield, 2008; Whitfield, 2003; Hilton et al., 1999) or human activity (Gill et al., 2001; Tamisier et al., 2003; Burton et al., 2002; Burger, 1998) can act to exclude birds from their feeding areas, as well as causing them to expend energy in their escape flights, potentially leading to greater risks of mortality in these populations.

The open season for waterfowl shooting in the UK starts on 1 September, and finishes on 31 January at inland sites, but continues until 20 February in coastal areas between the low and high watermarks (the foreshore) (Wildlife and Countryside Act 1981 s2(4)). The Wildlife and Countryside Act 1981 makes provisions for the Secretary of State in the relevant country to make a Protection Order (Wildlife and Countryside Act 1981 s2(6)), in effect imposing a temporary closed season, primarily in order to protect birds during periods of prolonged severe weather. The following is a brief description of the system, its legal basis and the important role that non-governmental organisations, including hunting and conservation bodies, have in managing the process and informing their members and the wider public.

This system has been in place since 1967 (*The Protection of Birds Act, 1967*), but was first used in 1979 (for a full history of the management of waterfowl shooting during periods of severe weather see Stroud et al. (2006) and Stroud (1992)). As the largest hunting organisation in the UK the British Association for Shooting and Conservation (BASC) has been involved with the process from the start, along with other NGOs including the Game and Wildlife Conservation trust (GWCT), the Royal Society for the Protection of Birds (RSPB), the Wildfowl and Wetlands Trust (WWT) and the British Trust for Ornithology (BTO). The system has been reviewed on numerous occasions, and continues to be reviewed after any winter in which the severe weather process is used.

All of the countries of the United Kingdom operate a severe weather process. However, England and Wales operate as a single severe weather region, but work very closely with Scotland, which is also a separate severe weather region. The Northern Ireland system operates separately from the rest of the UK, but in recent years has developed a very similar process.

## Severe weather criteria

Each day from 9 November to 20 February the UK Meteorological Office (Met office) collects the minimum air and grass temperatures from the previous twenty-four hours across the network of meteorological

stations (fig. 1) and reports the data to the Joint Nature Conservation Committee (JNCC). These stations are mostly coastal to reflect the fact that inland waters in the UK tend to freeze first, forcing birds to the coast. In Northern Ireland the Met office deals directly with the Northern Ireland Environment Agency. All of the weather stations used in the severe weather process have a secondary station which can act as a backup if the primary station fails, or if there are concerns over the accuracy of the data.

A station is considered 'frozen' if it records a minimum air temperature below +1°C and a minimum grass temperature below -2°C, and each country is considered to have experienced a 'severe weather day' if more than half of the weather stations in that country experience frozen days.

The severe weather process used to include subjective measures of snow cover by meteorological staff working at the weather stations. This is because of the importance of winter stubbles and grasses for wintering geese, and the effect that heavy snow cover can have on depriving geese of these resources. However, these stations are now automatic and so data on snow cover has not been used for some years. The use of satellite imagery was explored but dismissed, primarily due to the costs involved. However, in the last two winters it has become apparent that snow cover may have been affecting temperature readings. This has manifested as recorded grass temperature exceeding the air temperature at a given meteorological station. In coming winters where this occurs then it will be assumed that the thermometer is insulated by snow cover and the data from the secondary (backup) station will be used if available.

## Severe weather procedure

After five consecutive severe weather days the Met Office notifies JNCC, BASC and other key partners (including the Royal Society for the Protection of Birds, the British Trust for Ornithology, the Wildfowl and Wetlands Trust, the Game and Wildlife Conservation Trust and the National Gamekeepers Association). From this point forward the Met Office notifies the key partners of the previous day's weather on a daily basis.

After seven consecutive severe weather days BASC normally calls on its members to show 'voluntary restraint' where local conditions merit it. This announcement is made on the BASC website, press releases are issued across the UK and individual clubs are emailed directly. There is no obligation or statutory requirement for hunters to take any action at this point, as it is entirely dependent on the local conditions. However, it is normal for hunting clubs in the most severely hit places to put some sort of restrictions in place. These can take the form of reductions in bag size, reductions in the number of visits, voluntary suspensions of all shooting activity, or no action at all. Increasingly efforts are being made to ensure other recreational countryside users such as ramblers and dog walkers are also informed.

During the period of voluntary restraint, BASC and other key partners ask their members to provide information on the condition of birds and habitats in the local area. There is no obligation for UK hunters to be a member of any hunting organisation. However, of the approximately 170 wildfowling clubs in the UK, 162 are affiliated to BASC so it is therefore likely that BASC is able to communicate with the majority of coastal wildfowling clubs. The JNCC recording form encourages the submission of information on unusual bird species or numbers, as well as sightings of found dead birds and the state of local water bodies (frozen or not). This information is relayed to JNCC who use it to inform their decision making leading up to, and during, a statutory suspension.

After thirteen consecutive severe weather days, the relevant country statutory conservation agency approaches the environment minister to discuss the implementation of a statutory suspension of waterfowl hunting. The relevant agencies are Natural England (NE) in England, Countryside Council for Wales (CCW) in Wales, Scottish Natural Heritage (SNH) in Scotland and the Northern Ireland Environment Agency (NIEA) in Northern Ireland. If the cold weather looks likely to continue then the Protection Order will be signed by the secretary of state and will usually commence two days later. These two days give BASC, and other key partners, time to inform their members of the impending suspension. As with the call for voluntary restraint the BASC website is updated, press releases are issued and clubs are emailed directly.

Protection Orders make it illegal to shoot all ducks (including reared, non-wild mallard), geese, coot, moorhen, snipe and woodcock, and are imposed for fourteen days, but are usually reviewed after seven. Game species such as pheasant and partridge are not included in the Protection Order as there is no evidence that continued hunting of these species adversely affects wildfowl (which tend to move to the coast during cold periods) or waders.

If the weather conditions improve, the Order may be lifted early, but if it looks like the cold weather will continue the Order will run for its full fourteen days, and potentially a second order can be signed. Following the end of a Protection Order, BASC reviews the extent of the area affected, the length of time the conditions have prevailed for and likely future conditions and may call on its members to exercise voluntary restraint in areas where it is needed.

The above process assumes that the severe weather criteria are met every day during the process. In a typical winter this does not happen. Days where half or fewer of the stations in a given country record frozen days are known as 'thaw days'. One or two consecutive thaw days have no effect on the severe weather day count. However, the severe weather day count resets to zero on the third consecutive thaw day.

### Review process

It has been usual for there to be a series of reviews in the spring and summer following a winter where the



Fig. 1. Map of the United Kingdom showing primary and secondary meteorological stations used in the severe weather process. For the sake of clarity, secondary stations have not been shown in Northern Ireland. The Republic of Ireland is not part of the UK's severe weather process.

*Fig. 1. Mapa del Reino Unido mostrando las estaciones meteorológicas primarias y secundarias utilizadas para reconocer condiciones meteorológicas muy adversas. Para evitar confusiones no se han incluido las estaciones secundarias de Irlanda del Norte. La República de Irlanda no forma parte de estos procedimientos del Reino Unido.*

severe weather processes were initiated. These reviews act as an adaptive management process which allows the parties involved to learn from experience and revise the system in light of those experiences. To that end, these reviews have been invaluable in refining the processes and criteria, and through the last 30 years they have led to numerous improvements in the system. These include changes in the number and positioning of meteorological stations, involvement of other countryside users (for example bird watchers) and improvements in communication.

### Discussion

The UK system for managing the shooting of waterfowl during periods of severe weather has worked well for over 30 years. One of the more important factors be-

hind this success is the good communication between statutory and non-statutory agencies, the shooting community and the conservation bodies.

A review of the UK severe weather process (Stroud et al., 2006) suggested that the system may become redundant in the future due to warming winters. In the five years since that review was written the severe weather process has been initiated three times, with statutory suspensions coming in to force in Scotland and Northern Ireland in the last two winters. These events illustrate the difficulties and uncertainties associated with climate change and highlight the need for a robust system to manage disturbance of wintering water birds during extreme weather events. Furthermore, they stress the importance of continuing the adaptive management of the system which has worked so well to date.

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