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PERSECUTION

A review of bird of prey persecution in **Scotland 2006**

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Contents

Background

The deliberate destruction of Scotland's birds of prey has been a prominent issue for many decades.

The practice of eliminating all the possible predators of game on shooting estates was a routine procedure in the 19th and early 20th centuries with little or no regard to the conservation status of the targeted birds and animals. This resulted in national and regional extinctions of a number of predatory birds and other animals.

Many of these extirpated species have made significant recoveries in recent years either through natural re-colonisation or through reintroduction by humans. This has followed a reduction in killing sufficient to allow these recoveries as legislation to protect these species has been strengthened and attitudes towards predators have become more enlightened.

This generally positive trend has not been universal. The situation for some species of birds of prey and in some regions of Scotland suggests that 19th century attitudes and practices are still firmly entrenched amongst a significant proportion of Scotland's 21st century land managers.

1 Introduction

This is RSPB Scotland's 13th annual account of bird of prey persecution. It describes the extent of the known criminal destruction of birds of prey in Scotland during 2006. The number of crimes revealed must be regarded as a minimum figure. By their very nature, these offences are some of the most difficult to record, quantify and detect. Much bird of prey persecution takes place in remote areas on private ground, in circumstances where direct witnesses are scarce. Material evidence can be easily concealed or destroyed by the perpetrators and much of it must never come to light.

The number and nature of the incidents discovered varies substantially from year to year. The nature of these data means that making a statistically rigorous assessment of the trends is very difficult. Nevertheless, it is our view that:

- raptor persecution has been in generally long-term decline
- this decline is slowing or may have ceased
- for some species and in some habitats there is – in contrast – no evidence of a decline in persecution
- persecution continues at wholly unacceptable levels and is still a significant threat to some scarce species and some populations of other protected species.

The scale of red kite persecution over the long-term continues to be of great concern, especially with the failure of the longest established Scottish population – centred on the Black Isle – to expand as expected. It is very worrying that a bird such as the red kite – which

poses no threat to any land-use interest – should be persecuted in this way. This indicates a level of ignorance of the ecology of the birds on the part of some land managers that needs to be addressed.

As with all preceding years' reports, threats to raptors are quantified under two main headings, these being:

- the use of poisons
- direct persecution, ie shooting and trapping.

2 Poisoning

In addition to

- actual cases of poisoned raptors

we also consider

- incidents where only a poison bait was found and the victim (if any) was not identified
- incidents where the victim was not a bird of prey but the location and circumstances put birds of prey at risk.

Any poison bait used in the open within habitat used by birds of prey has the potential to kill those birds. This is true regardless of the intentions of the poisoner.

Poisoning may be considered to constitute the greatest actual or potential threat of all forms of persecution. In contrast to shooting and to much trapping activity, which requires a sustained effort by the criminal concerned to produce a limited return, poisoning can have a substantial impact with only minimal effort. Poison baits continue to be lethal over a matter of days or weeks and can kill multiple victims without further effort by the poisoner.

Reports of poisoning received by RSPB Scotland are summarised in Appendix A. The distribution of these incidents for 2006 is included in Map 1 together with other persecution incidents recorded during the year.

Carbofuran continued to dominate in 2006 as the most frequently abused pesticide in illegal poison incidents. Although the withdrawal of approval for this substance as a legitimate agricultural pesticide (from 31 December 2001) might be assumed to eventually remove its availability for illegal use, there is little evidence of this in the 2006 data. Given the very small quantities needed to prepare poison baits, remaining illegal stocks may be sufficient for widespread abuse for several years. **Alphachloralose** was the other main substance involved in cases during 2006, with a pattern of use in keeping with that established in the last decade or so. These substances are discussed in more detail in Appendix B.

3 Direct persecution other than poisoning

This includes all direct destruction of birds of prey such as shooting, nest destruction and the illegal use of cage traps or spring traps.

Incidents are classified as follows:

- 'confirmed' cases – incidents where definite illegal acts were disclosed, ie the substantive evidence included shot birds, illegally-set traps etc
- 'probable' cases – those where the available evidence points to persecution as by far the most likely explanation but where the proof of an offence is not categorical
- 'possible' cases – where persecution is a possible explanation but where another explanation would also fit the known facts.

Persecution typically involves one of the following methods:

- nest destruction – removal or killing of eggs or young and/or physical removal of nest
- shooting
- use of uncovered spring traps – on poles or on the ground with or without bait
- use of cage traps – with either live or dead bait.

Reports of direct persecution received by RSPB Scotland are summarised in Appendix C. The distribution of these incidents in 2006 is included in Map 1, together with poisoning incidents during the year.

4 Investigation and prosecution

All incidents, both of poisoning and other persecution, were reported to the police to enable follow-up by police and/or the Scottish Executive Environment and Rural Affairs Department (SEERAD) investigators where sufficient initial evidence existed to allow this. The following prosecutions resulted from these enquiries.

Poisoning incidents

An Aberdeenshire gamekeeper was convicted of killing a raven and common gull by using a poisoned bait, of possession of 118 common gull eggs and of possession of Cymag at Glenbuchat, Strathdon, Aberdeenshire in May 2006. At Aberdeen Sheriff Court on 12 July 2006, Hector McNeil, head keeper of Glenbuchat Estate pleaded guilty to three offences: killing a wild bird, possession of birds' eggs and possession of a proscribed pesticide under Sections 1(1)(A), 1(2)(b) and 15(A) of the Wildlife & Countryside Act 1981. He was fined £350, £400 and £100 respectively for these offences.

A Moray gamekeeper was convicted of possessing proscribed pesticides, Carbofuran, Cymag and Alpha-chloralose, and a firearms offence at Innes, Moray, in November 2006. At Elgin Sheriff Court on 30 April 2007, Michael Royan, a gamekeeper at Innes House Estate pleaded guilty to being in possession of an item capable of being used

for an offence and two charges of being in possession of a proscribed pesticide under Sections 18(2) and 15(A) of the Wildlife & Countryside Act 1981, and of failing to comply with conditions of a firearms certificate under the Firearms Act 1968. He was fined £250 for each offence, a total of £1,000.

A Borders gamekeeper was convicted of possessing proscribed pesticides, Carbofuran, Carbosulfan and Cymag, of setting poison baits, of the possession and use of cage traps containing live pigeons, of ill-treatment of the pigeons and of setting a bait in the open in August 2006. At Selkirk Sheriff Court on 4 June 2007, George Aitken, a gamekeeper on Blythe Farm, pleaded guilty to three charges of being in possession of an item capable of being used for an offence, two charges of being in possession of a proscribed pesticide under Sections 18(2) and 15(A) of the Wildlife & Countryside Act 1981, use of cage traps containing live pigeons under Section 5(1)(b), two charges of placing poisoned baits in the open under Section 5(1)(a) and of cruelly ill-treating pigeons (Protection of Animals Act). He was sentenced to 220 hours' Community Service and the traps were forfeited.

Three 2005 cases were resolved during 2006:

Two Borders gamekeepers were convicted of possessing proscribed pesticides at Oxnam Estate, near Jedburgh, on 22 June 2005. At Jedburgh Sheriff Court on 14 May 2006, Joseph Paxton pleaded guilty to possession of Cymag and Carbofuran, for which he was respectively fined £100 and admonished. Tony Lowrie pleaded guilty to possession of Carbofuran, and was fined £100. These were all offences under Section 15(A) of the Wildlife & Countryside Act 1981.

A Lewis crofter was convicted of possessing Carbofuran at his home on 25 November 2005. At Stornoway Sheriff Court on 26 July 2006, John MacKenzie pleaded guilty to possession of a proscribed pesticide under Section 15(A) of the Wildlife & Countryside Act 1981 and was fined £50.

A Borders gamekeeper was convicted of killing a buzzard, setting a poisoned bait and possessing three proscribed pesticides on 25 October 2005. Morris Gibson, a keeper at Blakehope Estate, pleaded guilty at Jedburgh Sheriff Court on 14 December 2006 to five offences under the Wildlife & Countryside Act 1981: killing a wild bird under Section 1(1)(A), setting in position an article liable to cause injury to a wild bird under Section 5(1)(A) and three offences of possession of proscribed pesticides under Section 15(A). He was sentenced to 100 hours' Community Service.

Incidents other than poisoning

Two prosecutions resulted from non-poisoning incidents investigated during 2006:

An Aberdeenshire gamekeeper was convicted of shooting two buzzards in a crow cage trap on 27 April 2006. David Scott, a keeper on Cabrach House Estate pleaded guilty at Elgin Sheriff Court on 8 May to the offence of killing wild birds under Section 1(1)(A) of the Wildlife & Countryside Act 1981. He was fined £200.

A Borders gamekeeper was convicted of using an electronic decoy and of possessing unsecured ammunition on 10 May 2006. Gavin Donaldson, a gamekeeper on Addinston Farm, pleaded guilty to using a decoy to kill wild birds under Section 5(1)(d) of the Wildlife & Countryside Act 1981, and failing to comply with conditions of a firearms certificate under the Firearms Act 1968. He was admonished on the first charge, and fined £100 for the latter.

5 Discussion of the general nature of persecution offences

The law

All birds of prey have been fully protected by law since 1954[1]. In many areas of Scotland (eg Perthshire and Dumfries-shire) they were earlier given varying degrees of protection by local Orders made under the Wild Birds Protection Acts 1880 to 1908.

In Scotland, the shooting and trapping of protected species and the destruction of their nests, eggs and young are offences contravening the Wildlife & Countryside Act 1981, now amended by the Nature Conservation (Scotland) Act 2004.

The use of spring traps other than as described in the Spring Traps Approval (Scotland) Order 1996 (which essentially means placed under suitable cover) is an offence against the Agriculture (Scotland) Act 1948 and also against the Wildlife & Countryside Act.
The use of cage traps to take protected species is an offence under the Wildlife & Countryside Act.

The use of poisons to kill protected wildlife is an offence under the Wildlife & Countryside Act, as is the use of poisons in the open, in most circumstances, to kill recognised pest species that might be legitimately killed by other lawful means.

[1] with the exception of the sparrowhawk, which received full protection in 1961.

The non-approved storage and use of pesticides is an offence against the Control of Pesticides Regulations 1986 made under the Food & Environment Protection Act 1985.

The possession of any pesticide on a list prescribed by SEERAD is an offence against the Wildlife & Countryside Act as amended by the Nature Conservation (Scotland) Act 2004. This list includes all pesticides routinely used as illegal wildlife poisons.

All the poisoning incidents referred to in this report are classified as examples of pesticide abuse, ie the circumstances in which birds were found dead or baits discovered cannot be interpreted as the consequence of approved use.

Therefore, all of the confirmed persecution and poisoning incidents described here constitute activity which falls outside the law.

Comparative distribution of 2006 and past incidents

Most 2006 incidents fall within the typical geographical distribution of raptor persecution noted by RSPB Scotland in recent years.

It is possible to make some inference as to the type of person responsible – if not as to the actual individuals involved – by interpreting this distribution pattern.

The combined data for poisoning and raptor persecution from 1995 to 2005 are shown in Map 2. This illustrates:

- that the distribution for other persecution incidents and for poisoning is similar
- that distribution is heavily biased towards the east and south and that relatively few incidents are recorded to the north and west of the Great Glen.

A longer sequence of persecution data – for poisoning only – is shown in Map 3. This has a similar distribution pattern.

This pattern also corresponds with the main distribution of game shooting in Scotland – both with grouse moors and with the release of pheasants for shooting.

A substantial proportion of poison incidents involve buzzards. Within the last decade, this species has re-colonised areas of Scotland – essentially the eastern lowlands – from which it has been absent for many decades. Large concentrations and high densities of buzzards are still present in the species' original western and central strongholds, for instance in Argyll. Despite this high availability of birds in these western areas, there are very few records of buzzards poisoned or otherwise persecuted there. They are, however, routinely picked up dead – illegally killed – in the eastern part of their range,

even in areas where their distribution is still thin or patchy. It is considered significant that the main land uses in the northern and western areas are agriculture, forestry, deer stalking and fishing. Those who pursue these activities perceive no conflict with birds of prey. In contrast, grouse moors and low-ground shoots are widespread in eastern and southern areas of Scotland.

From the distribution of persecution incidents, it is therefore reasonable to conclude that many perpetrators are likely to be connected with the management of land for game shooting. This does not necessarily indicate the culprit(s) in individual cases.

Published material that indicates likely offenders

A number of recent publications have addressed or referred to raptor persecution. Some conclusions reached in these are summarised here.

- **The use of poisoning**

A recent study comparing the distribution of confirmed poisoning incidents with that of grouse moors concluded that there was a strong spatial relationship and that illegal methods for controlling predators are associated with traditional field sports (Whitfield *et al*, 2003).

- **Peregrines**

Scottish Raptor Study Group data consistently identify poorer breeding performance by peregrines on managed grouse moors than on other upland land-use areas. In north-east Scotland, for example, average productivity at 66 upland peregrine sites was measured over four breeding seasons (1992 to 1995). Those on managed grouse moors were a third less productive per occupied site than on other upland areas (Scottish Raptor Study Groups, 1997; The Scottish Office Central Research Unit, 1998). Those nests on grouse moors in the region that were successful produced no fewer young than those at other upland sites, suggesting that the failed grouse moor sites were not suffering from poor food supply, bad weather or other natural factors.

- **Golden eagles**

Golden eagles are seemingly absent as breeding birds from suitable habitat in a number of areas where grouse moors are the predominant form of land management.

In much of the area of the Monadhliath hills, for instance, and the adjacent Nairnshire uplands, where conditions otherwise seem very favourable for it, the species is absent as a breeding bird. This coincides with a scatter of confirmed golden eagle poisoning incidents on grouse moor estates there. One Monadhliath estate, however, is reported to have rejected eagle killing and is carrying out positive steps to encourage and support the species (R.H. Dennis, *pers comm*.). Watson (1997) concluded that 'poisoning intensity is greatest on land managed as grouse moor' and that 'the effect of this is to constrain the recovery of the golden eagle population in Britain, preventing

re-colonisation of areas in the southern and eastern Highlands and in parts of the Southern Uplands'. More recent research supports this (Whitfield *et al*, 2004(1)).

In the latest national survey in 2003 (Eaton *et al*, 2007), a total of 442 pairs were located, a slight increase on the numbers in 1982–83 and 1992. There was considerable variation in population trends at a regional level, and significant variation in breeding success between regions with, as previously shown, productivity being highest in the eastern Highlands. When changes in distribution between 1992 and 2003 were compared to a variety of possible influences, including recreational disturbance, planting of commercial forestry and changes in carrion availability, persecution appeared to be the main factor explaining the changes. In the central and eastern Highlands where grouse moor management predominates, the eagle population continued to decline to levels where increasingly large areas of suitable habitat are unoccupied by breeding pairs (Whitfield *et al*, 2007). As well as directly affecting established populations, persecution may prevent expansion into suitable unoccupied habitat, and reduce the pool of non-breeding adult birds that act as a buffer against adverse population impacts. Increases in the Hebridean islands since 1992 may be due to reduced persecution.

- **Hen harriers**

Research into the hen harrier (Bibby and Etheridge, 1993; Etheridge *et al*, 1997) indicates that this bird is heavily persecuted on managed grouse moors, with productivity significantly lower in these areas compared with breeding attempts elsewhere in the uplands.

The persecution of hen harriers by some gamekeepers – especially on grouse moors – is formally acknowledged by many associated with the game shooting industry (Potts, 1997).

From these examples of published work, it may be concluded – without suggesting anything against specific individuals in actual cases – that the perpetrators of bird of prey persecution offences are often those concerned with the management of land for game shooting. Tackling this is a major challenge for responsible sporting interests and representative bodies.

6 Identifiable trends in persecution

The extent and nature of the available data on raptor persecution do not facilitate detailed statistical analysis. The data are by their very nature incomplete and therefore it is very difficult to establish by these data alone any trend in persecution. Any discussion of trends must therefore be cautious and is not truly quantitative. Suffice to say, the number of cases reported fluctuates year on year.

In 2006, we saw an apparent increase on the reported cases in 2005. Indeed, 2006 was the worst recorded for at least 20 years; this may reflect greater vigilance by the public, or a genuine increase.

The long-term trend of persecution, particularly poisoning, seems to suggest that the problem persists. It has previously been hoped that the overall general level of persecution is in long-term decline. The welcome recovery of the buzzard is one apparent indicator of this. However, it is important to bear in mind that this general trend, if real, does not apply to all species. It is also important to understand that any decrease in persecution could be very rapidly reversed. The fundamental ecological characteristics of most birds of prey make them eternally susceptible to persecution.

7 Conclusions

Historically, four species of birds of prey were driven to complete extinction by persecution within Scotland (goshawk, white-tailed eagle, osprey and red kite). Others, such as the golden eagle and hen harrier, had their populations reduced to fewer than 100 pairs. Even a potentially common bird, the buzzard, became extinct in large areas of its natural range. Some Scottish raptors continue to be restricted by deliberate human persecution.

The true extent of recent and current law-breaking involving raptors is very difficult to measure due to the nature of the terrain in which these offences take place and the secrecy surrounding such criminal activities. There are, however, some conclusions to be drawn from the 2006 figures and other recent data. These conclusions do not differ significantly from those drawn in previous reports.

The **golden eagle** is on the UK amber list (Gregory *et al*, 2002) of species of medium conservation concern due to its unfavourable SPEC3 status as a species of conservation concern in Europe (Tucker and Heath, 1994). Severe historical persecution reduced the golden eagle population to 80–100 pairs in 1870 (Holloway, 1996). Since 1982 it has recovered to an apparently stable population of 420 pairs, although fewer than 300 pairs are thought to breed in any single year (Green, 1996). However, there are substantial areas of suitable habitat unoccupied by breeding birds as a direct result of continued persecution (Watson, J., 1997; Tucker and Heath, 1994; Scottish Office Central Research Unit, 1998). The discovery of two poisoned golden eagles, both within the boundaries of the Cairngorms National Park, in 2006, reinforces this perception.

As well as localised complete absence of breeding golden eagles, there is also evidence of reduced productivity due to human interference. One long-term study in north-east Scotland showed that on grouse moors between 58% and 75% of breeding attempts failed because of persecution compared with 15% on deer forest where golden eagles bred over five times more successfully (Watson, A. *et al*, 1989). Some more recent research suggests that the effects of persecution extend to

the entire golden eagle population and are not confined to the immediate areas where most illegal killing occurs. Some models from this work have indicated that current levels of persecution may be sufficient to bring about a long-term decline in the overall population (Whitfield *et al*, 2004(1), Whitfield *et al*, 2004(2)).

The **hen harrier** is on the UK red list (Gregory *et al*, 2002) of species of high conservation concern due to its historic decline and its unfavourable SPEC3 status as a species of conservation concern in Europe (Tucker and Heath, 1994).

Severe historical persecution restricted hen harriers to Orkney and the Western Isles by the end of the 19th century (Holloway, 1996). A national survey in 2004 showed the population in Scotland increased by 45% from 436 pairs in 1998 to 633 pairs in 2004. However, most of this increase was in Orkney, the Western Isles and north-west Highlands on moorland (not managed for grouse shooting), in young conifer plantations and in more mature conifer plantations containing rides with tall vegetation. In contrast, there were significant declines in the population in the eastern Highlands and Southern Uplands, with most of the decreases in areas with a concentration of driven grouse moors. Previous studies have backed up these findings. Between 1988 and 1995, 11–15% of breeding female hen harriers on the Scottish mainland were killed each year (Etheridge *et al*, 1997). Studies have shown that birds attempting to breed on grouse moors have a significantly higher failure rate – attributable to persecution – than those breeding elsewhere (Bibby and Etheridge, 1993; Etheridge *et al*, 1997). Birds attempting to breed on grouse moors nevertheless produce larger clutches and broods and, when they do succeed, are thereby more productive than those nesting in other habitats. The extent of this persecution by some gamekeepers has been widely acknowledged (Potts, 1997).

Events recorded as recently as 2000 confirmed that this situation continued and may have worsened. Subsequently, relatively few individual incidents of hen harrier persecution have been identified between 2001 and 2004 and most of these are classified only as 'possible' and 'probable' cases. There is a perception amongst raptor workers that those involved in hen harrier persecution now take steps to remove all traces of the birds' presence as well as the evidence of their crimes, a situation which would account for a relative lack of recent confirmed persecution incidents. Regardless of the number of recent concrete records of persecution, the empirical evidence still shows the species to be continually absent from or declining in large areas of apparently suitable grouse moor habitat, including sites where it was well established in the recent past, for example in North and East Scotland (Summers *et a*l, 2003)

The **red kite** is on the UK red list (Gregory *et al*, 2002) of species of high conservation concern due to its historic decline and its small British breeding population. It has SPEC4 status as a species of

conservation concern in Europe (Tucker and Heath, 1994). Extinct because of sustained persecution in Scotland by the late 19th century (Holloway, 1996), the red kite is currently being re-introduced in joint projects run by Scottish Natural Heritage and RSPB Scotland. This work has been predominantly successful. However, the most substantial threat to this success comes from persecution of the re-introduced birds. Poisoning is the most insidious form of this since kites' feeding behaviour makes them extremely vulnerable to poison baits. Indeed, in 2006, five birds were found poisoned, all in the north of Scotland. As in previous years, game shooting interests are strongly implicated in these deaths (Morton *et al*, 1998).

Scotland and the rest of the UK are likely to become increasingly important for this species in a wider European context since other major populations on the continent – in Spain and Germany – are now reported to be significantly declining (Viñuela and Contreras, 2001; Mammen and Stubbe, 2001; Pons and Pons, 2001).

There is a more detailed discussion of the effects of persecution on red kites in Appendix D.

Buzzards continue their welcome return to much of lowland eastern and southern Scotland, despite this being an area that is still marred by their widespread persecution. Twenty-five buzzards were confirmed poisoned in 2006 (14 in 2005) and a further 13 were found shot. They remain the most widely killed species of raptor.

The evidence that buzzard populations seem increasingly resilient to the effects of continued persecution is one of the strongest empirical indicators of some overall long-term decline in general levels of raptor persecution, particularly poisoning, although on a local level this is not always the case.

Overall, the known level of continuing persecution is still very much a cause for concern. Raptors' ecological characteristics, ie long-lived, breeding slowly and producing few young, make them inherently vulnerable to persecution. In respect of the hen harrier, a species specially protected under UK and EU legislation, the situation remains critical to the extent that its population is held far below its natural level in Scotland and elsewhere in the UK. Poisoning is a serious threat to the success of the red kite and white-tailed eagle re-introduction programmes and may pose a long-term threat to the stability of the golden eagle population.

8 Acknowledgements

RSPB Scotland would like to thank the Scottish police forces, SASA, the Lasswade vet lab of the Veterinary Laboratories Agency and SEERAD for their work in this field and the Scottish Raptor Study Groups for their continued monitoring of the species involved. The Society is grateful for the support it receives towards its investigations

and species protection work from SNH. All maps in this report were prepared using DMAP.

9 Recommendations

The more effective enforcement of wildlife legislation remains a high conservation priority in respect of certain vulnerable species. These include many birds of prey. The Criminal Justice (Scotland) Act 2003 and Nature Conservation (Scotland) Act 2004 have greatly improved the scope for better and more effective wildlife crime policing. The Scottish Executive and Members of the Scottish Parliament are to be congratulated on this legislation. The establishment of an excellent working relationship and data-sharing protocol between the National Wildlife Crime Unit and the RSPB is also to be welcomed.

The key to building on this positive situation is effective use of the new legislation through robust enforcement. It is recommended that:

i **the Crown Office designates more environmental prosecutors within the Procurator Fiscal Service and ensures regular and adequate training and resources for these specialists**

ii **the recently established Crown Office Procurator Fiscal's Wildlife Forum advises that cases should proceed with charges representing the seriousness of the case**

iii **more training is available in all environmental matters for Sheriffs and Court staff**

iv **Scottish Chief Constables appoint at least one full-time Wildlife Crime Officer (WCO) – a serving police officer – in each Scottish force with a fully trained network of part-time WCOs in support (whilst still recognising the valuable contribution that full-time civilian WCOs do and should continue to contribute) and that Chief Constables also ensure that middle managers understand the importance and significance of effective action against wildlife crime and therefore allow both full-time and part-time WCOs the time and resources to work speedily and effectively**

v **the National Wildlife Crime Unit continues to provide investigative support to police forces**

vi **training in wildlife crime legislation and procedures should be consistent across all police forces**

vii **the Scottish Executive makes all wildlife crime centrally recordable**

viii **the Scottish Executive conducts a further review of the penalties available to the Courts**

ix **following the completion of the consultation period, SEERAD expedites the ongoing full review of open general licences (which permit the control of 'pest' species) to ensure they conform fully with the present conservation status and scientific knowledge of the alleged 'problem species' concerned and with proper reference to the EU Birds and Habitats Directives**

x **SEERAD also expedites the expansion of the new Wildlife & Countryside Act 1981 Schedules (Schedule A1 and Schedule 1A) created by the Nature Conservation (Scotland) Act 2004 to include a full range of appropriate species**

xi **SEERAD strengthens the effectiveness of its work against wildlife crime by:**

- **continuing to improve the provision of further, regular and fuller training of local officers authorised under the Food & Environment Protection Act 1985, with special emphasis on regular and close liaison with police WCOs**
- **continuing to ensure full implementation of the recommendations of the UK Raptor Working Group (Joint Nature Conservation Committee, 2000).**
- **maintaining the contacts between the Crown Office and SEERAD, and in particular, continuing the use of cross compliance measures to encourage land managers to ensure the law is followed.**

xii **representative bodies of land managers such as the Game Conservancy Trust, Scottish Gamekeepers' Association and Scottish Rural Property and Business Association lead from the front to stamp out illegal activity and expel any members prosecuted for wrongdoing.**

10 Appendices and maps

Appendix A – poisoning incidents in Scotland 2006

A total of 98 allegations or reports of poisoning activity in 2006 were received by RSPB Scotland (44 in 2005, 80 in 2004; 63 in 2003; 48 in 2002; 49 in 2001; 66 in 2000; and 25 in 1999). All but three reports came from identifiable individuals.

Of these, 42 were confirmed as pesticide abuse killing or threatening raptors (19 in 2005, 35 in 2004; 37 in 2003; 16 in 2002; 24 in 2001; 28 in 2000; and 14 in 1999) and six cases involved the possession of pesticides suspected to be for an illegal purpose. This was the worst year for bird of prey poisoning in Scotland for at least 25 years. Confirmed abuse incidents are summarised in Table 1.

Table 1 – Confirmed poison incidents in Scotland in 2006

Date	Poison	Victim	Bait	Location 1	Location 2
Jan	carbofuran	raven		Dulnain Bridge	Highland
Feb	carbofuran	buzzard		Carfraemill	Scottish Borders
Feb	carbofuran	buzzard	hare	Carfraemill	Scottish Borders
Feb	carbofuran		hare	Carfraemill	Scottish Borders
Feb	carbofuran	buzzard	hare	Carfraemill	Scottish Borders
Feb	carbofuran	buzzard		Leadhills	S Lanarkshire
Feb	carbofuran	2 ravens		Blythe	Scottish Borders
Mar	carbofuran	red kite	rabbit	Aberarder	Highland

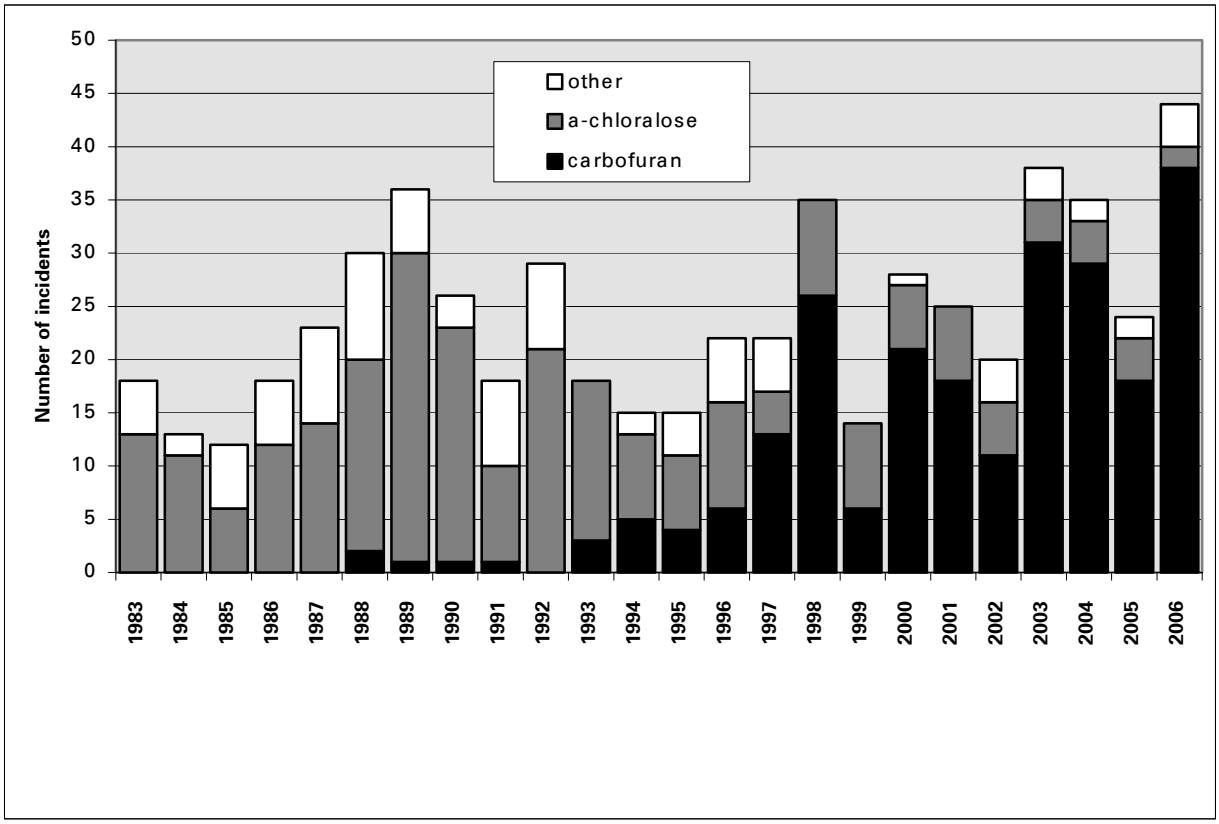
		raven			
Mar	carbofuran	buzzard		Strathyre	Stirlingshire
Mar	carbofuran	buzzard		Leadhills	S Lanarkshire
Mar	carbofuran		rabbit	Glenogil	Angus
Mar	carbofuran		pheasant	Stormontfield	Perthshire
Mar	carbofuran		pigeon	Leadhills	S Lanarkshire
Apr	carbofuran	2 buzzards		Carfraemill	Scottish Borders
Apr	a/chloralose	buzzard		Luncarty	Perthshire
Apr	carbofuran	red kite		Foyers	Highland
Apr	carbofuran	red kite		Dingwall	Highland
Apr	a/chloralose	buzzard tawny owl		Glenogil	Angus
May	mevinphos	raven		Grantown-on-Spey	Highland
May	carbofuran	buzzard		Aberarder	Highland
May	carbofuran		rabbit	Glenogil	Angus
May	carbofuran	golden eagle		Morven	Aberdeenshire
May	aldicarb	raven common gull	egg	Glenbuchat	Aberdeenshire
May	aldicarb		egg	Glenbuchat	Aberdeenshire
May	aldicarb		possession	Glenbuchat	Aberdeenshire
May	carbofuran		rabbit	Leadhills	S Lanarkshire
May	carbofuran		rabbit egg	Leadhills	S Lanarkshire
May	carbofuran	carrion crow	rabbit	Aberarder	Highland
May	carbofuran	raven		Aberarder	Highland
Jun	carbofuran	buzzard raven	6 rabbits eggs	Leadhills	S Lanarkshire
Jun	carbofuran		woodpigeon	Glenogil	Angus
Jun	carbofuran	peregrine	pigeon	Rhynie	Aberdeenshire
Jun	carbofuran	red kite		Dingwall	Highland
Jun	carbofuran	golden eagle		Glenfeshie	Highland
Jul	Gamma-HCH	sheepdog		Glen Esk	Angus
Aug	carbofuran carbosulfan		pheasant	Blythe	Scottish Borders
Aug	carbofuran carbosulfan		possession of pheasant baits	Blythe	Scottish Borders
Aug	carbofuran carbosulfan		possession	Blythe	Scottish Borders
Sep	carbofuran Mevinphos a/chloralose		possession	Dingwall	Highland
Sep	carbofuran	2 buzzards		Galashiels	Scottish Borders
Sep	carbofuran	red kite		Muir of Ord	Highland
Sep	carbofuran	5 buzzards	rabbit	Leadhills	S Lanarkshire
Sep	carbofuran	buzzard		Heriot	Scottish Borders
Sep	carbofuran	buzzard	rabbit	Leadhills	S Lanarkshire

Oct	carbofuran	crow buzzard	rabbit	Innes	Morayshire
Oct	carbofuran	buzzard		Heriot	Scottish Borders
Nov	carbofuran	buzzard		Bowhill	Scottish Borders
Nov	carbofuran		possession	Huntly	Aberdeenshire
Nov	carbofuran	buzzard	rabbit	Innes	Morayshire
Nov	carbofuran a/chloralose		possession	Innes	Morayshire

Appendix B – Types of poison and the temporal distribution of illegal poison use

Carbamate pesticides are now established as widely used illegal wildlife poisons (found in 127 (79.7%) of the 160 incidents confirmed in the 2002–2006 five-year period). Carbofuran is, by a substantial margin, the most commonly abused carbamate in these circumstances and was used in 126 (78.5%) of the 161 incidents. Alpha-chloralose, once the most widely used wildlife poison, continues to be used for killing birds of prey (found in 19 (11.9%) of the 158 incidents confirmed in the 2002–2006 five-year period). Alpha-chloralose use has declined in favour of carbamates, especially Carbofuran, but persists in a handful of incidents each year. The relative occurrence of Carbofuran and Alpha-chloralose in poisoning incidents between 1983 and 2006 is shown in Figure 1.

Figure 1 Alpha-chloralose and Carbofuran use in Scottish wildlife poisoning incidents 1983 to 2006



Sources: RSPB, SASA, DAFFS/SOAFD/SOAEFD/SEERAD

This includes all incidents known to RSPB Scotland but excludes cases where it was deemed that no threat existed to birds of prey. Excluded incidents mostly involve the killing of companion animals, usually cats, in urban and suburban areas. As with wildlife-related cases, Carbofuran has become the most widely abused poison in these urban incidents. (Note that the chart shows a total of 24 records for 2005 rather than the 22 reported for the year. This is because in two incidents more than one pesticide was recorded. A similar situation applies in some other years.)

Carbofuran

Carbofuran was a carbamate insecticide and nematicide mainly used for soil treatment in the farming of root crops, brassicas and cereals. It was available in commercial products such as *Barclay Carbosect*, *Rampart*, *Tripart Nex* and *Yaltox*. It was approved for incorporation into soil at drilling as 5% w/w concentration granules. Approval for the legal use of Carbofuran-based products expired on 31 December 2001. We await with interest the longer-term effect of this withdrawal on its illegal use.

The first instance known to RSPB Scotland of Carbofuran abuse as a poison for killing wildlife was in Fife in 1988 when a dead pigeon was found baited with the substance. Since then, its abuse has become widespread until it is now (since 1997) the single most widely used pesticide for wildlife poisoning, a position it has taken over from alpha-chloralose.

The abuse of Carbofuran often occurs away from the arable areas where it might be thought most likely to have been legitimately used. There are few indications how it comes into the hands of those who use it to kill wildlife but it must originate from some-time legitimate agricultural stocks. The RSPB knows at first hand of one case from northern England where a gamekeeper claimed to have obtained it directly from the farm manager on his estate[2]. Only one instance of the wholesale supply of Carbofuran is known. An investigation in Fife in 1991 exposed a pheasant rearer and game equipment supplier who provided a bag of Yaltox for the explicit purpose of killing raptors. It may be significant that this supplier was operating in Fife, the first part of the country where illegal Carbofuran use was detected.

Alpha-chloralose

Alpha-chloralose is a rodenticide available to the general public only in the form of ready-to-use bait material in 4% w/w concentration and approved only for the control of mice within buildings. There is no indication that this approved use has ever presented any significant risk to non-target species. Under licence it may also be used in high concentrations (up to 100%) for bird control, typically by local authorities for the killing of feral pigeons in urban environments. This licensed use is now very rare and the majority of Scottish local authorities now prefer not to use it[3]. Pesticide usage data, recording lawful use, demonstrate that alpha-chloralose is rarely used on farms in Scotland (1998, K. Hunter *in litt.*).

Until 1997 alpha-chloralose was the single most widely abused pesticide for wildlife poisoning. Investigations into the origins of illegal alpha-chloralose stocks have several times identified a factory in the Irish Republic as a significant source.

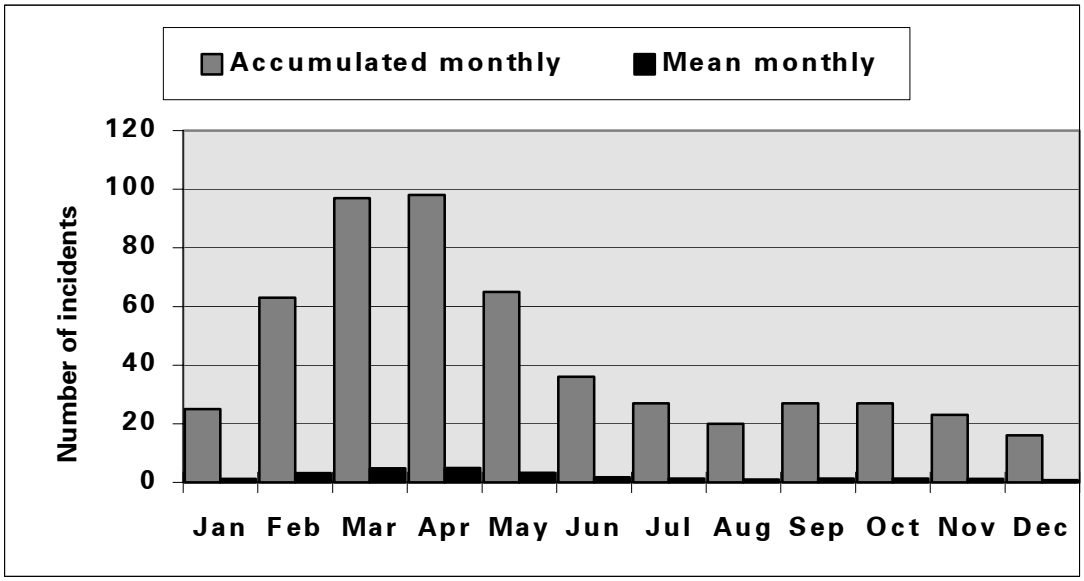
Timing of poisoning incidents

The monthly distribution of recorded poisoning in 2006 deviated only slightly from the well-established pattern of a major activity peak in the spring with a much smaller secondary peak in the autumn, with, in this case, a significant number of incidents in June. This pattern has been consistent in every other year on record except 2002 when there was no autumn peak. Figure 2 shows the temporal pattern of poison use from 1987 to 2006.

[2] In Northumberland in January 1996 a gamekeeper told investigating police officers that he had got Carbofuran found in his possession from the estate farm manager.

[3] Unpublished RSPB survey, 1994, of Scottish District Council use of alpha-chloralose

Figure 2 Monthly occurrence of poisoning incidents 1987 to 2006



Sources: RSPB, SASA, DAFFS/SOAFD/SOAEFD/SEERAD

Appendix C – direct bird of prey persecution incidents in Scotland other than poisoning in 2005

Eighty-five reports were received by RSPB Scotland in 2006 in which persecution of this type was alleged (77 in 2005, 74 in 2004; 86 in 2003; 60 in 2002; 89 in 2001; 79 in 2000; and 78 in 1999). Six allegations came from anonymous sources; the remainder were from identifiable individuals.

Of these, 13 were 'confirmed' (as defined in the body of the report) and 24 were classed as 'probable' cases of persecution. The confirmed cases are summarised in Table 2.

In the remaining 45 cases there was either insufficient evidence to either substantiate or disprove the original report, or there was clear evidence that the allegation was not correct.

Table 2 – Confirmed bird of prey direct persecution incidents in Scotland in 2006

Month	Method	Victim	Location 1	Location 2
April	cage-trapped	buzzard	Glenlivet	Moray
April	shot	11 buzzards	Cabrach	Moray
April	shot	buzzard	Locharbriggs	Dumfries & Galloway
April	unset gin trap		Strathtay	Perthshire
April	unknown	buzzard	Abington	S Lanarkshire
May	nest destroyed (chicks taken)	peregrine	Broughton	Scottish Borders
July	cage trap with live pigeon bait		Blythe	Scottish Borders
Aug	unset traps in illegal circumstances (2)		Blythe	Scottish Borders
Aug	cage traps with live pigeon bait (2)		Blythe	Scottish Borders
Sep	shot	buzzard	Tinwald	Dumfries & Galloway
Nov	cage trap with live pigeon bait		Innes	Morayshire
Nov	set trap in illegal circumstances		Innes	Morayshire

Appendix D – Further discussion on the effects of persecution on red kites

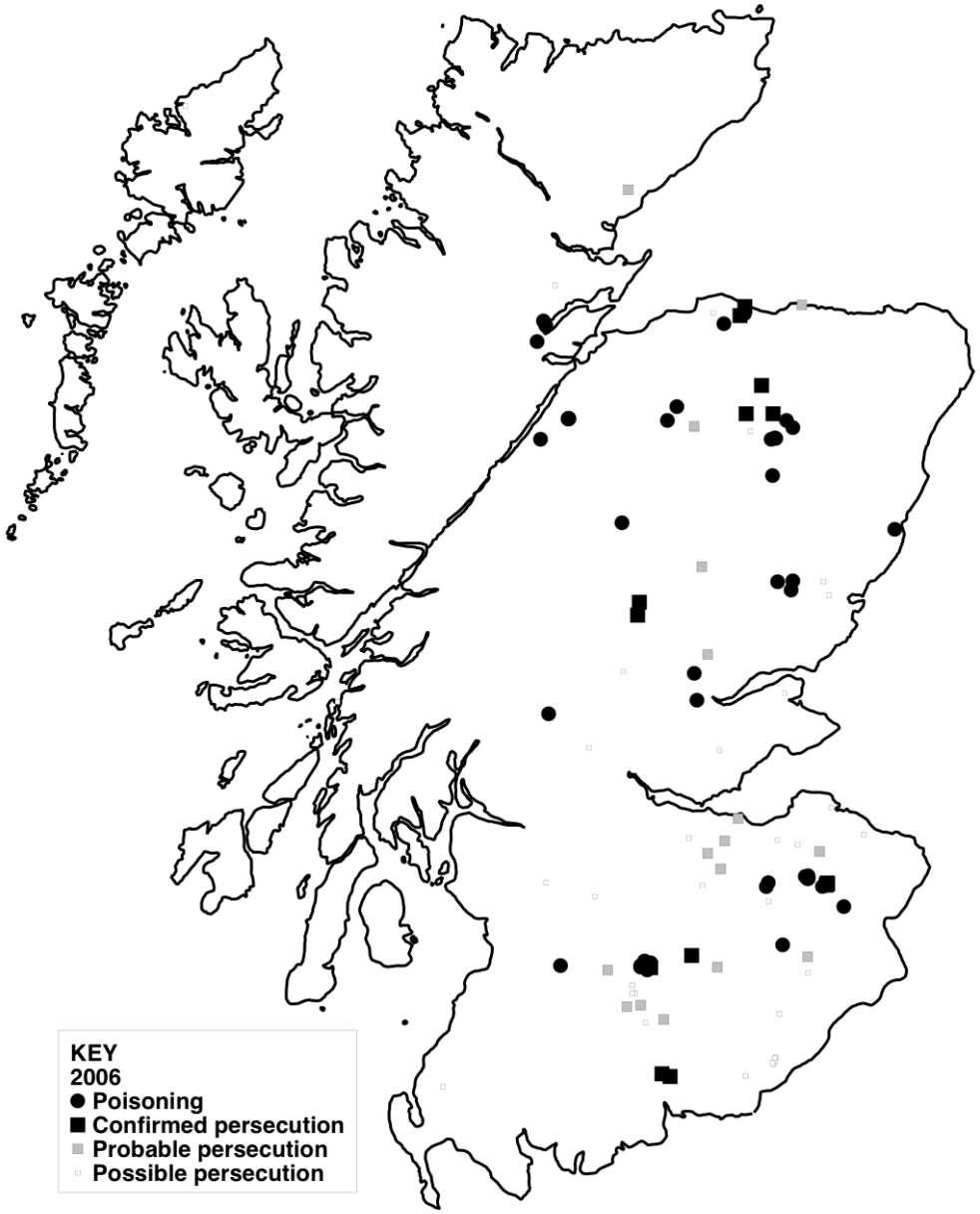
A study by workers involved in the red kite re-introduction programmes of the mortality of birds involved in the programmes up to 1998 came to the following conclusions:

Two-hundred-and-forty-eight red kites were marked with coloured wing-tags in North Scotland in the period 1989–1998. Seventy-six remained alive at the time of the study while 24 had been found dead and subjected to post-mortem analyses. Thirteen of these (54.2%) were shown to have been illegally poisoned while the remainder had died of a variety of causes including collision with power cables (12.5%) and collisions with vehicles (16.7%). In only three cases (12.5%) the cause of death could not be established. Another 148 of the sample were missing and therefore presumed dead. Assuming the post-mortem results to be representative, extrapolating the post-mortem figures to all the dead and missing birds suggested that 93 (37.5% of the entire 248 sample) had been poisoned. This is probably a conservative figure as most missing birds are never recovered and some remains were too decomposed for a conclusive post-mortem. A similar exercise was carried out on a sample of 63 birds wing-tagged in the Stirling area between 1996 and 1998. Eleven had been recovered dead, four (36.5%) of which were illegally poisoned. In another four cases no cause of death was apparent. Using the same extrapolation suggested that 19 of the 63 (30.2%) had been poisoned. Combining the figures from the two areas suggested that of the 311 birds released up to that date (the entire Scottish release programme at the time), 112 (36%) may have been poisoned.

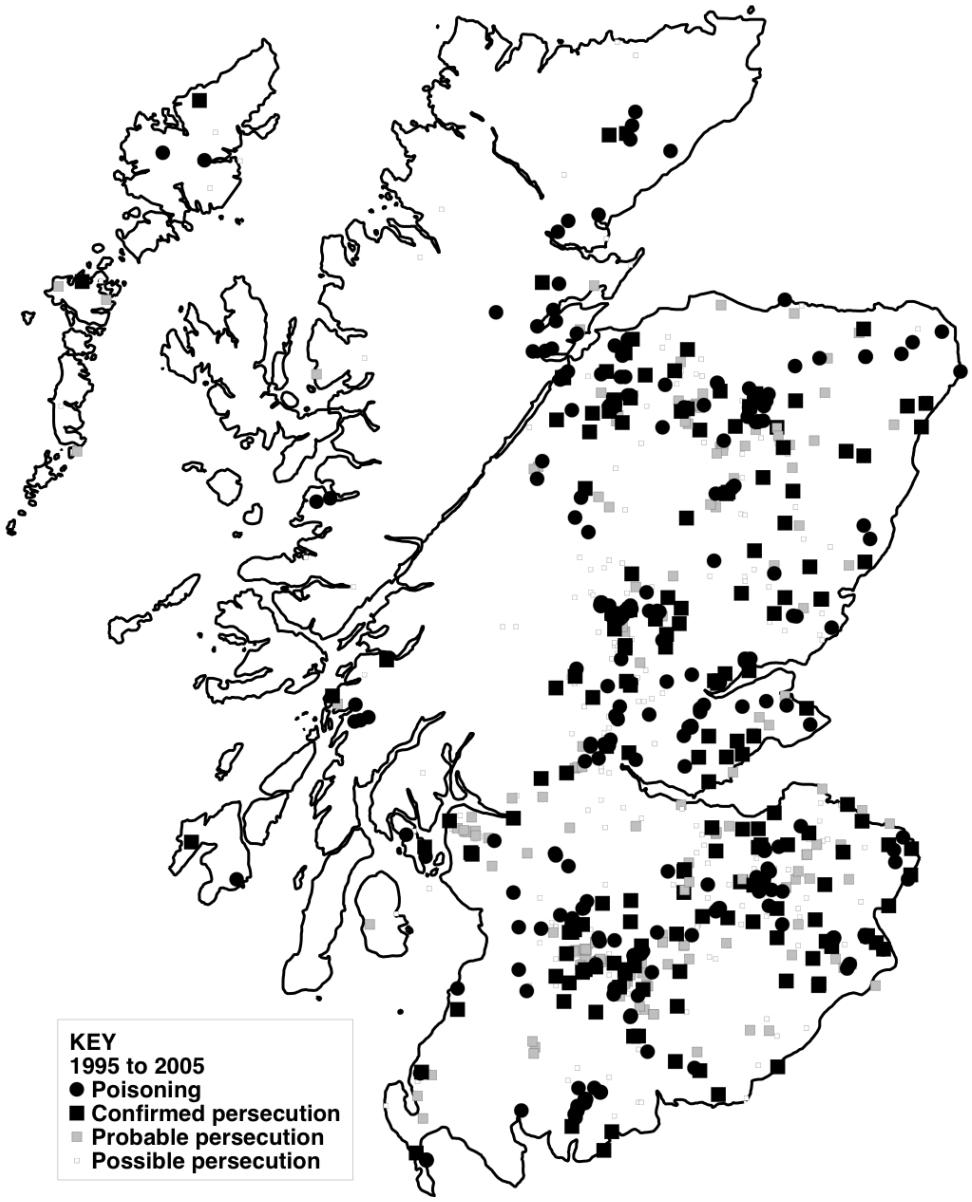
More recent information indicates a continuation of this situation. From data currently collated, for the period up to and including 2003, 40 (69%) of the 58 Scottish red kites found dead and for which a cause of death could be determined were found to have been shot or deliberately poisoned (42.1% of all 95 Scottish kites found dead). A further 14 (24.1%) of those whose cause of death was identified were killed in accidents, usually collisions with vehicles (14.7% of all dead kites). The remaining 6.9% of known deaths were from secondary rodenticides poisoning, accidental poisoning or natural causes. These figures include only fledged birds and do not include pre-fledging mortality. A substantial proportion of those kites whose cause of death could not be ascertained (38.9% of all birds found) – typically because they were too decomposed at the time of finding – were discovered in circumstances that give rise to strong suspicion that they too had been illegally killed.

Perhaps more telling than the Scottish figures alone is the comparison with the performance of the first re-introduced population of red kites in southern England. The same number of birds (93) was released in the Chilterns area in England and in the Black Isle in Scotland over a similar period in the late '80s and early '90s. In 2006, there were 320+ breeding pairs of red kites in the Chilterns and 41 breeding pairs on the Black Isle. This substantial difference in the rate of population expansion cannot be explained by differences in productivity, which has been very similar in both areas. There is no evidence of northern birds dispersing and breeding elsewhere, suggesting that post-fledging mortality is very much higher in the northern group. Since 2000, the Black Isle population has continued to show a very poor growth rate.

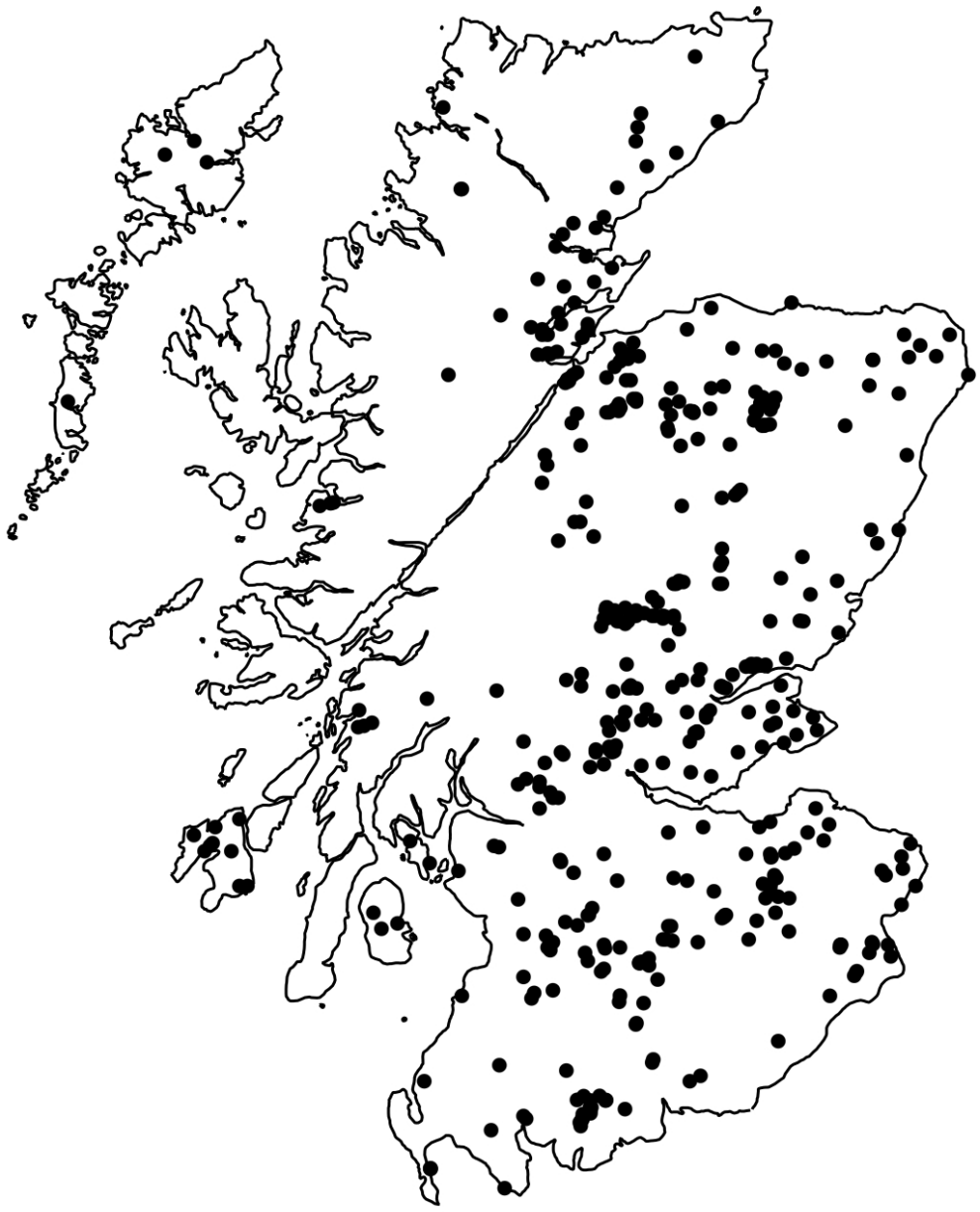
Map 1 – Poisoning and confirmed, probable and possible persecution in Scotland 2006



Map 2 – Poisoning and confirmed, probable and possible persecution in Scotland 1995 to 2004



Map 3 – Poisoning 1987 to 2005



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