PERSECUTION
A review of bird of prey persecution in Scotland in 2003
PRODUCED BY RSPB SCOTLAND
Persecution
a review of bird of prey persecution in Scotland in 2003
Contents

1 Preamble 3
2 Recommendations 3
3 Introduction 4
4 Poisoning 5
5 Direct persecution other than poisoning 6
6 Investigation and prosecution 6
   Poisoning incidents 6
   Incidents other than poisoning 7
7 Discussion of the general nature of persecution offences 8
   The law 8
   Comparative distribution of 2003 and past incidents 9
   Published material that indicates likely offenders 9
8 Identifiable trends in persecution 11
9 Conclusions 11
10 Acknowledgements 14
11 Appendices and Maps 14
12 References 24
1 Preamble

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 for the conservation status of the targeted birds and animals. This resulted in national and regional extinctions of a number of birds of prey and other animals.

Many of these extirpated species have made significant recoveries in recent years either through natural re-colonisation or through re-introduction by humans. This implies a reduction in killing sufficient to allow these recoveries or facilitate re-introductions.

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

2 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 recent passing of the Nature Conservation (Scotland) Act 2004 – for which the Scottish Executive and Scottish Parliament are to be strongly congratulated – has provided the means for better and more effective wildlife crime policing.

To build on this positive development we recommend:

i that the Association of Chief Police Officers in Scotland (ACPOS) supports and encourages the appointment of full-time Wildlife Crime Officers (WCOs) in each Scottish force

ii that serving constables are appointed as full-time force WCOs (while still recognising the valuable contribution that civilian WCOs do and should continue to contribute)

iii that Scottish chief constables 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 effectively

iv that the Scottish Executive Environment and Rural Affairs Department (SEERAD) expedite the expansion of the new Wildlife and Countryside Act 1981 Schedules created by the Nature Conservation (Scotland) Act 2004, namely:

- Schedule A1 (birds whose nest sites are protected)
- Schedule 1A (birds which are protected from harassment)

to include a full range of appropriate species
v that SEERAD expedites the implementation of the list of prescribed pesticides whose possession without lawful excuse is prohibited (as created by the Nature Conservation (Scotland) Act 2004)

vi that the Crown Office ensures regular and adequate training for the newly-designated specialist environmental prosecutors within the Procurator Fiscal Service.

Further to this, we recommend:

vii that SEERAD strengthens the effectiveness of their work against wildlife crime by:

- continuing to improve the provision of further, regular and fuller training of local officers authorised under the Food and Environment Protection Act 1985, with special emphasis on regular and close liaison with police WCOs
- continuing to ensure implementation of the recommendations of the UK Raptor Working Group (Joint Nature Conservation Committee, 2000).

We note with interest the recent report of the Environmental Audit Committee of the Westminster Parliament (The Stationery Office, 2004). This recommends substantial strengthening of the Police Wildlife Crime Officers’ network in England and Wales and the instigation of measures such as the centralised recording of all wildlife crime. Scottish circumstances demand that, if anything, similar measures are even more necessary north of the border.

3 Introduction

This is RSPB Scotland’s tenth annual account of bird of prey persecution. It describes the extent of the known criminal destruction of birds of prey in Scotland during 2003. 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 and may find themselves placed in personally difficult situations if they wish to testify to what they know or have seen. Material evidence is likewise easily concealed or destroyed by the perpetrators and much of it never comes to light.

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

- raptor persecution is in long-term decline
- the rate of this decline is slowing
- persecution continues at wholly unacceptable levels and is still a significant threat to some raptor species and populations.

Scotland’s re-introduced red kites continue to feature prominently in this report. The apparent reduction in kite persecution welcomed in the 2002 report was not continued in 2003. Of 10 red kites found
poisoned in 2003, nine were the victims of deliberate abuse. A single shot red kite was also found. The scale of kite persecution over the long term is of great concern, especially with the failure of the longest established Scottish population – on the Black Isle – to expand as expected. It is very worrying that a bird such as the red kite, which poses no perceivable threat to any land-use interest, should be persecuted in this way. This indicates a level of profound ignorance on the part of some land managers that does not bode well for Scotland’s rarer birds of prey.

A single white-tailed eagle was also poisoned. This species is arguably more vulnerable to targeted persecution than almost any other Scottish raptor, since its very low population and slow reproductive rate make its population the least resilient to the effects of poisoning.

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.

4 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 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 produce a substantial effect 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 2003 is included in Map 1 together with other persecution incidents during the year.

Carbofuran continued to dominate in 2003 as the most frequently abused pesticide in illegal poison incidents. It is presumed that the withdrawal of approval for this substance as a legitimate agricultural pesticide (from 31 December 2001) will eventually have a knock-on effect on its availability for illegal use. Given the very small quantities
needed to prepare poison baits, however, remaining illegal stocks may be sufficient for widespread abuse for several years. Alpha-chloralose was the other main substance involved in cases during 2003, in keeping with the established pattern of the last decade or so. These substances are discussed in more detail in Appendix B.

5 Direct persecution other than poisoning

This includes all direct persecution 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, i.e. 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 2003 is included in Map 1 together with poisoning incidents during the year.

The number and nature of these general persecution incidents varies from year to year in a manner that makes it difficult to identify trends.

6 Investigation and prosecution

All incidents, both of poisoning and other persecution, were reported to the police and followed up by police and/or SEERAD investigators where sufficient initial evidence existed to allow this. The following prosecutions resulted from these enquiries.

Poisoning incidents
A Wigtownshire gamekeeper was found not guilty of placing poison baits and killing two buzzards and a raven with carbofuran. He had admitted placing poison baits to investigating police and SEERAD officers, but the Sheriff found that there was no case to answer since the Crown had failed to establish that this was ‘calculated to’ cause injury etc to wild birds (Wildlife and Countryside Act 1981 S.5). No charges under the Food and Environment Protection Act 1985 or the Protection of Animals (Scotland) Act 1912 had been libelled. These might conceivably have resulted in conviction.
Following investigations into a poisoned buzzard in the Waulkmill area, Arbroath, a local pigeon fancier pleaded guilty to an offence under the Food and Environment Protection Act 1985. He was admonished. A not guilty plea was accepted to a Wildlife and Countryside Act 1981 charge.

Investigations into two poisoned buzzards, a crow and a magpie resulted in a Lanarkshire gamekeeper being charged with offences relating to the alleged possession of pesticides. These matters were later discontinued, having run out of time for prosecution. It is understood that other charges – not directly related to wildlife – remain pending.

Charges are pending against a Roxburghshire gamekeeper in relation to the alleged finding of a number of pheasants laid as poison baits and the alleged possession of pesticides.

A number of cases that were pending at the time of publication of the 2002 report are now resolved.

A Perthshire gamekeeper was convicted of possession of carbofuran and fined £100. This arose from enquiries into a poisoned buzzard found in 2002. At the same time he was also convicted of possession of gin traps for illegal use (£150 fine) and illegal possession of a buzzard’s egg (admonished).

The case against two Perthshire gamekeepers charged in relation to alleged poisoning offences in 2002 has been discontinued by the Procurator Fiscal due to the length of time taken for the case to be heard.

An appeal against conviction by a Kinross-shire gamekeeper for poisoning buzzards and possessing carbofuran was rejected. This arose from an enquiry in 2000 and original conviction in 2001.

Incidents other than poisoning
Two Lanarkshire gamekeepers face charges arising out of the alleged shooting of a hen harrier. This case is still pending.

A Peeblesshire gamekeeper was found not guilty of removing a peregrine chick from its eyrie. The Sheriff ruled that video tape evidence obtained by RSPB staff showing the accused removing the bird was not admissible since these witnesses had no permission to be on the land in question.

A Kinrossshire pigeon fancier alleged to have set a Blackmon trap to catch sparrowhawks in Kinross-shire received a formal police caution.

An Aberdeenshire gamekeeper faces charges relating to the alleged attempted killing of a hen harrier. This case is still pending.
One case pending at the time of publication of the 2002 report is now resolved.

The case against a Perthshire gamekeeper charged in relation to the alleged discovery of three dead buzzards in a crow cage trap in 2002 is now discontinued due to the length of time taken for the case to be heard.

7 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 (e.g. Perthshire and Dumfriesshire) 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.

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 and Countryside Act.

The use of cage traps to take protected species is an offence under the Wildlife and Countryside Act.

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

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

All the poisoning incidents referred to in this report (other than the single case of a red kite poisoned by diazinon/propetamphos) are classified as examples of pesticide abuse, i.e. the circumstances in which birds were found dead or baits discovered cannot be interpreted as the consequence of approved use.

All the confirmed persecution and poisoning incidents described here therefore constitute criminal activity.

\(^1\) with the exception of the sparrowhawk, which received full protection in 1961
Comparative distribution of 2003 and past incidents
Most 2003 incidents fall within the typical geographical distribution of raptor persecution noted by RSPB Scotland in recent decades.

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 for 1995 to 2002 are shown in Map 2. This illustrates that:
- the distribution for other persecution incidents and for poisoning is similar
- 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).

Peregrine falcon
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 eagle
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, has recently rejected eagle killing and is carrying out positive steps to encourage and support the species (R H Dennis, pers.comm). This policy is already showing benefits for the local golden eagle population. J 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’.

Hen harrier
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.

8 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. It is very difficult to establish – by these data alone – that the trend in persecution is one way or the other. Any discussion of trends must therefore be cautious and is not truly quantitative.

On the face of it, the drop in recorded incidents from 1998 to 1999 indicated a reduction in persecution, and the marked increase in recorded incidents from 1999 to 2000 showed a substantial increase. This apparent increase was seemingly not sustained into 2002 but does seem to be supported by the 2003 figures. However, these fluctuations are not a statistically safe basis for identifying year to year or longer term trends.

We suspect, and certainly hope, that the overall general level of persecution – and in particular poisoning – is in long-term decline. The welcome recovery of the buzzard is one apparent indicator of this. It is important, however, 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.

9 Conclusions

Historically, four bird of prey species were driven to complete extinction by persecution within Scotland (the goshawk, white-tailed eagle, osprey and red kite). Others, such as the golden eagle and hen harrier had their populations reduced to less 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 2003 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 less than 300 pairs are thought to breed in any single year.
Persecution: a review of bird of prey persecution in Scotland 2003

(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). 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). Current, so far unpublished, research may suggest that the effects of persecution extend to the entire golden eagle population and are not confined to the immediate regions where the illegal killing occurs. Several 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 (D P Whitfield in litt).

There were no confirmed incidents of golden eagle persecution or poisoning in 2003, the first year in over a decade without such an event. There were, however, three records classed as 'probable' golden eagle persecution, all within the areas where this problem has been confirmed in recent years.

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 slow recovery throughout the 20th century now seems to have reached stagnation with persecution on grouse moors holding the number of breeding birds well below its estimated natural level of 1,660 breeding females (Potts, 1997). 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 were identified in 2001 and 2002 and all these were classified only as 'possible' and 'probable' cases. There were, on the other hand, a number of confirmed harrier persecution incidents in 2003. There is a perception among many raptor workers that those involved in hen harrier persecution now routinely take steps to remove all traces of the bird’s 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 large areas of apparently suitable grouse moor habitat, including sites where it was well established in the recent past.

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 SNH and RSPB Scotland. This work has been predominantly successful. The most substantial threat to this success, however, 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.

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 in 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).

The discovery of one shot and nine poisoned red kites in Scotland in 2003 suggests no significant recent reduction in kite persecution. Game shooting interests are strongly implicated in these deaths (Morton *et al*, 1998).

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, but this is marred, but seemingly not prevented by, their still widespread persecution. Twenty-three buzzards were confirmed poisoned in 2003, and a further three 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.

Whatever the true current overall scale of the problem, the known levels of continuing persecution are still very much a cause for concern. Raptors’ ecological characteristics make them inherently vulnerable to persecution so that there is no acceptable level at which this can occur. 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. 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.

10 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 RSPB 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.

11 Appendices and Maps

Appendix A – poisoning incidents in Scotland 2003

RSPB Scotland received 63 allegations or reports of poisoning activity in 2003 (48 in 2002; 49 in 2001; 66 in 2000; 25 in 1999). Two allegations came from anonymous sources, the remainder were from identifiable individuals.

Of these, 36 were confirmed as pesticide abuse killing or threatening raptors (16 in 2002; 24 in 2001; 28 in 2000; 14 in 1999), and two cases involved the possession of a pesticide suspected to be for an illegal purpose. One incident involved the veterinary medicine diazinon, which killed a red kite. This is, among other things, an active component of some sheep dips. The circumstances did not suggest any deliberate attempt to poison wildlife. Confirmed incidents are summarised in Table 1.
### Table 1 confirmed poison incidents in Scotland in 2003

<table>
<thead>
<tr>
<th>Date</th>
<th>Poison</th>
<th>Victim</th>
<th>Bait</th>
<th>Location 1</th>
<th>Location 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>carbofuran</td>
<td>buzzard</td>
<td></td>
<td>Bute</td>
<td>Argyll &amp; Bute</td>
</tr>
<tr>
<td></td>
<td></td>
<td>white-tailed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>carbofuran</td>
<td>eagle</td>
<td></td>
<td>Morar</td>
<td>Highland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td></td>
<td>Heriot</td>
<td>Borders</td>
</tr>
<tr>
<td>Mar</td>
<td>carbofuran</td>
<td>red kite</td>
<td></td>
<td>Gargunnock</td>
<td>Stirling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td>rabbit</td>
<td>Rhins of Galloway</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td></td>
<td>nr Arbroath</td>
<td>Angus</td>
</tr>
<tr>
<td>Mar</td>
<td>mevinphos</td>
<td>c.30 rooks</td>
<td></td>
<td>Aliness</td>
<td>Highland</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>carbofuran</td>
<td>red kite</td>
<td></td>
<td>Laurieston</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td></td>
<td>Methven</td>
<td>Perth &amp; Kinross</td>
</tr>
<tr>
<td></td>
<td></td>
<td>red kite</td>
<td></td>
<td>Laurieston</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td>Mar</td>
<td>carbofuran</td>
<td>buzzard</td>
<td>woodpigeon</td>
<td>Laurieston</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td></td>
<td>Laurieston</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td>May</td>
<td>carbofuran</td>
<td>buzzard</td>
<td></td>
<td>Laurieston</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td></td>
<td>Heriot</td>
<td>Borders</td>
</tr>
<tr>
<td>Apr</td>
<td>carbofuran</td>
<td>buzzard</td>
<td>2 buzzards</td>
<td>Rhins of Galloway</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td>carbofuran</td>
<td>magpie</td>
<td>2 grey partridges</td>
<td>Strathaven</td>
<td>South Lanarkshire</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>carbofuran</td>
<td>peregrine</td>
<td></td>
<td>Strathaven</td>
<td>South Lanarkshire</td>
</tr>
<tr>
<td></td>
<td></td>
<td>buzzard</td>
<td></td>
<td>Strathaven</td>
<td>South Lanarkshire</td>
</tr>
<tr>
<td>May</td>
<td>carbofuran</td>
<td>buzzard</td>
<td>(possession for use)</td>
<td>Strathaven</td>
<td>South Lanarkshire</td>
</tr>
<tr>
<td></td>
<td>a/chloralose</td>
<td>peregrine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td>diazinon</td>
<td>red kite</td>
<td></td>
<td>Buckie</td>
<td>Moray</td>
</tr>
<tr>
<td>Aug</td>
<td>carbofuran</td>
<td>strychnine &amp; mevinphos</td>
<td>5 pheasants (possession for use)</td>
<td>Kelso</td>
<td>Borders</td>
</tr>
<tr>
<td>Aug</td>
<td></td>
<td></td>
<td></td>
<td>Doune</td>
<td>Stirling</td>
</tr>
<tr>
<td>Sep</td>
<td>carbofuran</td>
<td>red kite</td>
<td></td>
<td>Sorn</td>
<td>East Ayrshire</td>
</tr>
<tr>
<td>Sep</td>
<td>a/chloralose</td>
<td>red kite</td>
<td></td>
<td>Castle Douglas</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td>Sep</td>
<td>a/chloralose</td>
<td>buzzard</td>
<td></td>
<td>Castle Douglas</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td>Sep</td>
<td>a/chloralose</td>
<td>buzzard</td>
<td></td>
<td>Castle Douglas</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td>Nov</td>
<td>carbofuran</td>
<td>buzzard</td>
<td></td>
<td>Buchan</td>
<td>Aberdeenshire</td>
</tr>
<tr>
<td>Nov</td>
<td>buzzard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov</td>
<td>carbofuran</td>
<td>buzzard</td>
<td>2 red kites</td>
<td>Castle Douglas</td>
<td>Dumfries &amp; Galloway</td>
</tr>
<tr>
<td>Dec</td>
<td>carbofuran</td>
<td>buzzard</td>
<td>duck</td>
<td>Heriot</td>
<td>Borders</td>
</tr>
<tr>
<td>Dec</td>
<td>buzzard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td>carbofuran</td>
<td>red kite</td>
<td></td>
<td>Laurieston</td>
<td>Dumfries &amp; Galloway</td>
</tr>
</tbody>
</table>
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 87 (69.6%) of the 125 incidents confirmed in the 1999 – 2003 five-year period). Carbofuran is – by a substantial margin – the most commonly-abused carbamate in these circumstances and was used in 86 (68.8%) of the 125 incidents. Alpha-chloralose – once the most widely used wildlife poison – continues to be used for killing birds of prey (found in 30 (24%) of the 125 incidents confirmed in the 1999 – 2003 five-year period). Alpha-chloralose use has declined in favour of carbamates – especially carbofuran – in recent years. The relative occurrence of carbofuran and alpha-chloralose in poisoning incidents between 1983 and 2003 is shown in Figure 2.

Figure 1 – alpha-chloralose and carbofuran use in Scottish wildlife poisoning incidents – 1983 to 2003

Sources: RSPB, SASA, DAFFS/SAOFD/SAEFD/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 38 records for 2003 rather than the 36 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 intended to be incorporated 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 keeper claimed to have obtained it directly from the farm manager on his estate. 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 prefer not to use it. 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

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
illegal alpha-chloralose stocks have several times identified a factory in the Irish Republic as a significant source.

**Timing of poisoning incidents**

The temporal distribution of poisoning in 2003 followed the well-established pattern of a major activity peak in the spring with a much smaller secondary peak in the autumn. This pattern has been consistent in every year on record except 2002 when there was no autumn peak. The lack of an autumn peak in 2002 is unlikely to be of any significance and the typical pattern is in all other respects a highly persistent one. This is illustrated in Figure 3.

**Figure 2 – monthly occurrence of poisoning incidents 1987 to 2003**

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

**Appendix C – direct bird of prey persecution incidents in Scotland other than poisoning in 2003**

RSPB Scotland received 86 reports in 2003 in which persecution of this type was alleged (60 in 2002; 89 in 2001; 79 in 2000; 78 in 1999). Four allegations came from anonymous sources – the remainder were from identifiable individuals.

Of these, 17 were 'confirmed' (as defined in the body of the report), 15 were classed as 'probable' and 32 were considered as 'possible' cases of persecution. The confirmed cases are summarised in the Table 2.
Table 2 – confirmed bird of prey direct persecution incidents in Scotland in 2002

<table>
<thead>
<tr>
<th>Month</th>
<th>Method</th>
<th>Victim</th>
<th>Location 1</th>
<th>Location 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr</td>
<td>eggs destroyed</td>
<td>peregrine</td>
<td>Stobo</td>
<td>Borders</td>
</tr>
<tr>
<td>Apr</td>
<td>eggs destroyed</td>
<td>peregrine</td>
<td>Holms</td>
<td>Borders</td>
</tr>
<tr>
<td>Apr</td>
<td>nest destroyed</td>
<td>peregrine</td>
<td>Medwin</td>
<td>Borders</td>
</tr>
<tr>
<td>Apr</td>
<td>shot</td>
<td>red kite</td>
<td>Crieff</td>
<td>Perth &amp; Kinross</td>
</tr>
<tr>
<td>Apr</td>
<td>shot</td>
<td>hen harrier</td>
<td>Leadhills</td>
<td>S Lanarkshire</td>
</tr>
<tr>
<td>Apr</td>
<td>eggs destroyed</td>
<td>hen harrier</td>
<td>Leadhills</td>
<td>S Lanarkshire</td>
</tr>
<tr>
<td>May</td>
<td>trap set baited with live pigeon</td>
<td>(peregrine)</td>
<td>Kirkmuirhill</td>
<td>S Lanarkshire</td>
</tr>
<tr>
<td>May</td>
<td>crow cage trap baited with live pigeons</td>
<td>(peregrine)</td>
<td>Strathdearn</td>
<td>Highland</td>
</tr>
<tr>
<td>Jun</td>
<td>Blackmon trap baited with live pigeon</td>
<td>(sparrowhawk)</td>
<td>Maryburgh</td>
<td>Perth &amp; Kinross</td>
</tr>
<tr>
<td>Jun</td>
<td>chick taken from nest</td>
<td>peregrine</td>
<td>Haystoun</td>
<td>Borders</td>
</tr>
<tr>
<td>Jun</td>
<td>set poletrap</td>
<td>hen harrier</td>
<td>Crannach</td>
<td>Aberdeenshire</td>
</tr>
<tr>
<td>Jun</td>
<td>attempt to shoot</td>
<td></td>
<td>Dewar</td>
<td>Borders</td>
</tr>
<tr>
<td>Jul</td>
<td>shot</td>
<td>buzzard</td>
<td>Milnathort</td>
<td>Perth &amp; Kinross</td>
</tr>
<tr>
<td>Jul</td>
<td>shot</td>
<td>buzzard</td>
<td>New Cumnock</td>
<td>E Ayrshire</td>
</tr>
<tr>
<td>Sep</td>
<td>shot</td>
<td>4 buzzards</td>
<td>Balhagerty</td>
<td>Aberdeenshire</td>
</tr>
<tr>
<td>Nov</td>
<td>shot</td>
<td>buzzard</td>
<td>Solas, N Uist</td>
<td>W Isles</td>
</tr>
<tr>
<td>Dec</td>
<td>killed in crow cage trap</td>
<td>tawny owl</td>
<td>Loch Morie</td>
<td>Highland</td>
</tr>
</tbody>
</table>

In the remaining 22 cases there was either no evidence to substantiate or disprove the original report or there was clear evidence that the allegation was not correct.

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 (69.0%) 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) were 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. By 2000, the Chilterns breeding population (109 pairs) was more than three times greater than that of the Black Isle (33 pairs). Notably, the Black Isle population grew by only three pairs in the 1999–2000 period, while the Chiltern population increased by over 34 pairs during that time. 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 2003

KEY
2003
● Poisoning
■ Confirmed persecution
□ Probable persecution
+ Possible persecution
Map 2 – poisoning and confirmed, probable and possible persecution in Scotland 1995 to 2002

KEY
1995 to 2002
● Poisoning
■ Confirmed persecution
□ Probable persecution
○ Possible persecution
Map 3 – poisoning 1987 to 2002

KEY
1987 to 2002
Poisoning
12 References


RSPB Scotland annually records incidents relating to bird crime. All wild bird crime incidents should be reported to your local police Wildlife Crime Officer (WCO) or the RSPB. For more information on birds and the law contact:

**RSPB Scotland Headquarters**  
Dunedin House  
25 Ravelston Terrace  
Edinburgh EH4 3TP  
Tel: 0131 311 6500  
e-mail: rspb.scotland@rspb.org.uk

**RSPB Scotland Regional Offices**

**East Regional Office**  
10 Albyn Terrace  
Aberdeen AB10 1YP  
Tel: 01224 624824  
e-mail: esro@rspb.org.uk

**South & West Regional Office**  
10 Park Quadrant  
Glasgow G3 6BS  
Tel: 0141 331 0993  
e-mail: glasgow@rspb.org.uk

**North Regional Office**  
Etive House  
Beechwood Park  
Inverness IV2 3BW  
Tel: 01463 715000  
e-mail: nsro@rspb.org.uk

RSPB Scotland is part of the RSPB, the UK-wide charity working to secure a healthy environment for birds and wildlife, helping to create a better world for us all. We belong to BirdLife International, the global partnership of bird conservation organisations.

[www.rspb.org.uk/scotland](http://www.rspb.org.uk/scotland)

Registered charity no 207076          770-1875-04-05

RSPB Scotland gratefully acknowledges grant aid from Scottish Natural Heritage, which assisted with the production of this report.