



nature's voice

The illegal killing
of **BIRDS OF PREY**
in Scotland in **2010**



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Foreword



Andy Hay (rspb-images.com)

The majority of landowners and their employees in Scotland act responsibly and play their part in the protection of birds of prey and other wildlife. RSPB Scotland has long-established partnerships with many land managers, gamekeepers and farmers, who have assisted in conservation work for species such as black grouse, corncrake, capercaillie and osprey and with re-introduction programmes for red kites and white-tailed eagles.

Unfortunately, it is still evident that a significant number of individuals or estates persist with the out-dated practice of illegal killing of birds of prey. In this context, we welcome recent Scottish Parliament and Ministerial condemnation of wildlife crime in Scotland, as well as the new measures introduced by the recent Wildlife and Natural Environment Act 2011, to tackle the perpetrators of crimes against some of our most vulnerable birds of prey. These measures are proportionate and targeted at those irresponsible landowners and their employees who continue to encourage the breaking of wildlife protection laws, and should therefore have no impact on those who manage their businesses legitimately.

We acknowledge the Scottish Government's intention to keep the effectiveness of such legislation under review. This will be informed by an annual report to the Scottish Parliament on wildlife crime, including the illegal killing of birds of prey, and we commit to assisting with this process through our involvement with the Partnership Against Wildlife Crime (Scotland).

The deliberate killing of Scotland's birds of prey has been a

prominent issue for many decades. This matter is of serious conservation concern as it has been clearly demonstrated, by a succession of peer-reviewed scientific studies, to have a significant impact on the populations and ranges of some of our most vulnerable bird species. This illegal activity discredits the international reputation of Scotland as a place that takes pride in its natural heritage and undermines important industries, including tourism, that depend upon wildlife and a rich landscape.

Many species, whose populations were either seriously reduced or eliminated from much of Scotland in the 19th and early 20th centuries, have made significant recoveries in recent years, either through natural re-colonisation (such as common buzzard), or through reintroduction by conservation agencies (such as red kite). A reduction in killing, sufficient to allow population recoveries of some species, has been encouraged by strengthened legal protection by the Scottish Government, as well as by more enlightened attitudes towards predators amongst the public and some land managers. Also, populations of several species have now largely recovered from

the long lasting impact of organochlorine pesticides, such as DDT, which decimated many raptor populations in the 1960s and 1970s.

Sadly, this overall positive trend has not been universal. The poor conservation status of some species of birds of prey (for example, golden eagle and hen harrier) remains of serious concern. It is clear that in parts of Scotland, particularly the eastern and southern uplands, the intolerance shown towards protected predators remains deeply ingrained, with little regard either to the law or the conservation status of the targeted birds and animals.

Over the last 20 years, government laboratory testing or post-mortem has confirmed hundreds of protected birds of prey as victims of illegal poison abuse, shooting, trapping or nest destruction in Scotland. The majority of these victims have been discovered purely by chance, by hillwalkers, birdwatchers, dog walkers and other members of the public visiting the countryside. Other casualties have been found during police, RSPB Scotland or Scottish Government Rural Payments and Inspections Directorate (SGRPID)

follow-ups to these incidents. This toll of protected species is both alarming and frustrating, and it divides communities who should work more closely together.

This is RSPB Scotland's 17th annual review of the illegal killing of birds of prey in Scotland; it

describes the known criminal destruction of birds of prey during 2010. However, given that much of the killing takes place in remote areas, in circumstances where direct witnesses are few and far between and where material evidence can easily be concealed, a large proportion of these

incidents will never be uncovered or reported. It is readily apparent, therefore, that the numbers of incidents outlined in this report must be regarded as minimum figures, but the toll continues to make depressing reading.

Stuart Housden
Director, RSPB Scotland

RSPB Scotland

▼ **Poisoned golden eagle, found on Skibo Estate, Sutherland, 7 May 2010 – one of three poisoned eagles recovered from this estate in spring 2010.**



Executive summary

The year 2010 will go down as a dreadful one for the conservation of Scotland's birds of prey. Four golden eagles, a white-tailed eagle, seven red kites, two peregrines and 13 buzzards were confirmed by the Scottish Government as being victims of illegal poisoning.

Baits laced with highly toxic and banned pesticides continue to be laid out in the open in Scotland's countryside. Spring traps were illegally set in the open, beside baits or on posts, and deliberately placed to catch raptors. Victims of these long-banned practices included a hen harrier and a goshawk. A short-eared owl was shot. Nesting peregrines and hen harriers again "disappeared" in circumstances that suggested deliberate human interference. All confirmed incidents took place in upland areas, on or near where driven grouse moor management is the dominant land use.

Sadly, these statistics no longer shock or surprise, and are merely added to the catalogue of shame documenting the last 20 years of

relentless human killing of Scotland's protected bird of prey species. During this period, almost 500 birds of prey have been killed by illegal poisoning with a further 320 confirmed as shot, trapped or having had their nests destroyed. It is therefore no surprise that there are substantial areas of suitable habitat in Scotland currently unoccupied by some species, in large part due to such illegal activity.

Increasingly, the scientific literature has many authoritative reports and papers documenting the impact such persecution is having on the Scottish populations of iconic and vulnerable species, such as golden eagle, hen harrier and red kite.

This RSPB Scotland report documents known incidents of the illegal killing of birds of prey in 2010; it outlines the evidence that illustrates that the crimes recorded here represent only a subset of the actual total; and makes recommendations towards improving the detection of these crimes and the successful prosecution of the perpetrators.

As ever, we are grateful to members of the public, estate employees, Scottish police forces, the National Wildlife Crime Unit (NWCU), the Science and Advice for Scottish Agriculture agency and many others who provide the data on which this report is based. We particularly welcome recent Partnership for Action Against Wildlife Crime (PAW) initiatives, coordinated by the Scottish Government, designed to tackle crime against birds of prey. We acknowledge statements made by landowning representatives condemning this illegal activity. Finally, we are grateful for the support of Scottish Natural Heritage (SNH) in helping to fund the production of this report.

Recommendations

The key to building on the continued high priority given by the Scottish Government to tackling wildlife crime (of which the illegal killing of birds of prey is a key component) is the effective use of legislation through robust enforcement, undertaken in a planned but speedy manner.

Any consideration of the scale of illegal activity, and its impact on populations, must incorporate all available published research on the population dynamics of the affected species, as well as recognising that a relatively low number of confirmed offences are witnessed directly.

We are committed to working with the representative bodies of responsible game shooting interests and exemplar estates, to encourage and support good practice and marginalise illegal activity. For example, we are helping Scottish Land and Estates and SNH develop the Wildlife Estates Initiative and have entered our flagship Abernethy Forest National Nature Reserve into this process. This should work in tandem with other Scottish government policies (such as cross compliance through the rural payments system) designed to act as a financial deterrent to illegal activity.

RSPB Scotland recommends that:

- Chief Constables and The Crown Office should ensure that all recommendations contained in the HMIC/IPS Thematic Review of Wildlife Crime Enforcement and Prosecution should be implemented in full as soon as possible.
- The Scottish Government should conduct a further review of the

penalties available to the courts, and the use of these penalties in wildlife crime cases. We consider that levels of fines should be based on the damage that has been caused to the natural heritage (for example killing a rare or vulnerable species should attract higher fines).

- The Crown Office Procurator Fiscal Service should ensure that as many cases as possible proceed to trial with charges representing the ecological seriousness of cases. We note and welcome recent progress in this regard.
- The list of proscribed chemicals listed in the Nature Conservation (Scotland) Act 2004 should be reviewed regularly.
- New measures contained in the recent Wildlife and Natural Environment Act 2011, including new offences designed to make landowners more responsible for the actions of their employees in cases involving crimes against birds of prey (so called "vicarious liability"), should be introduced quickly and used in relevant cases. The efficacy of these new measures should be monitored. We welcome Scottish Government commitments to take further action if these measures are found to be ineffective.
- The Scottish Government Rural Payments and Inspections Directorate (SGRPID) should

continue to improve the operation and effectiveness of the 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.

- The Raptor Persecution Priority Delivery Group should take a range of initiatives, including encouraging land management groups to provide more intelligence in relation to wildlife crime activity and produce a clear strategy as to how problem locations will be targeted for enforcement and education (as evidenced by the contents of this report, the SASA Poisons Map, NWCU and other relevant data).
- The National Wildlife Crime Unit (NWCU) must be adequately resourced so that it can play a full part in leading the fight against wildlife crime.
- There should be a central and accurate system for recording wildlife crime incidents and prosecutions in Scotland.
- The Partnership for Action Against Wildlife Crime (Scotland) (PAWS) should continue to take a central role in providing advice to the Scottish Government. We welcome recent Ministerial commitments to chairing the PAWS Executive Group.
- Representative bodies of land and sporting managers should lead from the front, working with the police by reporting crimes to stop illegal activity, condemning illegal practices and publicly expelling any members prosecuted for wrong doing.



◀ Peregrines "disappeared" from some nests in circumstances suggesting human interference.

Definition of incidents

Incidents are classified and described in the report as follows:

• **“Confirmed” cases** – incidents where definite illegal acts were disclosed, that is the substantive evidence included birds or baits confirmed by Science and Advice for Scottish Agriculture (SASA – formerly Scottish Agricultural Science Agency) as containing illegal poisons; an offence seen/found by a witness and/or confirmed by post-mortem, illegally-set traps etc.

• **“Probable” cases** – those where the available evidence points to illegality as by far the most likely explanation but where the proof of an offence is not categorical.

• **“Possible” cases** – where an illegal act is a possible explanation but where another explanation would also fit the known facts.

Incidents are separated on the basis that any bait, victim, group of baits, victims etc that are:

- found on a different date,
- found sufficiently far apart to be represented by a different six-figure grid reference,
- found at the same grid reference and on the same date but in circumstances that otherwise separate them (eg a poison victim that is very decomposed beside a fresh bait – ie the bait could not have been

responsible for the death of the victim), are classified as separate incidents.

2010 Incidents

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

- The illegal use of poisons or poison baits,
- Other illegal killing: nest destruction, shooting and trapping.

▼ **Visitors going to Mull to see white-tailed eagles inject at least £5 million into the local economy every year**

White-tailed Eagle by alarifoto (istockphoto.com)



◀ **Visitors to the Galloway Kite Trail, have spent at least £21 million in the region since 2004, with more than £2.6 million spent by people who came specifically to see the kites.**

▼ **The population of red kites in the north of Scotland continues to be suppressed by illegal killing.**

Galloway Kite Trail all by RSPB Scotland



Red kite by visual7 (istockphoto.com)

2010 incidents – poisoning

Poisoning constitutes the greatest actual or potential threat of all forms of illegal activity, as it is totally indiscriminate and baits continue to be lethal for weeks on end. They can kill multiple victims without further effort by the perpetrator. 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 perpetrator.

In this report, we document actual cases of poisoned raptors, incidents where only a poison bait was found and the victim (if any) was not identified and incidents where the victim was not a bird of prey but the location and circumstances put birds of prey at risk. All incidents were confirmed by toxicology testing by the SASA laboratory.

A total of 29 incidents of deliberate poison abuse were confirmed during the year (1999–09 average = 30). The 28 victims included four golden eagles, one white-tailed eagle, seven red kites, 13 buzzards, two peregrines and one carrion crow. In three of these incidents, poison baits were found, with no victims discovered. These are documented in Table 1, with locations illustrated in Figure 1.

It is important to reiterate, however, that this figure merely represents those victims and/or baits that were actually discovered and that the real number of casualties will be considerably higher. Those criminals undertaking illegal poisoning, do so in areas where the chances of its discovery are minimised – in remote areas, in areas rarely accessed by the

public and where material evidence can easily be concealed or destroyed by the perpetrators. Thus, given that public access in many upland areas is largely concentrated on paths and tracks, any illegal activity away from such areas is likely to remain undetected.

Given the increasing weight of clear scientific evidence showing that illegal killing is limiting the populations and range of a number of species, coupled with the low chances of actually discovering a victim, we can conclude that the number of birds actually being killed is considerably larger than the small number detected every year – the “tip of the iceberg”. However, the data confirms that this indiscriminate and obscene practice continues to be widespread, particularly in areas dominated by game management, and shows no obvious sign of declining. This is despite public condemnation following recent high profile cases.

In addition to the incidents documented in Table 1, stockpiles or traces of prohibited or illegally-used chemicals were found on three estates during follow-up operations. This included a



▲ Poisoned golden eagle

significant stockpile of the banned substance carbofuran, recovered by the police under warrant from an outbuilding on the Skibo Estate in May.

As has been the norm in recent years, carbofuran (or mixtures containing this chemical) has continued to dominate as the “poison of choice” in the vast majority of incidents recorded, despite the fact that this substance was withdrawn from approval as a legitimate agricultural pesticide in December 2001. Mere possession of carbofuran is a criminal offence; however there is little evidence suggesting a decline in the use of this chemical. It featured in 20 of the 29 (69%) incidents confirmed in 2010, compared with an average 76% of the total of 203 incidents confirmed between 2005 and 2010. Since the first case known to RSPB Scotland of carbofuran illegally used as a poison for killing wildlife in 1988, its abuse has become widespread, and since 1997 it has been the most widely abused chemical for killing protected wildlife.

The continued regular detection of this chemical in wildlife crime cases suggests that there were

significant stockpiles of this banned pesticide held by a criminal element engaged in land management. It is hoped that the opportunity afforded by the recent pesticide disposal scheme,

backed by the Scottish Government, Scottish Land and Estates, the Scottish Gamekeepers Association and other representative bodies of game management and shooting

interests has led to the handing in of these illegal chemicals, with a consequent marked reduction in their use.

Table 1: confirmed poison abuse incidents, 2010

Month	Poison	Victim	Bait	Location	Area
January	Carbofuran, Carbosulfan	Red kite		nr Dumfries	Dumfries-shire
March	Carbofuran, Carbosulfan	Buzzard		nr Sanquhar	Dumfries-shire
March	Carbofuran	Buzzard (2)		nr Dornoch	Sutherland
April	Aldicarb, Aldicarb sulfoxide	Peregrine		nr Edinburgh	Lothian
April	Carbofuran, Carbosulfan	Crow		nr Sanquhar	Dumfries-shire
May	Aldicarb	Golden eagle		Skibo	Sutherland
May	Carbofuran	Golden eagle		Skibo	Sutherland
May	Carbofuran	Sparrowhawk	Grouse	Skibo	Sutherland
May	Aldicarb	Peregrine		nr Edinburgh	Lothian
May	Carbofuran	Golden eagle		Skibo	Sutherland
May	Carbofuran	Red kite		nr Noranside	Angus
May	Aldicarb	Red kite		nr Cawdor	Inverness-shire
May	Carbofuran		Meat	nr Cawdor	Inverness-shire
May	Carbofuran	Red kite	Grouse	Moy	Inverness-shire
May	Aldicarb	Red kite		Farr	Inverness-shire
June	Carbofuran	Golden eagle		Farr	Inverness-shire
June	Carbofuran	White-tailed eagle		Farr	Inverness-shire
July	Carbofuran	Red kite		nr Aberfeldy	Perthshire
July	Mevinphos		Grouse	nr Gargunnoch	Stirlingshire
September	Carbofuran	Buzzard (2)	Rabbit	Glen Lochy	Inverness-shire
September	Chloralose	Buzzard		Glenogil	Angus
September	Aldicarb		Rabbit	nr Golspie	Sutherland
October	Carbofuran	Buzzard (2)	Rabbit	nr Boat of Garten	Inverness-shire
October	Carbofuran	Buzzard	Pigeon	Glenogil	Angus
October	Carbofuran		Pigeon	Glenogil	Angus
October	Carbofuran, Isofenphos	Buzzard (2)		nr Kinross	Kinross-shire
November	Carbofuran	Buzzard		nr Heriot	Borders
November	Carbofuran	Buzzard	Pheasant	nr Lamington	South Lanarkshire
December	Chloralose	Red kite		nr Crieff	Perthshire

2010 incidents – poisoning

Figure 1: confirmed poisoning incidents in Scotland in 2005–2010.

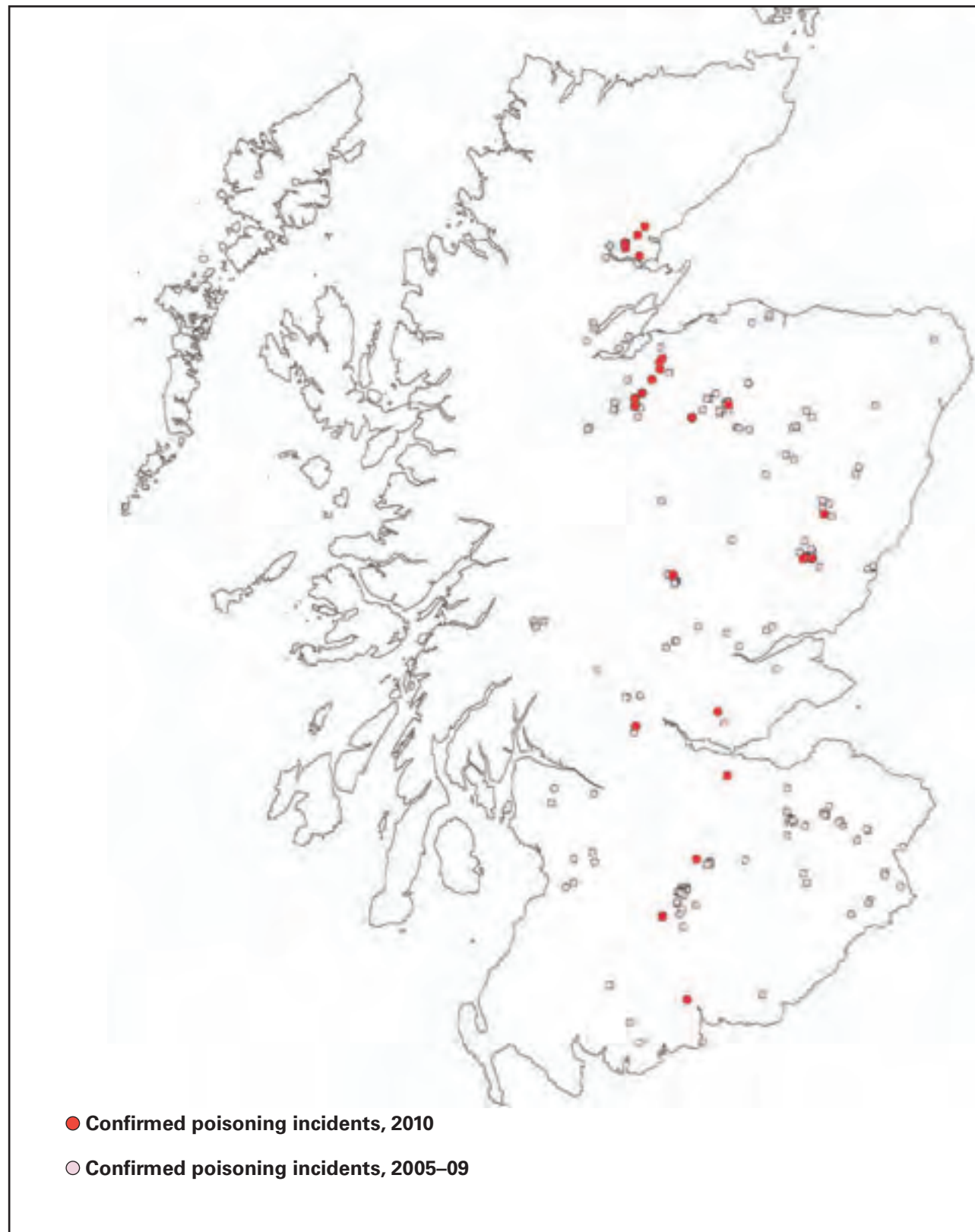
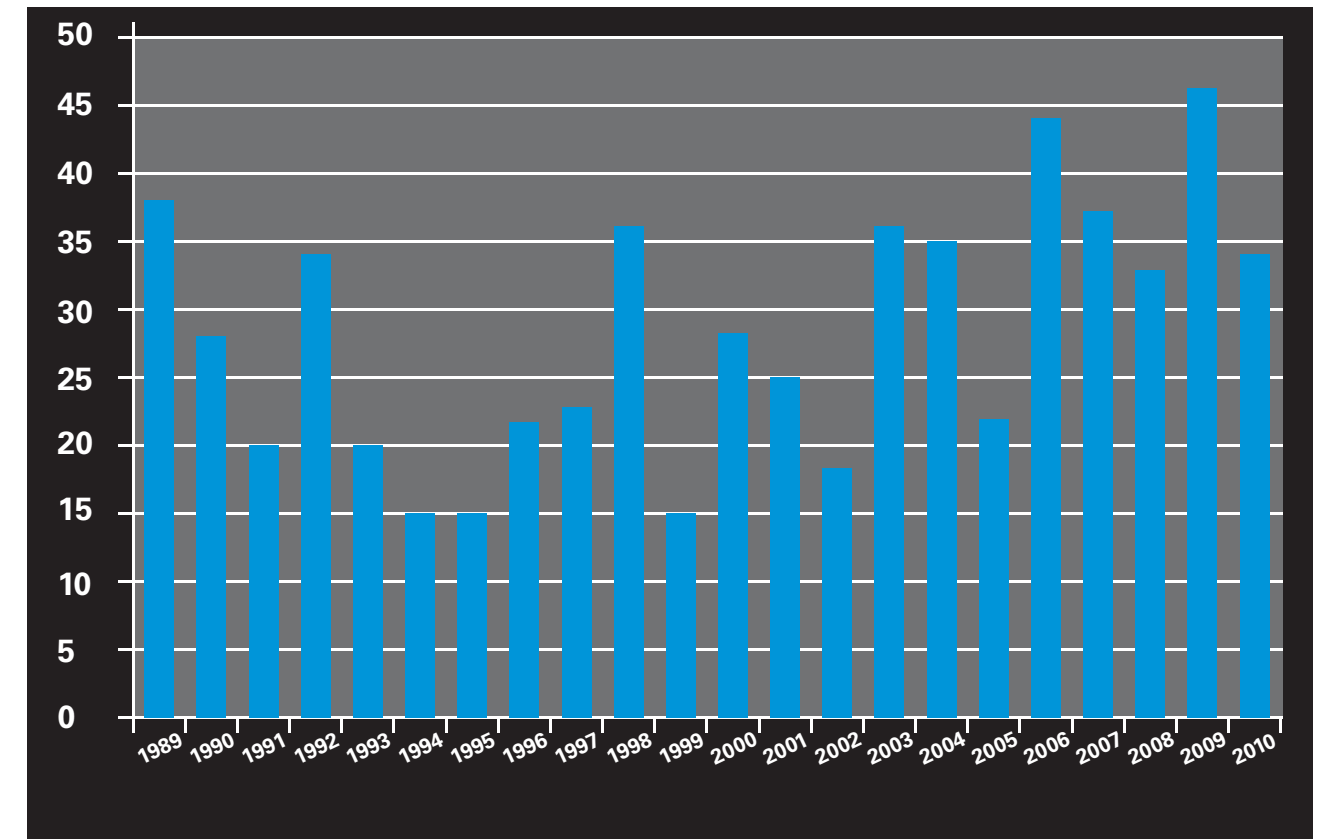


Figure 2: confirmed poisoning incidents 1989–2010



Formulations of Chloralose have continued to feature in a number of incidents every year; this chemical is available to the public at low concentrations in rodenticide products, approved only for killing mice. Products containing chloralose at higher concentrations (including for control of birds such as feral pigeons) can only be bought, held and used by pest controllers under licence.

Following an apparent resurgence in the use of this chemical in 2008 and 2009, it was only noted in two of the 29 incidents (7%) in 2010. This compares with an average 14% of the total of 203 incidents confirmed between 2005 and 2010.

In contrast, 2010 saw a marked increase in the number of detected incidents involving Aldicarb. Legal use of this carbamate product (formerly used as a treatment for root vegetables) was revoked at the end of 2007. In previous years, incidents where this chemical was detected amounted to an average of less than one per year. However, in 2010, it was detected in 6 of 29 incidents (21%). It is impossible to say, however, whether this represents a real increase in the use of this poison or simply a greater proportion of incidents being detected.

The monthly distribution of confirmed poisoning incidents in 2010 was similar to that noted in

previous years, with a major peak in the spring and a smaller secondary peak in the autumn.

Table 2 documents the number of confirmed victims of poison abuse recorded since 1989. Whilst widespread species such as buzzards and corvids (the latter included under "other bird species") are, predictably, the most numerous victims, it is undoubtedly the number of scarce species, of international conservation concern, such as red kite, golden eagle and white-tailed eagle, that provide the most shocking testament to the indiscriminate nature of this criminal practice. The list of victims found in 2010 is a clear illustration of this.

2010 incidents – poisoning

Figure 3: Poisons used in 203 confirmed abuse incidents, 2005–10

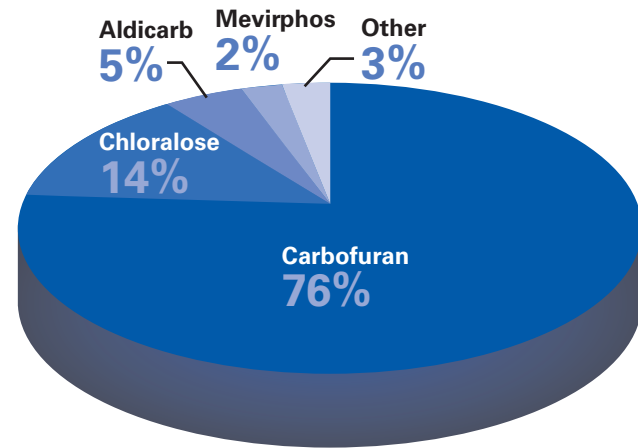


Table 2: Number of confirmed victims of poison abuse in Scotland, 1989–2010

Year	Red kite	Golden eagle	White-tailed eagle	Buzzard	Peregrine	Hen harrier	Raven	Other birds	Mammals	Total
1989	1	1		21	3		3	66	9	104
1990		2		11		2		24	8	47
1991		1		12				4	15	32
1992				13		1		9	22	45
1993	1	1		17				60	3	82
1994		1		12	2			4	4	23
1995				12	1	1		5	4	23
1996		1	1	17	1				1	21
1997	4	1		7	2		1	7	9	31
1998	4	2		23	2			3	9	43
1999	1	2		7			2		1	13
2000	4	3		23				15	1	46
2001	10	1		9				9	2	31
2002	1	2	2	7	2			28		42
2003	10		1	23	3		4	33	1	75
2004	3			40	3			5	3	54
2005	2	1		14			2	3		22
2006	5	2		26	1		6	4	1	45
2007	12	1		15	4		2	3	4	41
2008	2		1	14			3		1	21
2009	4	2	1	21			5	3	6	42
2010	7	4	1	13	2			2		29
Total	71	28	7	357	26	4	28	287*	104	912

* includes 7 sparrowhawks

▼ Police recover the body of a golden eagle from a tree at the edge of Skibo Estate, Sutherland on 5 May 2010. This bird was found to have been poisoned.



Northern Constabulary

2010 incidents – other illegal killing

Other illegal killing typically involves one of the following methods:

- nest destruction – removal or destroying 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.

A total of 20 other illegal incidents, either killing or targeting birds of prey, were confirmed during the year (2000–09 average = 14). Birds killed included two red kites, an osprey, a goshawk, two sparrowhawks and a short-eared owl, while a trapped hen harrier

had minor injuries and was able to be released. Illegally set traps were found at nine locations. In addition, a further 10 “probable” incidents were identified, including cases where nesting attempts failed where there was some evidence suggesting human interference, uncorroborated witness evidence was received or victims were too fragmented or decomposed to permit a complete analysis.

As with other illegal activity, it is reasonable to suggest that the perpetrators make every effort to ensure that their crimes remain undiscovered; for example it is

likely that the carcasses of shot birds are disposed of before they are found by other people. Indeed, in many previous cases, the bodies of illegally killed birds have been found hidden or buried. Therefore, as with incidents involving the illegal use of poisons, it is fair to suggest that those victims actually discovered represent an unknown fraction of the actual total of birds killed.

The confirmed incidents found are outlined in Table 3, with a summary of probable incidents in Table 4.

Table 3: confirmed incidents of illegal killing or attempted killing of birds of prey in Scotland, 2010.

Month	Method	Victim	Location	Area
April	Removed wing tags and severed legs of satellite-tagged bird found in rabbit holes.	Red kite	Moy	Inverness-shire
April	Shot with arrow	Sparrowhawk	Dingwall	Inverness-shire
April	Shot	Sparrowhawk	nr Dolphinton	South Lanarkshire
Apr-June	Set spring-trap on top of post		nr Dalwhinnie	Inverness-shire
Apr-June	Killed by trap set on post	Goshawk	nr Dalwhinnie	Inverness-shire
May	Caught in spring trap	Hen harrier	Moy	Inverness-shire
May	Baited spring traps set in open		Moy	Inverness-shire
May	Nest destroyed	Peregrine	nr Carronbridge	Dumfries-shire
May	Larsen trap, baited with pigeon		nr Cambusbarron	Stirlingshire
June	Unset spring trap on tree stump		nr Dalwhinnie	Inverness-shire
June	Baited spring traps set in open		Moy	Inverness-shire
June	Dead kite, with broken leg and severe head injury found in vehicle	Red kite	Moy	Inverness-shire
June	Baited spring traps set in open		Moy	Inverness-shire
June	Nest site deliberately disturbed	Hen harrier	nr Muirkirk	East Ayrshire
September	Shot	Osprey	Dunbeath	Caithness
September	Spring trap, set in open		nr Dornie	Wester Ross
September	Feathers found on sprung trap previously set in open	Unknown	nr Dornie	Wester Ross
September	Spring trap, set in open		nr Dornie	Wester Ross
September	Illegal crow trap		nr Dornie	Wester Ross
October	Shot	Short-eared owl	Leadhills	South Lanarkshire

Table 4: probable incidents of illegal killing of birds of prey in Scotland, 2010

Month	Circumstances	Victim	Location	Area
March	Both adults disappeared.	Peregrine		Stirlingshire
April	Eggs found smashed near nest.	Peregrine	nr Biggar	South Lanarkshire
Apr-May	Adult bird disappeared. Evidence of recent shooting near nest site	Peregrine	nr Thornhill	Dumfries-shire
May	Adult bird disappeared. Evidence of recent human access near nest site	Peregrine	nr Sanquhar	Dumfries-shire
May	Eggs disappeared from nest. Evidence of recent human access	Peregrine	nr Thornhill	Dumfries-shire
June	Chicks disappeared from nest. No signs of predation but evidence of recent human access.	Hen harrier	nr Knockando	Moray
June	Member of public witnessed bird being shot	Buzzard	nr Leadhills	South Lanarkshire
June	Feathers found next to spring traps set in open	Red kite	Moy	Inverness-shire
Aug-Sep	Heavily decomposed carcass of bird found in stink pit.	Buzzard	nr Dornie	Inverness-shire
September	Suspected pole-trapping site found		nr Dornie	Inverness-shire

Table 5: number of confirmed victims of shooting, trapping or nest destruction in Scotland, 1989–2010

Year	Red kite	Golden eagle	Buzzard	Peregrine	Hen harrier	Goshawk	Sparrow hawk	Kestrel	Total
1989		5	1	4	4		1	1	16
1990			2	5	13		1	4	25
1991		4	5		1	1	2	4	17
1992	1		11	4	5			3	24
1993		2	2	3	7	1	1	1	19*
1994		2	12	3	8				25
1995		1	13	5		1	1		21
1996			7	1	3			2	13
1997			11	6		2		1	20
1998		2	7	2			2		13
1999			2	3					5
2000			1	5	4	2			12
2001			8			1	2		11
2002	1		8	3					12
2003	1		7	4	3				15
2004			4	3			1	5	14**
2005			2	7		1		1	11
2006			15	1					16
2007		1	10	1	1	1		1	15
2008	1		5			1	1	3	11
2009	1		4				1		6
2010	2			1	2	1	2		8***
Total	7	17	137	61	51	12	15	26	331

*In addition, a white-tailed eagle and an osprey were shooting victims in 1993. **In addition, a short-eared owl was shot in 2004. ***In addition, an osprey and a short-eared owl were shot in 2010.

2010 incidents – “the missing” list

The fitting of satellite tags and radio transmitters to birds is a valuable research and educational tool, providing information on the post-fledging dispersal and other movements of birds of prey and other species. It also assists in the recovery of the corpses of any birds which have died, enabling a post-mortem to take place.

During the course of 2010, RSPB Scotland staff and the police were involved in follow-up investigations after the disappearance of a number of tagged birds. However, in some cases, despite clear location information being available, the carcasses and their satellite tags, “disappeared”. These cases, and those of other birds whose carcasses inexplicably vanished are documented below.

Two satellite-tagged white-tailed eagles, both from the population on the Isle of Mull, disappeared during the early part of the year, in Strathclyde and Grampian. Similarly a satellite-tagged red kite vanished in Inverness-shire. Despite extensive searches being carried out at the last known locations where these birds were noted, no carcasses were found. No further signals have been picked up from these birds.

On 1 May 2010, RSPB Scotland staff were following up a static GPS signal from a second satellite-tagged red kite, on the Moy Estate, Inverness-shire. They found the bird’s wing-tags and severed leg, bearing a BTO ring, stuffed into holes at the exact site of the last signal on a managed grouse moor. [As a postscript, two further dead red kites were found on this estate in the

following weeks. One of these had been poisoned, while the second had been trapped and killed.]

On 11 May 2010, RSPB staff were monitoring a static GPS signal from another satellite-tagged red kite, on a driven grouse moor in Inverness-shire. No carcass was found at the last known location to where the bird was tracked, but kite feathers and a meat bait confirmed as being laced with carbofuran were found at the site.

On 2 June 2010, RSPB staff found a dead goshawk at the edge of a driven grouse moor near Dalwhinnie in Inverness-shire. This bird had been caught in a spring trap, known to have been illegally set on top of a 2 m high post in the preceding weeks. Between 2 and 10 June, someone, possibly the same person who set the trap, walked directly to the site, removed the body and the trap, then left.

On 3 June 2010, during the execution of a search warrant on the Moy Estate, police officers found four BTO rings in premises occupied by an estate employee. The rings had all been fitted, under licence, to pre-fledging golden eagle chicks at four different nest sites in Scotland in 2005, 2006 and 2008 (2). On

average, only one in every 50 birds ringed (of all British species) are subsequently found. Of these, very few dead golden eagles are discovered and only a tiny proportion of these birds have been ringed. A person having four golden eagle rings in their possession is unprecedented. It is reasonable to speculate that these birds were killed illegally.

On 11 December 2010, a member of the public found and photographed the carcass of a white-tailed eagle, lying under a tree on remote moorland near Lochindorb in Nairnshire. The police were notified, but when they attended the scene a few days later to recover the carcass for a post-mortem, it had disappeared. There were no tracks of scavengers in the surrounding snow, and there was not a feather remaining from the well-decomposed carcass. In fact, the only new tracks that were in the area were those of a quad bike, leading to near the finding location, and the footprints of the person who had walked over to the body, removed it, returned to the quad bike, and left the area.



◀ An unknown person illegally places a spring trap on a post at the edge of a driven grouse moor, Speyside, May 2010.

RSPB Scotland



◀ ... the result – a goshawk trapped and killed. No-one was prosecuted.



◀ Dead white-tailed eagle, Lochindorb, December 2010.

2010 incidents – case studies

A catalogue of incidents over a few short weeks in spring 2010, on grouse moors on just two estates in the north of Scotland, goes some way towards illustrating the extent of systematic illegal killing of birds of prey. In both cases, however, a rapid and effective follow-up by the police and partner agencies led to the detection of more offences, and two successful prosecutions.

Historic conviction of gamekeeper for possession of a dead red kite

On 26 May 2011, a former gamekeeper from the Moy Estate became the first person in Scotland to be convicted of possessing a dead red kite since the species was reintroduced to the country 22 years ago.

James Rolfe was fined £1,500 at Inverness Sheriff Court for the offence, committed on 3 June 2010, while he was employed on the estate near Tomatin, Inverness-shire.

The body of the kite was recovered by police during the execution of a search warrant. It had a broken leg and had been killed by a blow to the back of the head. Over a five-week period, the remains of a further two dead red kites, six illegal baited spring traps, a trapped hen harrier, and a poison bait laced with carbofuran were also recovered from the estate. No arrests or charges have been made in connection with these serious incidents.

Police were first alerted to Moy

Estate on 1 May 2010, when a satellite-tagged red kite, monitored by RSPB Scotland staff and adopted by pupils at a local primary school, disappeared. A bid to find the missing kite uncovered a severed red kite leg and wing-tags belonging to the bird, hidden in holes under a covering of moss.

Two weeks later remains of a second red kite were found lying close to a suspected grouse bait by members of the Highland Raptor Study Group while conducting survey work. The kite was subsequently confirmed by Scottish government testing to have been poisoned with carbofuran. Nearby a male hen harrier was found, held by the leg in an illegally-set spring trap.

Miraculously the hen harrier survived this ordeal and was subsequently released into the wild. Other traps, set beside baits and hidden under a thin layer of moss, were found close by.

A multi-agency operation, led by Northern Constabulary under search warrant, led to the discovery of the third red kite in the back of a vehicle being used

by Rolfe, along with two more baited spring traps and four leg rings originally fitted to golden eagle chicks prior to their fledging from nests in Sutherland & Grampian, and on Mull and Skye.

These rings must have been removed from dead eagles, but how Rolfe came into possession of them is unclear.

Gamekeeper convicted after record haul of banned poison

A shoot manager from the Skibo Estate appeared at Inverness Sheriff Court on 26 May 2011, charged with possessing a banned pesticide.

Dean Barr was convicted at Inverness Sheriff Court for possessing 10.5 kg of carbofuran, illegal in the UK since 2001. He was fined £3,300.

The highly toxic substance was discovered locked in a store on the estate, to which Barr had the key, during the execution of a search warrant by Northern Constabulary on 8 May 2010. The amount of the pesticide in Barr's possession was enough to poison



▲ Red grouse bait, laced with Carbofuran. Skibo Estate, 7 May 2010



▶ Carbofuran found in shed on Skibo Estate 8 May 2010

the entire Scottish population of birds of prey six times over.

The estate in east Sutherland came to the attention of police on 2 May 2010, following the discovery of a dead golden eagle by a Raptor Study Group member. Three days later, a second dead golden eagle was found hanging from a tree less than three

kilometres away, by a party of hill-walkers. A further visit to the estate by Police and RSPB Scotland staff on 7 May revealed a dead red grouse – a suspected poisoned bait – staked to the ground. Nearby lay the body of a sparrowhawk, while just a few hundreds metres away lay the contorted body of a third dead golden eagle.

Subsequent tests by Scottish Government laboratory confirmed that two of the eagles, the sparrowhawk and the bait contained traces of carbofuran. The third eagle had also been illegally poisoned, with Aldicarb, another banned pesticide. However, no arrests or charges were made in connection with these incidents.

Comment

The continued prevalence of poisoning and other illegal killing of protected birds of prey in Scotland, particularly in upland areas intensively managed for driven grouse shooting, continues to have a significant impact on the conservation status of some of our rarest species. Many of the confirmed and probable victims of illegal activity in 2010 were found in such areas.

It is apparent that each year, the number and nature of the incidents discovered varies and making a statistically rigorous assessment of the trends is difficult.

Nevertheless, it is our view that:

- there is little overall evidence to suggest that the illegal killing of raptors has declined in recent years, particularly in the eastern and central Highlands and southern Uplands of Scotland;
- there has, however, been a

decline in illegal killing in the lowlands, and over much of north and west Scotland, making the number of incidents in the managed driven grouse moor areas an even starker situation;

- for some raptor species and in some habitats (eg hen harriers nesting on driven grouse moors) there is – in contrast – no evidence of a decline in illegal killing or nest destruction;
- illegal killing continues at wholly

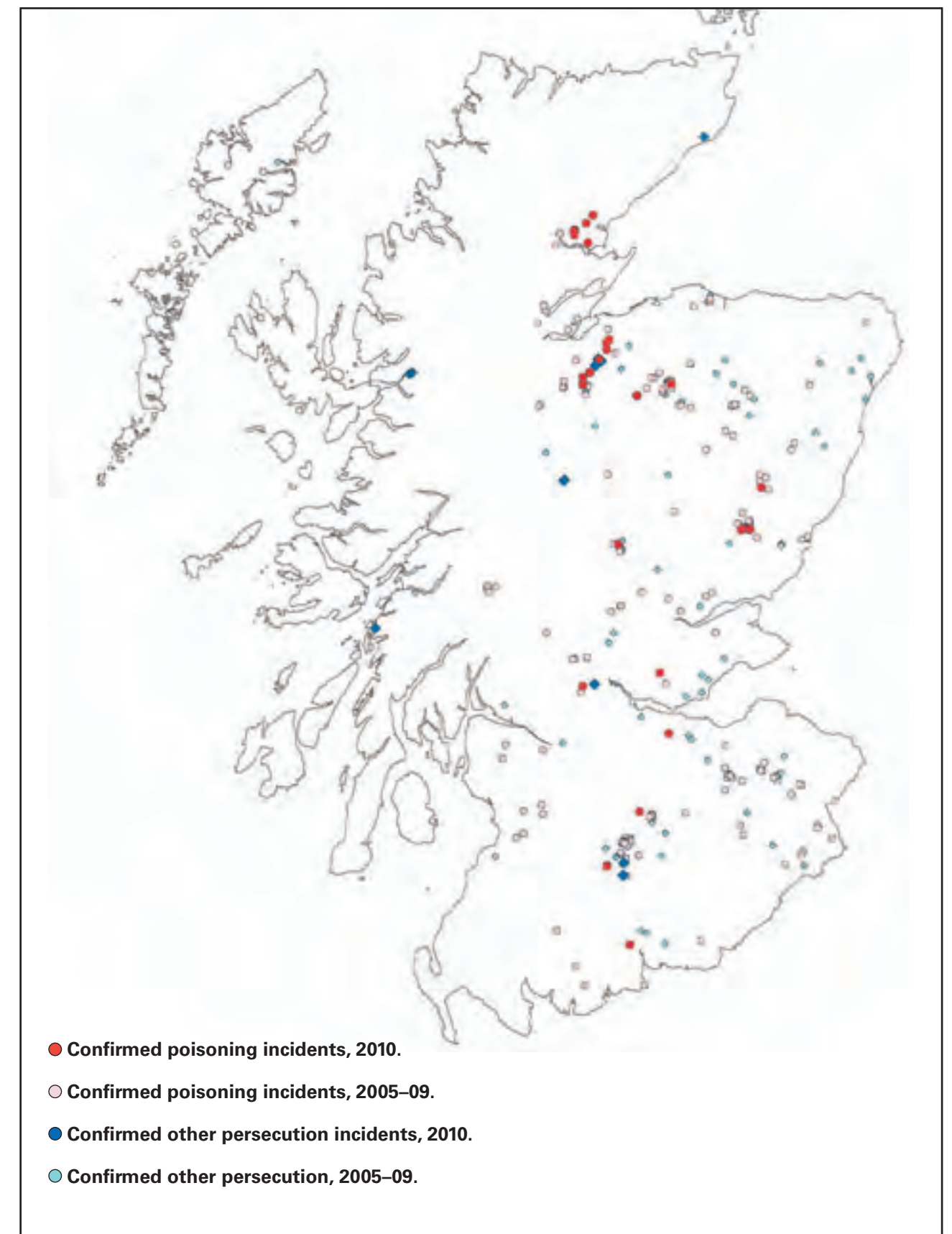
unacceptable levels and is still a significant threat to the populations and ranges of several scarce, slow breeding species.

The distribution of confirmed cases of illegal poisoning recorded over the last five years indicates that these offences continue to be widespread. The maps shown previously reinforce the fact that incidents are not evenly or randomly spread throughout the country, but are increasingly concentrated in the eastern and central Highlands and southern Uplands, co-incident with the distribution of driven grouse moors. Indeed this evidence coincides with a geographical analysis of the distribution of poisoning incidents published in the peer-reviewed scientific literature, which shows that the illegal use of poison baits to control predators is disproportionately associated with grouse moors in Scotland (Whitfield *et al*, 2003).

► Buzzards remain vulnerable to poison baits.



Figure 4: confirmed poisoning and other confirmed incidents of illegal killing of birds of prey in Scotland in 2005–2010.



The effects of illegal killing

Golden eagle



Golden eagle by John Pitcher (istockphoto.com)

The level of continued illegal killing of some of our most iconic species continues not only to be a stain on Scotland's reputation but also poses a threat to the populations of some of these species. Raptors' ecological characteristics make them particularly vulnerable to any additional mortality caused by deliberate killing. Raptors tend to be long-lived, breed slowly and produce few young. The killing of adult birds can thus quickly impact their conservation status.

Four of these magnificent birds were found poisoned in 2010, all in the Northern Police area. A total of 28 golden eagles have been the victims of illegal poisoning in the 1989-2010 period. An additional 17 other confirmed persecution incidents targeted this species during the same period.

In 2008, Scottish Natural Heritage (SNH) published *A Conservation Framework for Golden Eagles: implications for their conservation and management in Scotland*. This was produced in partnership with other members of the Scottish Raptor Monitoring Scheme: Scottish Raptor Study Groups, Rare Breeding Birds Panel, RSPB Scotland, BTO Scotland & Joint Nature

Conservation Committee. In summary, the report stated that:

"A number of lines of evidence indicated that illegal persecution of eagles, principally associated with grouse moor management in the central and eastern Highlands, is the most severe constraint on Scottish golden eagles. These lines of evidence, based on population modelling and analyses using a Geographical Information System (GIS) are as follows:

a) As carrion feeders, golden eagles are particularly vulnerable to poisoned bait. Records of the illegal use of poisoned baits were significantly associated with areas where grouse moors predominated as a land-use. There was no evidence of a decline in

records of poisoning on grouse moors between 1981 and 2000, even though poisoning incidents had declined in upland areas away from grouse moors;

b) Records of illegal persecution of golden eagles (including poisoning, trapping, shooting) were also more common in those regions where grouse moor management predominated."

Over the last five years, detected cases of confirmed poisoning of golden eagles all occurred in areas where the species is in unfavourable conservation status, (illustrated in Figure 3). This continues to indicate that illegal killing is a major constraint on the population.

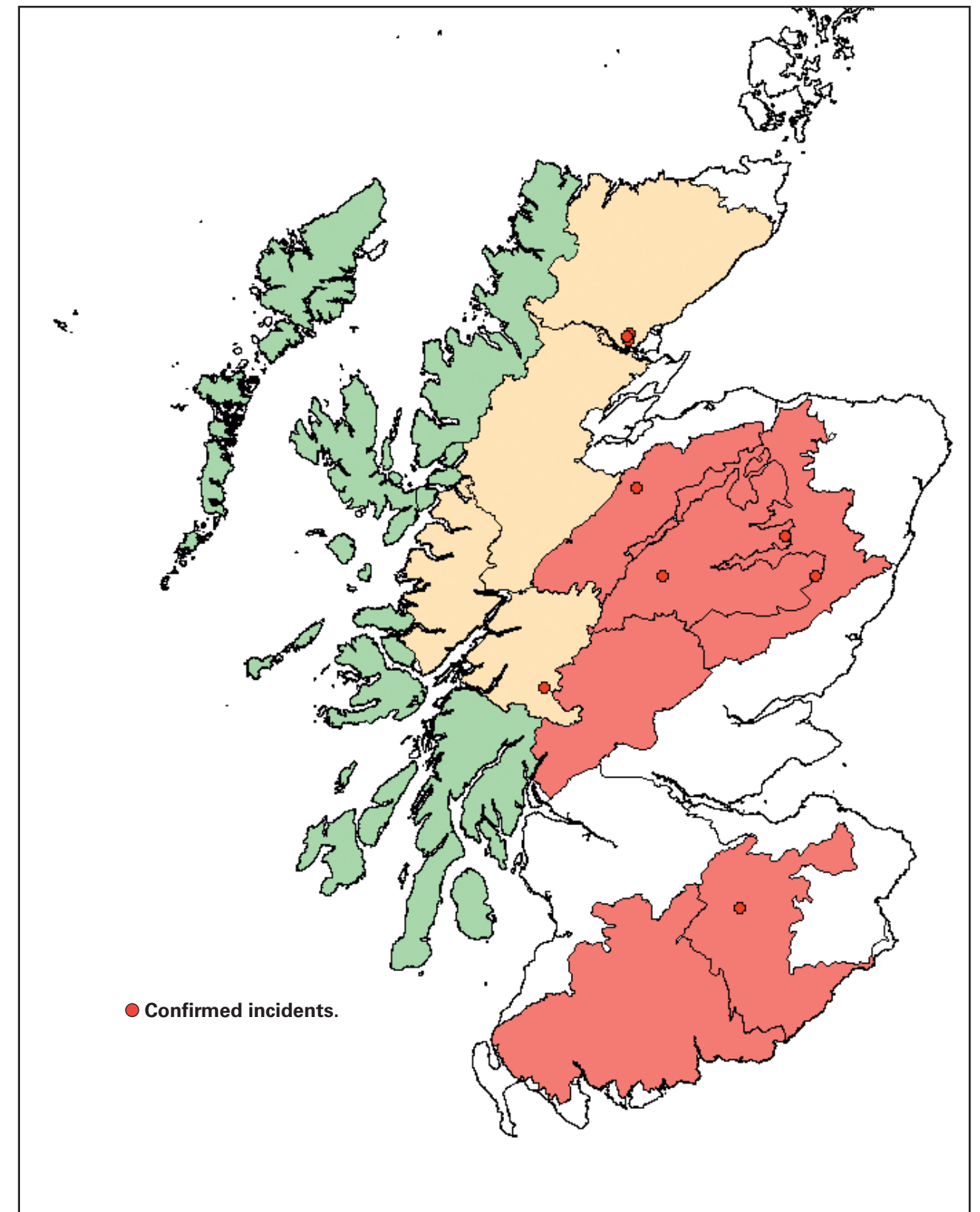


Figure 5: confirmed golden eagle poisoning incidents 2006–2010, overlaid on a map showing the conservation status of the species in natural heritage zones (as per Whitfield *et al*, 2008).

[Populations in each natural heritage zone were subjected to three tests for favourable conservation status: productivity, habitat occupancy and population density. Green = region in favourable conservation status; Amber = region in unfavourable conservation status, but failure in only one test, Red = region in unfavourable conservation status, with failure in more than one test. Areas left blank are those with little or no suitable habitat for breeding golden eagles.]

The effects of illegal killing

Hen harrier



A male hen harrier is released from an illegal baited spring trap, Moy, Inverness-shire, May 2010

Hen harrier in trap by RSPB Scotland

Survey results complemented the findings in *The Hen Harrier Framework*, published in early 2011 by the Joint Nature Conservation Committee, and including significant input from the Scottish Raptor Monitoring Scheme.

Their report concluded that illegal killing of hen harriers was the biggest factor affecting the status of the species, and was having a significant impact on the overall hen harrier population. Particular problems were identified on areas associated with "driven" grouse moor management, notably in the central and eastern Highlands and the southern Uplands of Scotland, as well as the Pennines in the north of England. Indeed, by 2008

only five breeding pairs of hen harriers fledged young on driven grouse moors anywhere in the UK, despite such areas having sufficient suitable habitat and good food supplies to support 500 pairs.

The research noted that agricultural improvement around moorland edges can adversely impact hen harriers, as has happened on Orkney (although the population is now recovering here). This is not considered to be a widespread issue on the mainland. The key issues determining the status of the species here were lack of suitable habitat or low prey availability, in the north and west of Scotland, and human interference elsewhere.

The study found that the density of hen harrier persecution incidents (recorded as confirmed and/or probable incidents) in Scotland is directly proportional to the percentage of a natural heritage zone (NHZ) classed as having muirburn (a surrogate for the distribution of grouse moor).

There was also a significant negative relationship between the density of hen harrier persecution incidents and the proportion of successful nests in an NHZ. Indeed, there was strong evidence in five NHZs that illegal persecution is causing the failure of a majority of breeding attempts, leading to reduced occupancy and/or fewer successful nests.

A considerable weight of previous peer-reviewed scientific studies, for example Whitfield *et al* (2008a), have found good evidence that hen harrier killing and nest destruction were linked to grouse moor management. Human interference was an important cause of breeding failures and was only recorded on land with an employed gamekeeper. The study also highlighted that when human interference is prevalent and when the frequency of observer monitoring of such harrier breeding attempts is low, then simple records of the number of observed failures (even if these could all be accurately ascribed to interference) will underestimate the actual number failing due to human interference.

Over the last four years (2007–2010), in Scotland, three confirmed incidents of hen harrier persecution have been detected, including two in 2010. During the same period, an additional 21 probable incidents were recorded where human interference with nests was considered highly likely. This included the disappearance of eggs, chicks or adult birds, no signs of predation and with supplementary evidence suggesting recent human activity at the site.

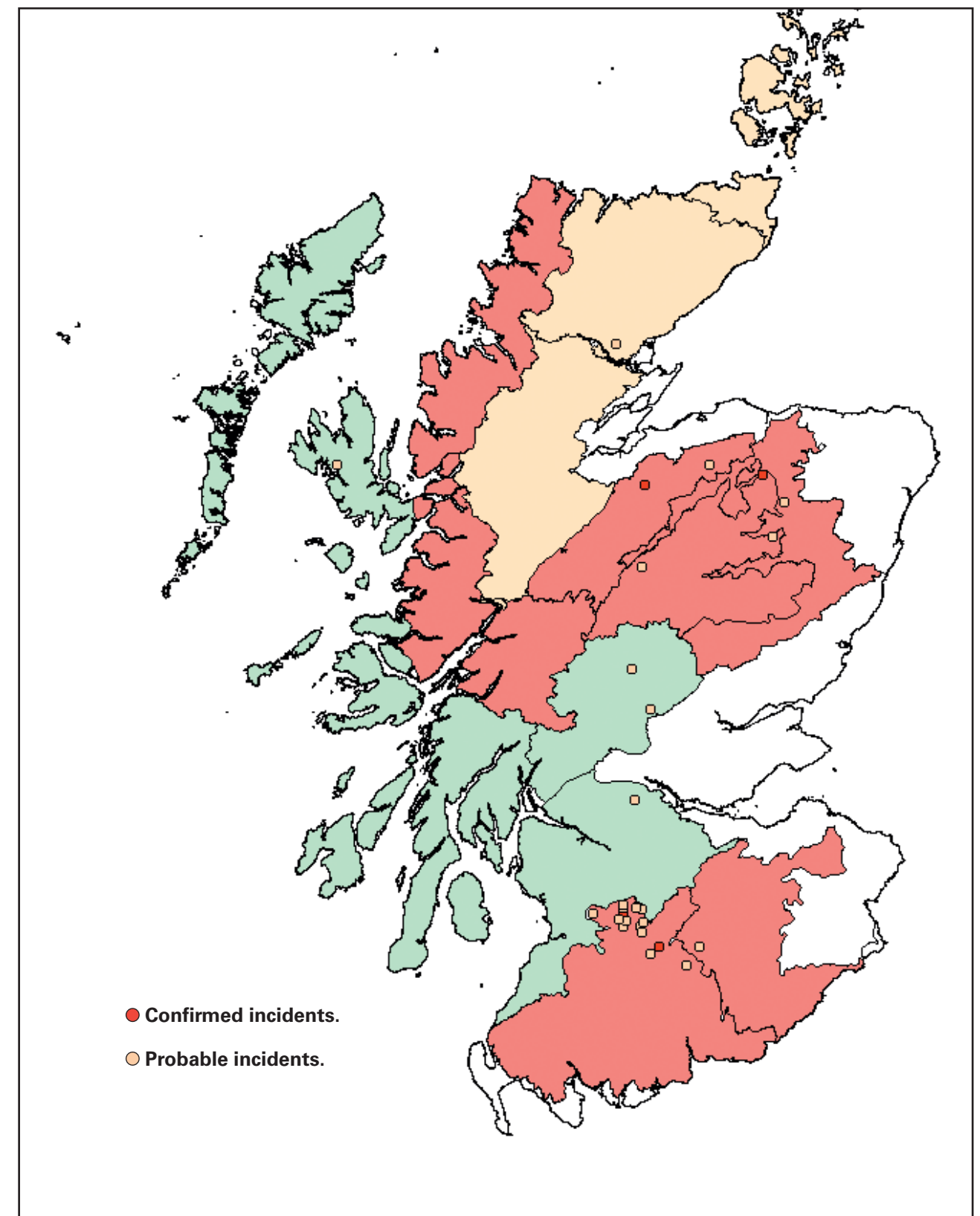


Figure 6: confirmed and probable incidents of hen harrier persecution, 2006–2010, overlaid on a map showing the conservation status of the species in natural heritage zones (adapted from Fielding *et al*, 2011).

[Populations in each natural heritage zone were subjected to three tests for favourable conservation status: productivity, habitat occupancy and population density. Green = region in favourable conservation status; Amber = region in unfavourable conservation status, but failure in only one test, Red = region in unfavourable conservation status, with failure in more than one test. Areas left blank are those with little or no suitable habitat for breeding harriers.]

The effects of illegal killing

Red kite



Red kite by mseideich (istockphoto.com)

This species became extinct in Scotland, because of sustained killing throughout the 19th century. The red kite is currently being re-introduced in joint projects run by Scottish Natural Heritage and RSPB Scotland, with significant and welcome support from local communities, landowners and their staff. This work has predominantly been successful.

However, compelling recent research by Smart *et al* (2010), into the reasons behind the low expansion rate of the red kite population of north Scotland, shows the species is being severely restricted by illegal killing. The study, conducted by RSPB Scotland and funded by Scottish Natural Heritage, compares the performance of two red kite populations where equal numbers of young birds were released over the same period as part of the initial phase of reintroducing the species in Scotland and England. The two sites were in the Chiltern Hills, in Buckinghamshire in southern England, and the Black Isle, in Ross-shire, in north Scotland.

Whilst the population in the

Chilterns has thrived, reaching approximately 320 breeding pairs from the beginning of the reintroduction in 1989 up until 2006, the Black Isle population has struggled, reaching just 41 pairs over the same period. This was much lower than expected, and by 2009 the population had still only reached 49 breeding pairs. This large and growing disparity in population sizes has raised concerns, leading some to suspect that the same human persecution that first drove the species to extinction in Scotland in the 1870s is still occurring today, notably in parts of Inverness-shire.

Close monitoring of both of the study populations showed that production of successfully reared

and fledged red kite chicks was very similar in north Scotland and the Chilterns, and indeed was amongst the highest in Europe. Thus, lack of food supply and poor breeding performance does not explain why the north Scotland population has struggled.

The analysis showed that low survival rates of young birds in their first and second years of life is the main factor limiting the north Scotland red kite population growth up until 2006, and that illegal killing accounts almost entirely for these poor survival prospects. Red kites in Scotland and England normally breed for the first time in their second, or more normally their third, year of life, so illegal killing is severely reducing the number of new

recruits to the breeding population in north Scotland.

In the absence of illegal killing, scientific modelling has shown that annual survival rates of young kites would have been high enough to allow the north Scotland red kite population to grow at the same rate as that seen in the Chilterns. By 2006, north Scotland should have held over 300 breeding pairs, 250 pairs more than the actual population size today. More encouragingly, if illegal killing were to cease, then the population is likely to respond

quickly, reaching 300 breeding pairs within the next 10 years. Red kites have been reintroduced to the UK since the late 1980s, but between 1989 and 2010, 71 individuals have been found illegally poisoned in Scotland. In England, 50 birds were found to have been illegally poisoned over the same period.

Seven poison abuse victims were found in 2010, with a further two birds the victims of other illegal killing. Five of the nine victims found during 2010 were in Inverness-shire.

▼ Red kites are still affected by illegal killing.



Red kite by Martin Pateman (istockphoto.com)

Investigation and prosecutions

RSPB Scotland staff have no statutory powers and do not undertake “policing”. Rather, we continue to liaise with all the Scottish Police forces, SGRPID and other agencies to provide assistance, advice and personnel for follow up investigations.

In addition, we submitted a considerable volume of intelligence, gleaned from a variety of sources, to the National Wildlife Crime Unit. In 2010, staff assisted with joint operations with other agencies and the statutory authorities in Sutherland, Stirlingshire and Inverness-shire. In addition, background information, impact statements and other expert testimony was provided to the Procurator Fiscal Service to assist in their consideration of a number of ongoing cases.



Golden eagle by scooperdigital (istockphoto.com)

Two 2009 cases were concluded in 2010:

- On 24 March 2010, at Perth Sheriff Court, a former gamekeeper of the Redmyre Estate was convicted of killing a wild bird under Section 1(1)(A) of the Wildlife and Countryside Act 1981 and of possession of a banned pesticide under Section 15A. Graham Kerr was fined £400 for shooting a buzzard, and admonished for possession of carbofuran and chloralose.
- On 17 November 2010, at Lanark Sheriff Court, a former gamekeeper of the Hopetoun/Leadhills Estate was convicted of positioning an article to kill a wild bird under Section 5 (1) (A) of the Wildlife and Countryside Act 1981. Lewis Whitham was found guilty of placing out a poison bait, laced with carbofuran, and was fined £800.

Both of these cases involved the prosecution of gamekeepers. Several other cases, arising from 2010 incidents, are either in the early stages of court proceedings or are being considered by the procurator fiscal.

Recent sentencing for crimes against birds of prey, other than in a few notable cases, has been relatively modest within the range of available penalties – in contrast with penalties given for guilty verdicts for egg-collecting offences that have included jail sentences. Indeed, for a significant number of charges where a guilty verdict was returned, the accused was admonished or given an absolute discharge.

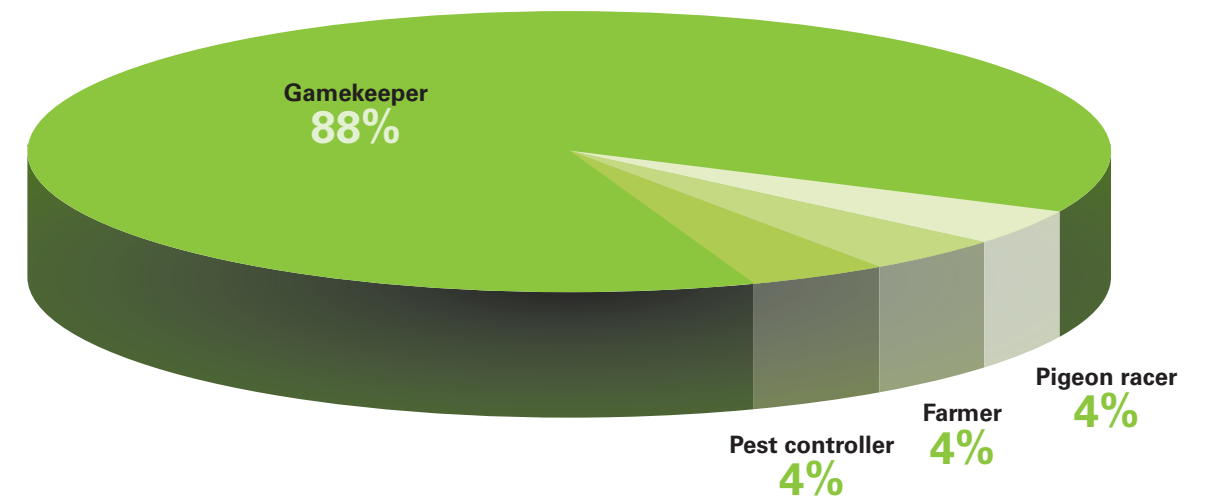
Poisoning and illegal killing has a far greater impact on the

populations of species of significant conservation interest than egg theft, but the Scottish courts have not yet translated this into sanctions when sentencing. We consider the impact of offences on the conservation status of birds illegally killed or put at risk should be a material consideration when assessing penalty levels.

In our opinion, the sentences imposed by the courts for cases involving the illegal killing or attempted illegal killing of birds of prey, and for the possession or use of banned pesticides, seldom appear to have deterrent value.

Two prosecutions for offences in 2010 were completed in May 2011. These have previously been discussed on pages 18 and 19 of this report.

Figure 6: occupations/interests of people convicted for poisoning or illegal killing of birds of prey in Scotland, 2003–10 (24 convictions)



▼ **Hen harrier: Scotland's most persecuted bird of prey species.**



Hen harrier by Steve Knell (rspb-images.com)

The Wildlife and Natural Environment (Scotland) Act

The Wildlife and Natural Environment (Scotland) Act was passed by the Scottish Parliament on 3 March 2011. The Act delivers a range of measures which updates legislation protecting Scottish wildlife and ensures that legislation which regulates and manages the natural environment is fit for purpose.

The Act has:

modernised game law; abolished the designation "areas of special protection"; improved snaring practice; regulated invasive non-native species; changed the licensing system for protected species; amended current arrangements for deer management and deer stalking; strengthened protection of badgers; changed how muirburn can be practised; and made operational changes to the management of Sites of Special Scientific Interest. During the various committee stages of the Bill's progress, a number of amendments were incorporated, most notably introducing vicarious liability offences to the (amended) Wildlife & Countryside Act 1981. There will also be an annual report on wildlife crime presented to the Scottish Parliament, and a commitment to review the success of the new provisions in reducing the levels of illegal killing of birds of prey.

When introducing the closing debate, prior to the unanimous passing of the Bill, Environment Minister Roseanna Cunningham MSP said "Wildlife crime has loomed over many debates. The scrutiny of the Bill sends the message that we are not prepared to tolerate continued

persecution of our magnificent birds of prey. I say to those who question whether the problem persists, that they should look at the facts. Despite sensationalist pronouncements on one side and almost denialist pronouncements on the other, we know that we continue to find birds poisoned in our countryside. As I have said before, that is a wholly unacceptable state of affairs.

"It should now be clear to those who might have doubted us or to those who thought that they could call our bluff, that the Government is prepared to act to introduce new measures to combat wildlife crime. If the motion to pass the Bill is agreed to, we will press ahead to work with land managers to produce guidance on the new vicarious liability offences, to ensure that everyone has the advice that they need before the planned commencement of provisions this autumn. In looking to the future, we should all hope for an end to the behaviour of the unscrupulous minority who repeatedly tarnish the reputation of the majority of responsible estates in Scotland."

RSPB Scotland welcomes the introduction of this important new legislation and the clear statements made by the Minister

and shadow spokesman in the closing debate. We look forward to assisting the Scottish Government and statutory agencies in ensuring that all efforts are made to bring the perpetrators of crimes against birds of prey before the courts. We also want to work positively with those estates and individuals who share our commitment to Scotland's wildlife and through their leadership and good practice, set an example to their fellows.

► An RSPB Scotland staff member, acting under a Schedule 1 licence, examines a hen harrier nest on a Sutherland moor.



Conclusions

In Scotland in 2010, the illegal killing of birds of prey continued, seemingly unabated, particularly in upland areas managed for driven grouse shooting. An increasing volume of factual and scientific evidence demonstrates the adverse impact such illegal killing has on the populations of some of our most iconic native birds of prey. It remains apparent that a significant number of people, who own, manage or are employed on some upland sporting estates in particular, have no qualms about flouting the law. The use of illegal and highly toxic chemicals to lace baits placed in the open in our countryside indiscriminately risks the lives, not just of wild birds and mammals, but domestic pets, livestock and even potentially people as well.

We welcome the improved legislation included in the Wildlife and Natural Environment

(Scotland) Act 2011. We commend the continued commitment to PAWS by the Scottish Government, which has encouraged increased partnership working and a greater awareness amongst the landowning sector, as well as law-enforcement and prosecution agencies. Although to date there has been no discernible decline in the criminal destruction of birds of prey (certainly in parts of upland Scotland), RSPB Scotland is committed to continue to play a full role in the PAWS process and to ensure that tangible outputs are delivered to reduce the illegal killing of birds of prey significantly, alongside other wildlife crimes. We believe that improved enforcement activity will provide a deterrent to those who may be considering illegal activity.

It is evident, from long-term population studies and from anecdotal evidence, that the

victims of illegal killing documented in this and previous reports represent the tip of a significant iceberg. The chances of an incident being found are small; of a suspect being identified and charged remote; and of a successful conviction, seemingly negligible.

The odds still need to be changed so that the enforcement agencies are better resourced, the prosecutors are more experienced and the sentences given to those convicted are much more meaningful. When this has happened, then we might see a real improvement in the conservation status of some of our most vulnerable bird of prey species. Equally, we would welcome an even greater openness and leadership from landowning representatives in tackling its problem. Put simply, only they can resolve this issue.



▲ Spring traps illegally set in the open, beside a bait, Moy, Inverness-shire, June 2010

Acknowledgements and references

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We are grateful for the financial support we receive towards our investigations and species protection work from Scottish Natural Heritage, and for the additional funding received from Scottish Power Renewables, without which much of the work reported here could not continue.



White-tailed eagle by Chris Gomersall (rspb-images.com)

▲ White-tailed eagle

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RSPB Scotland is part of the RSPB, which speaks out for birds and wildlife, tackling the problems that threaten our environment. Nature is amazing – help us keep it that way.

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Cover picture: poisoned golden eagle, Bridge of Orchy, Argyll, by RSPB Scotland

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