Pesticide poisoning of animals in 2006

Investigations of suspected incidents in the United Kingdom





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A report of the Environmental Panel of the Advisory Committee on Pesticides 2007

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Preface

Firstly I would like to take this opportunity to introduce myself as the newly appointed Chair of the Environmental Panel of the Advisory Committee on Pesticides (ACP), a role I took over from Professor Robert Smith on 1 January 2007. I became a member of the ACP four years ago and am currently working as professor of environment biology at The University of Sheffield.

I am pleased to introduce the pesticide poisoning of animals report for 2006. This report is based on information gathered under the long-running Wildlife Incident Investigation Scheme (WIIS). The percentage of incidents where a cause was found has dropped slightly compared to 2005. However, there were more cases accepted into the scheme in 2006. There were two approved-use incidents in 2006, the same number as in 2005.

The WIIS is supported by Defra's Campaign Against Illegal Poisoning of Animals. This campaign provides advice on legal ways of controlling pests and reporting illegal poisoning. In 2006, new leaflets and posters were distributed to interested parties including agricultural and veterinary colleges. Members of the campaign team attended a series of agricultural and pest-control shows and events. The campaign also makes clear that those who deliberately abuse or misuse pesticides in a way which could harm birds, mammals and bees will be prosecuted.

In 2006 results were published every three months on the PSD website at www.pesticides.gov.uk. Maps of where closed cases have arisen are also available on the website.

I am grateful for the dedicated work of everyone involved in running this important programme. They give me regular updates throughout the year and are always ready to provide more information when necessary.

L. Melthy

Professor Lorraine Maltby Chair of the Environmental Panel of the Advisory Committee on Pesticides

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Summary

The Wildlife Incident Investigation Scheme investigates deaths of animals and wildlife (including pets, working dogs, some livestock and bees) in the UK if there is evidence to suggest that they may have been poisoned or put at risk by pesticides. The scheme provides a unique way of monitoring pesticide use. It can be used to measure the success of, and refine, the pesticide-approval processes run by the Pesticides Safety Directorate (PSD) and the Health and Safety Executive (HSE). Evidence from the scheme is also used to enforce laws on the safe use of pesticides.

In 2006, 390 suspected poisoning incidents were reported under the scheme. 343 of these involved vertebrates (animals with a backbone or spinal column), 15 involved bees, and in 40 cases suspicious materials or substances were found, but no dead animals. In many cases, animal deaths are found to be the result of causes unrelated to pesticides (for example, disease, starvation, injury and other poisonings). The cause of death was found in 183 incidents, of which 111 (28.5% of all incidents reported) were pesticide poisoning. In the remaining incidents, there was either too little information, not enough suitable tissues for analysis, or no pesticide residues found. All of this information is shown in table 1 on page 12.



Figure1: causes of all incidents in the UK involving pesticides in 2006

All pesticide incidents reported under the scheme are classed as being in one of the following four categories – approved use, misuse, abuse and unspecified use.

- Approved use the product has been used according to the conditions of its approval. In 2006, there were two incidents resulting from approved use of rodenticides. This is equal to 1.8% of all confirmed poisonings. Appendix 1 contains details of these incidents.
- Misuse the product has not been used according to the conditions of its approval, but often just carelessly, without the intention of harming animals. In 2006, there were 22 incidents resulting from misuse. This is equal to 20% of all confirmed poisonings. One of these incidents involved bees. Appendix 2 contains details of these incidents and any follow-up action taken.
- Abuse a pesticide has been deliberately and illegally used to poison, or to try to poison, animals. In 2006, there were 67 incidents resulting from abuse. This is equal to 60% of all confirmed poisonings. None of these incidents involved bees. Appendix 3 contains details of these incidents and any follow-up action taken.
- Unspecified use the source of the pesticide is uncertain, or the incident could not be classed as being in one of the other categories. In 2006, there were 19 incidents resulting from unspecified use. This is equal to 17% of all confirmed poisonings. One incident involved bees. These incidents were put down to unspecified use as there was not enough information available to identify the source of the poisoning, or the other categories (approved use, misuse or abuse) did not apply. Appendix 4 contains details of these incidents and any follow-up action taken.

There is also a 'veterinary use' category if veterinary products have been involved in incidents. Veterinary-use incidents may arise from abuse, misuse, approved use or unspecified use of veterinary products. These incidents are not formally included in the scheme. In 2006, there was one incident resulting from veterinary use. Details of this incident are in appendix 4. If a veterinary medicine is suspected of being involved, it should be reported to the Veterinary Medicines Directorate (phone: 01932 338427).

In 2006, out of 15 suspected poisoning of honeybees reported under the scheme, there were two incidents of honeybees being poisoned by pesticides (see table 17 on page 23).

All incidents where pesticides are thought to be involved are thoroughly investigated. If there is evidence of misuse or abuse of a pesticide, this may result in legal action. Approved use or misuse incidents may highlight issues (such as the conditions of approval or the instructions for use) which need attention. In 2006, there were no approved or misuse incidents which indicated any need to look again at any conditions of approval. All aspects of advertising, selling, supplying, storing and using pesticides are regulated by a number of environmental protection and pesticide laws. If incidents show that these or any other laws (such as the Wildlife and Countryside Act 1981, the Wildlife (Northern Ireland) Order 1985, the Protection of Animals Act 1911 or the Welfare of Animals Act (Northern Ireland) 1972) have been broken, a prosecution or other legal action may follow.

Detailed findings are included in appendices 1, 2, 3 and 4, and further information on the 2006 cases can be found on the PSD website (www.pesticides.gov.uk/environment.asp?id=58).

Government departments are committed to using all enforcement methods available to help stamp out illegal poisoning. If the information collected on an incident indicates that pesticide laws may have been broken, a range of regulatory action is considered.

If there seems to be enough evidence of illegal activity, cases are referred to be investigated and court action may be taken. Any fines and costs that have to be paid, together with the publicity such cases attract, encourage others to use pesticides safely.

Even if there is not enough evidence for a formal investigation or prosecution, other action (for example, using enforcement notices or sending out warning letters) may be taken. Also, it may sometimes be appropriate to refer an incident to another authority, such as the police. In these circumstances, Defra will offer help and advice to that authority.

In 2006, enforcement action was considered for 46 incidents. A variety of regulatory action was taken in a number of cases. A lot of this action involved helping the police by producing witness statements, giving advice on matters relating to pesticides and providing information on the approval of products. One incident was referred to Defra's Investigation Services.

Positive enforcement action continues to be a priority to tackle pesticide abuse.

- Incidents resulting from approved use Scottish Executive Environment and Rural Affairs Department (SEERAD) investigated the two cases but did not take any enforcement action.
- Incidents resulting from misuse enforcement action was taken for 14 cases. HSE took forward one case which involved rodenticides, and had human health issues, and seven cases are still being investigated.
- Incidents resulting from abuse 29 cases were taken forward for enforcement action. Of these, eight were investigated by the police, one by Defra's Investigation Services, one by the RSPCA, three by SEERAD and 16 by both the police and SEERAD. Eight cases are still being investigated.
- **Unspecified use** one case was investigated by HSE, due to suspected risk to human health. However, no further action was taken.

Campaign Against Illegal Poisoning of Animals

The Wildlife Incident Investigation Scheme is supported by the Campaign Against Illegal Poisoning of Animals. The campaign's work is funded and lead by PSD, working with other interested organisations including the RSPCA, RSPB, English Nature (Natural England from 1 October 2006), the Countryside Alliance, the Game Conservancy Trust and the Country Land and Business Association.

The campaign aims to promote responsible use of pesticides by:

- giving farmers, gamekeepers and other land managers advice on legal ways of controlling pests; and
- telling the public how to report illegal poisoning.

The campaign has a freephone line (0800 321600) for the public to report incidents.

You can get more information on the work of the campaign off the PSD website at www.pesticides.gov.uk/environment.asp?id=504



Figure 2: percentages of reported incidents in 2006 by cause of incident

More detailed information about the results in 2006 is given in the tables on pages 12 to 25. There is also information about incidents involving baits and suspicious pesticide samples.

Acknowledgements

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- David Graham of the Department of Agriculture, Food and Rural Development (DARD) for providing the results from Northern Ireland.
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- Colleagues in Defra, SEERAD, the Agricultural Rural Affairs Department (ARAD), DARD, SASA and CSL who have taken part in investigations during 2006.
- All people and organisations who have supported the Wildlife Incident Investigation Scheme by reporting incidents, sending in evidence, providing information or contributing in other ways.

Table 1: numbers of incidents reported under the scheme in 2006

In inves	cidents tigated	Pesticide poisoning incidents	Other cause of death found	Incidents where the cause of death was not found					
Vertebrate wildlife	240	70 (29%)	65 (27%)	105 (44%)					
Pets, working animals and domestic animals	97	24 (25%)	6 (6%)	67 (69%)					
Livestock	5	2 (40%)	0	3 (60%)					
Bees	15	2 (13%)	0	13 (87%)					
Suspected baits and suspicious samples	41	16 (39%)	1 (2%)	24 (59%)					
Total	390	111 (28.5%)	72 (18.5%)	207 (53%)					
(A single incident may involve animals from r	(A single incident may involve animals from more than one category.)								

Table 2: incidents investigated by country in 2006

(Text in brackets shows the number and percentage of incidents confirmed as pesticide poisoning)

	England	Wales	Scotland	Northern Ireland	Totals
Vertebrate wildlife	70 (21, 30%)	41 (5, 12%)	120 (39, 33%)	9 (3,33%)	240
Pets, working animals and domestic animals	36 (15, 42%)	4 (1, 25%)	35 (6, 17%)	22 (2, 9%)	97
Livestock	1 (1, 100%)	0	4 (1, 25%)	0	5
Bees	10 (2, 20%)	1 (0)	4 (0)	0	15
Suspected baits and suspicious samples	25 (12, 48%)	0	15 (4, 27%)	1 (0)	41
Total	135 (48, 36%)	46 (6, 13%)	177 (52, 29%)	32 (5, 16%)	390
(A single incident may involve animals from	more than one c	ategory.)			

Table 3: number of incidents in which pesticides were identified as a likely cause of poisoning (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Vertebrate wildlife	54	49	57	68	55	63	63	62	55	68
Livestock	1	4	2	0	0	1	0	1	1	2
Pets, working animals										
and domestic animals	86	90	48	58	34	45	42	26	24	24
Exotic animals	0	2	0	0	0	0	0	0	0	0
Earthworms	0	1	1	0	0	0	0	0	0	0
Bees	15	12	9	13	5	5	8	4	1	2
Suspected baits and										
suspicious samples	32	29	22	28	16	20	14	16	23	18
Total	185	185	139	162	109	131	126	104	103	111

In 2000, four of the incidents involving bees were probably associated with one application of pesticide. A single incident may involve animals from more than one category.

Tables of pesticide poisoning of animals in 2006

Table 4: the number of incidents attributed to a pesticide in 2006 and the species or material involved

(Some incidents involved more than one pesticide.)

Organochlorine compounds		
endrin	1	sample
lindane	5	dog, sample
Organophosphorus compounds		
chlorpyrifos	1	pesticide sample
diazinon (veterinary product)	1	red kite
heptenophos	1	sample
isofenphos	4	bait, pesticide sample
mevinphos	4	raven, bait, pesticide sample, sample
phorate	2	buzzard, cow
triazophos	1	sample
Carbamate compounds		
aldicarb	9	buzzard, gull, jackdaw, raven, cat,
		dog, bait, pesticide sample
bendiocarb	2	magpie, raven, dog, honeybee, bait
carbofuran	38	buzzard, hooded crow, crow,
		golden eagle, jackdaw, magpie,
		peregrine, raven, red kite, fox,
		cat, bait, pesticide sample
carbosulfan	2	raven, bait, sample
methiocarb	3	sample
methomyl	1	bait, pesticide sample
pirimicarb	1	sample
Rodenticides		
brodifacoum	5	barn owl, fox, stoat, dog
bromadiolone	19	barn owl, buzzard, red kite, tawny owl,
		fox, grey squirrel, cat, dog, grain bait
chlorophacinone	2	sample
coumatetralyl		fox, dog, bait
difenacoum	20	barn owl, buzzard, red kite, fox, rabbit,
		rat, stoat, weasel, cat, dog, peacock, bait
flocoumafen	2	bait, wax block
warfarin	1	sample

There were also 34 incidents where residues of one or more of these rodenticides were found and were considered to be at levels below those known to kill. There was also one incident where a sparrowhawk had a background residue of DDE and honeybees with a residue of lindane at a level below that known to kill. There were six incidents where baits had low-level residues of other rodenticides.

Tables of pesticide poisoning of animals in 2006

Table 4: the number of incidents attributed to a pesticide in 2006 and the species or material involved (continued)

Herbicides		
МСРА	2	pesticide sample
diquat	1	hare
paraquat	4	fox, hare, cat, dog, pesticide sample
Fungicides		
boscalid/pyraclostrobin	1	horse, grass sample
dichlobenil	1	pesticide sample
prothioconazole/tebuconazole/		
triazoxide	1	seed
Other compounds		
alphachloralose	16	buzzard, chaffinch, magpie,
		peregrine, red kite, rook, tawny owl,
		cat, bait, pesticide sample
aluminium phosphide	2	badger sett, fox earth
cypermethrin	2	honeybee, pesticide sample
lambda-cyhalothrin	1	horse, grass sample
metaldehyde	8	dog, cow, badger sett, bait,
		pesticide sample
permethrin	1	sample
sodium cyanide	2	pesticide sample
strychnine	2	pesticide sample
Causes of death other than pesticides		
disease	22	ethylene glycol 1
starvation	13	euthanased (put down) 4
injury	29	lead 1
not applicable	23	paracetamol 1
unknown	184	slurry 1

Table 5: numbers of incidents involving wild mammals in 2006

(A single incident may involve animals from more than one category.)

		Number of incidents investigated	Number in which pesticide poisoning was identified	Number in which another cause of death was identified	Number where the cause of death was not found
badger	England	5	0	5	0
	Wales	4	0	2	2
		9	0	7 (78%)	2 (22%)
fox	England	9	5	4	0
	Scotland	5	4	0	1
		14	9 (64%)	4 (29%)	1 (7%)
hedgehog	England	2	0	2	0
	Wales	1	0	1	0
		3	0	3 (100%)	0
squirrel	England	2	1	1	0
	Scotland	2	0	0	2
	Northern Ireland	d 1	0	0	1
		5	1 (20%)	1 (20%)	3 (60%)
otter	Wales	1	0	0	1
	Northern Ireland	d 1	0	0	1
		2	0	0	2 (100%)
rabbit and hare	England	6	2	3	1
	Scotland	2	0	1	1
	Northern Ireland	d 1	2	0	1
		9	2 (25%)	4 (44.5%)	3 (33.5%)
bat	Scotland	1	0	0	1
deer	England	1	0	1 (100%)	0
mole	Scotland	1	0	0	1 (100%)
rat	England	4	2 (50%)	1 (25%)	1 (25%)
ferret	Scotland	1	0	0	1 (100%)
stoat	England	1	1 (100%)	0	0
weasel	England	1	1 (100%)	0	0
Totals	England	26	10 (38%)	14 (54%)	2 (8%)
	Wales	6	0	3 (50%)	3 (50%)
	Scotland	12	4 (33.5%)	1 (8%)	7 (58.5%)
	Northern Ireland	d 3	0	0	3 (100%)
	Total	47	14 (30.5%)	18 (38%)	15 (32%)

Table 6: incidents involving wild mammals (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	85	68	54	56	30	52	44	49	53	47
Number of										
incidents involving										
pesticides	16	8	17	9	7	11	10	9	12	14
	(19%)	(12%)	(31%)	(16%)	(23%)	(21%)	(23%)	(18%)	(23%)	(30%)

Table 7: incidents involving foxes (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	33	27	24	28	9	24	11	15	23	14
Number of										
incidents involving										
pesticides	11	4	10	7	3	7	5	5	6	9
	(33%)	(15%)	(42%)	(25%)	(33%)	(29%)	(45%)	(33%)	(26%)	(64%)

Table 8: number of incidents involving wild birds in 2006

(A single incident may involve birds from more than one category.)

		Total number of incidents investigated	Number in which pesticide poisoning was identified	Number in which another cause of death was identified	Number where the cause of death was not found
buzzard	England	10	6	2	2
	Wales	10	0	1	9
	Scotland	46	18	12	16
	Northern Ireland	2	2	0	0
	Total	68	26 (38%)	15 (22%)	27 (40%)
golden eagle	Scotland	5	2 (40%)	1 (20%)	2 (40%)
goshawk	Wales	1	0	1 (100%)	0
hen harrier	Scotland	1	0	0	1 (100%)
marsh harrier	England	1	0	1 (100%)	0
kestrel	England	2	0	1	1
	Scotland	2	0	0	2
	Total	4	0	1 (25%)	3 (75%)
peregrine falcon	England	2	0	1	1
	Wales	1	1	0	0
	Scotland	3	1	1	1
	Total	6	2 (33%)	2 (33%)	2 (33%)
red kite	Wales	8	4	1	3
	Scotland	12	8	0	4
	Total	20	12 (60%)	1 (5%)	7 (35%)
sparrowhawk	England	2	0	0	2
	Wales	3	0	1	2
	Scotland	6	0	3	3
	Total	11	0	4 (36%)	7 (64%)
barn owl	England	3	1	0	2
	Wales	2	0	1	1
	Scotland	4	1	0	3
	Total	9	2 (22%)	1 (11%)	6 (67%)
eagle owl	Scotland	1	0	0	1 (100%)
long-eared owl	England	1	0	0	1 (100%)
short-eared owl	Wales	1	0	1 (100%)	0
tawny owl	England	3	1 (33%)	1 (33%)	1 (33%)
	Scotland	3	1	1	1
	Total	6	2 (33%)	2 (33%)	2 (33%)
chough	England	1	0	1 (100%)	0
crow	England	6	0	1	5
	Wales	2	0	1	1
	Scotland	10	3	2	5
	Total	18	3 (17%)	4 (22%)	11 (61%)

Table 8: number of incidents involving wild birds in 2006 (continued)

(A single incident may involve birds from more than one category.)

	i	Total number of incidents nvestigated	Number in which pesticide poisoning was identified	Number in which another cause of death was identified	Number where the cause of death was not found
jackdaw	England	1	1	0	0
	Scotland	2	0	0	2
	Total	3	1 (33%)	0	2 (67%)
magpie	England	4	3	0	1
	Wales	1	0	0	1
	Scotland	2	0	0	2
	Total	7	3 (43%)	0	4 (57%)
raven	England	3	3	0	0
	Scotland	9	7	1	1
	Total	12	10 (83%)	1 (8.5%)	1 (8.5%)
rook	England	1	0	1	0
	Scotland	1	0	0	1
	Northern Ireland	1	1	0	0
	Total	3	1 (33%)	1 (33%)	1 (33%)
cormorant	Scotland	1	0	0	1 (100%)
lapwing	Wales	1	0	1 (100%)	0
moorhen	England	1	0	0	1 (100%)
oyster catcher	Scotland	1	0	0	1 (100%)
shag	Wales	1	0	0	1 (100%)
duck	England	1	0	1 (100%)	0
mallard duck	Scotland	2	0	0	2 (100%)
swan	Wales	1	0	0	1
	Scotland	3	0	0	3
	Total	4	0	0	4 (100%)
whooper swan	Northern Ireland	1	0	1 (100%)	0
gull	England	3	0	2	1
	Scotland	3	1	0	2
	Total	6	1 (17%)	2 (33%)	3 (50%)
pigeon and dove	England	2	0	0	2
	Wales	4	0	0	4
	Scotland	6	0	2	4
	Northern Ireland	1	0	0	1
	Total	13	0	2 (15%)	11 (85%)
blackbird	England	2	0	2 (100%)	0
chaffinch	Northern Ireland	1	1 (100%)	0	0
kingfisher	Wales	1	0	0	1 (100%)

Table 8: number of incidents involving wild birds in 2006 (continued)

(A single incident may involve birds from more than one category.)

	- numbo incid investig	Fotal er of lents ated	Number in which pesticide poisoning was identified	Number in which another cause of death was identified	Number where the cause of death was not found
red wing	Wales	1	0	1 (100%)	0
siskin	Scotland	1	0	0	1 (100%)
starling	England	1	0	0	1
	Wales	1	0	1	0
	Scotland	1	0	0	1
	Northern Ireland	1	0	0	1
	Total	4	0	1 (25%)	3 (75%)
thrush	Wales	1	0	1	0
	Scotland	1	0	0	1
	Total	2	0	1 (50%)	1 (50%)
	Total in England	45	12 (27%)	14 (31%)	19 (42%)
	Total in Wales	35	5 (14%)	9 (26%)	21 (60%)
	Total in Scotland	108	37 (34%)	23 (21.5%)	48 (44.5%)
	Total in Northern Ireland	6	3 (50%)	1 (17%)	2 (33%)
		194	57 (29.5%)	47 (24%)	90 (46.5%)

Table 9: incidents involving wild birds (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of incidents										
investigated	155	192	151	178	150	184	167	147	160	194
Number of incidents involving										
pesticides	41	42	43	59	48	56	56	51	43	57
	(26%)	(22%)	(28%)	(33%)	(32%)	(30%)	(34%)	(35%)	(27%)	(29.5%)

Table 10: incidents involving birds of prey (including owls) (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	84	97	98	136	111	129	136	109	121	132
Number of										
incidents involving										
pesticides	21	29	33	52	41	40	45	42	34	45
	(25%)	(30%)	(34%)	(38%)	(37%)	(31%)	(33%)	(39%)	(28%)	(34%)

Table 11: incidents involving corvids (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of incidents										
investigated	22	26	19	13	12	22	22	15	15	41
Number of incidents involving										
pesticides	9	4	9	4	4	8	10	10	5	15
	(41%)	(15%)	(47%)	(31%)	(33%)	(36%)	(45%)	(67%)	(33%)	(37%)

Table 12: number of incidents involving pets, working animals and domestic animals in 2006

	N	lumber of incidents vestigated	Number in which pesticide poisoning was identified	Number in which another cause of death was identified	Number where the cause of death was not found
cat	England	15	5	2	8
	Wales	1	0	1	0
	Scotland	9	1	0	8
	Northern Ireland	6	1	0	5
	Total	31	7 (22.5%)	3 (10%)	21 (67.5%)
dog	England	18	9	1	8
	Wales	2	1	0	1
	Scotland	21	5	0	16
	Northern Ireland	15	1	0	14
	Total	56	16 (28.5%)	1 (2%)	39 (69.5%)
guinea pig	England	1	0	1 (100%)	0
rabbit	England	1	0	1 (100%)	0
Koi carp	England	1	0	0	1 (100%)
horse	England	2	1	1	0
	Scotland	2	0	0	2
	Total	4	1 (25%)	1 (25%)	2 (50%)
black eagle	Scotland	1	0	0	1 (100%)
eagle owl	Scotland	1	0	0	1 (100%)
cockatiel	Northern Ireland	1	0	0	1 (100%)
Harris hawk	Wales	1	0	0	1
	Scotland	1	0	0	1
	Total	2	0	0	2 (100%)
peacock	England	1	1 (100%)	0	0
	Total in England	36	15 (42%)	5 (14%)	16 (44%)
	Total in Wales	4	1 (25%)	1 (25%)	2 (50%)
	Total in Scotland	35	6 (17%)	0	29 (83%)
	Total in Northern In	eland 22	2 (9%)	0	20 (91%)
		97	24 (25%)	6 (6%)	67 (69%)
livestock	Total in Scotland	4	1	0	3
	Total in England	1	1	0	0
		5	2 (40%)	0	3 (60%)

Table 13: incidents involving pets, working animals and domestic animals (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	253	235	149	160	109	150	130	95	98	97
Number of										
incidents involving										
pesticides	86	90	48	58	34	45	42	25	24	24
	(34%)	(38%)	(32%)	(36%)	(31%)	(30%)	(32%)	(26%)	(24%)	(25%)

Table 14: incidents involving cats (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	110	91	58	63	41	40	35	32	30	31
Number of										
incidents involving										
pesticides	41	35	14	19	12	12	7	7	6	7
	(37%)	(38%)	(24%)	(30%)	(29%)	(30%)	(20%)	(22%)	(20%) ((22.5%)

Table 15: incidents involving dogs (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	138	149	89	98	63	104	91	55	62	56
Number of										
incidents involving										
pesticides	47	60	34	40	21	33	34	18	16	16
	(34%)	(40%)	(38%)	(41%)	(33%)	(32%)	(37%)	(33%)	(26%) ((28.5%)

Tables of pesticide poisoning of animals in 2006

Table 16: number of incidents involving bees in the UK during 2006

Number of incidents investigate	ed: 15		
Number of incidents caused by	pesticides: 2		
Pesticide found	Number of incidents	Number of colonies affected	
Carbamate compounds: bendiocarb	1	2	
Pyrethroid compounds: cypermethrin	1	1	
Total	1	3	
There were also two incidents where	small residues of fluvalinate	were found and one incident where small residues of l	lindane
were found. See appendix 4 for furth	er details.		

Table 17: incidents involving bees 1997 to 2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	40	43	28	45	23	25	24	23	17	15
Number of										
incidents involving										
pesticides	15	12	9	10	5	5	8	4	1	2
	(38%)	(28%)	(32%)	(22%)	(22%)	(20%)	(33%)	(17%)	(6%)	(13%)

Table 18: pesticides found in incidents involving bees in the UK during 2006

Month	Location	Number of colonies in apiary	Number of colonies affected	Pesticide involved	Level detected
September	Hampshire	2	1	cypermethrin	0.0059 micrograms per bee
October	South Yorkshire	2	2	bendiocarb	0.14 micrograms per bee

Table 19: incidents involving possible baits and suspicious samples (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of										
incidents										
investigated	66	62	67	64	35	47	31	43	44	41
Number of										
incidents involving										
pesticides	32	29	22	28	16	20	14	16	23	16
	(48%)	(47%)	(33%)	(44%)	(46%)	(43%)	(45%)	(37%)	(52%)	(39%)

Table 20: the number of different pesticides found in all incidents except those involving bees (1997 to 2006)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of pesticides	26	34	27	29	23	23	22	27	34	39

Table 21: number of incidents reported to the scheme from 1999 to 2006, and number of incidents found to involve pesticides

Year	1999	2000	2001	2002	2003	2004	2005	2006
England								
Number of								
incidents reported	232	244	133	188	160	145	130	135
Number of incidents	84	83	51	80	62	59	62	48
involving pesticides	(36%)	(34%)	(38%)	(42%)	(39%)	(41%)	(48%)	(36%)
Wales								
Number of incidents								
reported	41	42	34	50	43	38	33	46
Number of incidents	9	11	6	10	10	7	6	6
involving pesticides	(22%)	(26%)	(18%)	(20%)	(23%)	(18%)	(18%)	(13%)
Scotland								
Number of incidents								
reported	135	167	127	156	145	121	157	177
Number of incidents	40	57	35	34	37	34	32	52
involving pesticides	(30%)	(34%)	(28%)	(22%)	(26%)	(28%)	(20%)	(29%)
Northern Ireland								
Number of incidents								
reported	45	53	52	56	49	51	49	32
Number of incidents	6	11	17	7	17	4	3	5
involving pesticides	(13%)	(21%)	(33%)	(13%)	(35%)	(8%)	(6%)	(16%)
Total number of								
incidents reported	453	506	346	450	397	355	369	390
Total number of								
incidents involving	139	162	109	131	126	104	103	111
pesticides	(31%)	(32%)	(32%)	(29%)	(32%)	(29%)	(28%)	(28%)

Table 22: number of each type of incident where vertebrates were poisoned by pesticides (1998 to 2006)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Abuse	95	61	95	81	78	85	55	51	67
	(55%)	(47%)	(63%)	(78%)	(62%)	(71%)	(55%)	(50%)	(61%)
Misuse	45	31	22	6	19	16	18	22	21
	(26%)	(24%)	(15%)	(6%)	(15%)	(14%)	(18%)	(21.5%)	(19%)
Approved use	4	7	9	2	5	3	0	2	2
	(2%)	(5%)	(6%)	(2%)	(4%)	(3%)	0	(2%)	(2%)
Unspecified use	22	29	19	14	22	13	23	24	18
	(13%)	(22%)	(13%)	(13%)	(17%)	(11%)	(23%)	(23.5%)	(17%)
Veterinary	7	2	4	1	2	1	4	3	1
	(4%)	(2%)	(3%)	(1%)	(2%)	(1%)	(4%)	(3%)	(1%)
Total	173	130	149	104	126	118	100	102	109

Incidents caused by approved use of pesticides in 2006

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
1	bromadiolone	fox	March	Border	Bromadiolone residue in the fox's liver was well into the level that can kill. The local authority had used bromadiolone to control rodents on the farm. There was no evidence of improper baiting. A few dead rats were recovered. Those found tended to be between bales in an open barn.
2	bromadiolone/ difenacoum	dog	March	Border	A dog suddenly had abdominal pain, then collapsed. The dog had a rapid heartbeat and pinpoint pupils. The dog died after about 48 hours. A significant residue of bromadiolone and a trace of difenacoum were found in the liver. An investigation proved that rodent baiting, using Bromatol (bromadiolone) and a small amount of Fentrol Gel (difenacoum), was being carried out on the farm. The farm had a policy of collecting and destroying rodent carcases. However, it is thought that the dog had managed to find and eat one rat carcase.

Incidents caused by missuse of pesticides in 2006

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
1	alphachloralose	cat	November	Armagh	Tests showed alphachloralose.
2	alphachloralose	seven rooks, two chaffinches	February	Tyrone	A mixture of live and dead birds was tested. The live birds were paralysed. The post-mortem found no damage to the bird's organs and they were all in a reasonable condition for their age.
3	aluminium phosphide	badger sett	March	Shropshire	A badger sett was blocked and gassed. No samples were available to be tested. The RSPCA has issued cautions.
4	bendiocarb	honey bee	October	South Yorkshire	A lot of bees from two colonies died when a nearby colony of wild bees was treated with a white powder. A significant amount of bendiocarb was found in a sample of bees, so they have died of pesticide poisoning. It appears that bees have robbed from a bee colony in the wild that had not been blocked up after treatment. This case is still being investigated.
5	brodifacoum/ difenacoum/ bromadiolone	cat, stoat, weasel, grain samples	December	Norfolk	A dead stoat and weasel were found. There was also red grain under metal corrugated sheets. During a further visit, a cat was found in a snare trap. Tests confirmed brodifacoum and difenacoum in the stoat, difenacoum in the weasel, and difenacoum and bromadiolone in the liver from the cat. These results confirm that all the animals have been exposed to one or more anticoagulant rodenticide, and so poisoning may be the cause of death. The grain samples were confirmed as difenacoum, mainly difenacoum and some brodifacoum, bromadiolone, and residues of difenacoum and some brodifacoum. Thirty-one dead rats were found, in different states of decay and in clear view. Fifty-one baiting points were found, and these were mostly accessible to all animals. This case is still being investigated.
6	bromadiolone	bait	July	Dorset	Rodenticide bait blocks were allegedly thrown onto a railway embankment and were not protected. An advisory letter was sent to the contractor and the case has been closed.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
7	bromadiolone	grain	June	Derbyshire	Signs left on a footpath said that rat poison had been used in the area. An investigation found no rodenticide was being used. The owner of the signs was sent a letter. The case has been closed.
8	bromadiolone	tawny owl	December 2005	Norfolk	A dead tawny owl was found in a pole trap. It had a residue of bromadiolone. It is possible that the person responsible will be prosecuted.
9	chlorophacinone	sample	November	South Yorkshire	Premises were searched and an unapproved rodenticide was found. Natural England sent a letter to the owner of the property to say that this product must be destroyed by a professional waste-disposal operator.
10	difenacoum	cat, grain	May	Norfolk	Suspected poisoning of a cat. Pesticide residues were not found in the cat and the cause of death is still not known. The case has been closed.
11	difenacoum	rabbit, bait	July	Somerset	The death of several rabbits was reported. A sample of bait was confirmed to contain difenacoum and a very small residue of brodifacoum. A rabbit tested positive for difenacoum. The Pesticides Safety Directorate sent a letter to the user and the case has been closed.
12	difenacoum	seven rats, grain	September	Suffolk	Seven dead or dying rats were found in the grounds of a home. Four carcases were tested. This confirmed residues of difenacoum in the liver of two of the rat carcases (the other two were not tested). The amounts found are likely to be significant and contributed to the death of these rats. A grain sample was confirmed to be difenacoum, although a small amount of brodifacoum was also present. The Pesticides Safety Directorate sent an advisory letter to the user and the case has been closed.
13	difenacoum/ brodifacoum/ bromadiolone	dog	February	Border	A post-mortem indicated that the 12-week-old dog had probably died as a result of anticoagulant poisoning. Residues of difenacoum and brodifacoum in the liver were both enough to kill. A significant residue of bromadiolone was also found. An investigation found that the farm owner no longer had a pest-control firm carry out rodent baiting and had started to carry it out himself. He had used Slaymor (bromadiolone) and Jaguar (brodifacoum). The dog was known to have eaten at least one rat carcase

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
14	difenacoum/ flocoumafen	three baits	October	Norfolk	Unprotected rodenticide bait was left in an area that was open to the public in a well-used tourist attraction that is particularly aimed at families with children. Several other bait points were unsatisfactory. The treatment logs did not mention the location of the bait points, the quantities of bait used, if it was removed at the end of treatment and whether searches for carcases had been completed. There were also no warning signs for the treatment in areas open to the public. Tests found difenacoum in two samples and flocoumafen in another. An advisory meeting was held with the owners of the museum and the pest controllers. The case is now closed.
15	flocoumafen/ difenacoum	bait block	May	Norfolk	Rodenticide treatment, carried out by a private pest-control contractor, was being carried out on a farm. Flocoumafen and a small residue of difenacoum was found in the block sample. Records of the products used were not accurate and rat carcases were not collected and removed. The products used were for indoor- use only, and were used outdoors. Advice was given to the pest-control company. The case is closed.
16	metaldehyde	four cows, samples	October	Suffolk	The RSPCA found four dead calves, one in a farmyard and three in a barn, when inspecting a farm. Tests confirmed metaldehyde in the stomach and liver of all the calves. Pesticides were found in the barn and these were not stored properly. The farm owner was sent an enforcement notice and has kept to it. The RSPCA is still investigating the case.
17	metaldehyde	dog	July	Lothian	The dog was being walked alongside fields near its home. It went into a potato field and ate something in the long grass around the edge of the field. The dog was taken home where it was left alone for several hours. When the owner returned, the dog was dead. A post- mortem revealed a large number of blue slug pellets in the dog's stomach. An investigation found that because of the large size of the field, the hopper used to apply the slug pellets had to be refilled several times. This was done at the edge of the field where there was a three-metre margin of tall (60cm) rye grass. The pellets which had been spilled during the refilling process had not been removed and this resulted in the dog's death.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
18	metaldehyde	dog	September	Border	A farm dog died after suddenly having convulsions. A blue substance found in the stomach suggested that metaldehyde poisoning may be responsible for the death. An investigation found that the day before the dog's illness eight 18kg bags of slug pellets ('Allure') had been delivered to the farm. As harvesting was under way, the bags were unloaded and left in a shed which was being used. The bags were placed in secure storage within 24 hours. After the dog became ill, the farmer inspected the bags and found one had been punctured. He now suspects that the dog had access to the burst bag, although no spillage was seen on the shed floor.
19	metaldehyde	dog	September	Leicestershire	A dog died after returning from a walk on a public bridleway. Metaldehyde was found in the dog's stomach. The police are investigating the case.
20	metaldehyde	dog, sample	May	Cleveland	Slug pellets were spilled in a winter oilseed- rape field. The dog had been seen 'nosing' in the area of the spillage and had symptoms consistent with poisoning. It was treated by a vet but died. No samples were available from the dog for tests, but metaldehyde was confirmed in a sample of the slug pellets. The case is still being investigated.
21	metaldehyde	pellets	October	Wiltshire	A thin scattering of blue pellets was seen on a cycle track. Three small piles of pellets were also seen on a nearby bridleway. No evidence of pellets was seen in crops either side of the tracks. Metaldehyde was found in a pellet sample. This case is still being investigated.
22	prothioconazole/ tebuconazole/ triazoxide	seed	March	Suffolk	A large amount of treated seed was left in a field that appeared to have been recently drilled. The label of this product states that any spillages must be buried or removed. The owner was told of this and a return visit confirmed that he had cleared away the treated seed.

Incidents caused by abuse of pesticides in 2006

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
1	aldicarb	four baits, samples	August	South Yorkshire	One rabbit carcase containing black granules was found under a bush. There was also another rabbit carcase and two red-legged partridge carcases. Tests have confirmed aldicarb in these carcases. The police are leading an investigation into this case.
2	aldicarb	two buzzards, samples	April	Staffordshire	Two dead buzzards were found. Aldicarb was confirmed in one of the buzzards and both had residue of difenacoum confirmed. Some pesticide samples were also found. They were lindane, carbofuran, cypermethrin, dichlobenil, heptenophos, MCPA, methiocarb, permethrin and pirimicarb. The Crown Prosecution Service prosecuted, which resulted in an 18-month conditional discharge for pesticide offences, an 18-month conditional discharge for firearms offences, and court costs of £300.
3	aldicarb	two cats	April	Nottinghamshire	Two cats were examined and both showed similar symptoms. A residue of aldicarb was confirmed in the stomach of one cat. The RSPCA investigated but as no suspect was identified the case has been closed.
4	aldicarb	two cats	August	Cumbria	Two cats were found dead in a kitchen. Tests confirmed a significant amount of aldicarb in the stomach. The source of the aldicarb is not known. The case is closed.
5	aldicarb	two dogs	April	Devon	Two dogs died and both tested positive for aldicarb. Abuse of aldicarb is suspected, but the source is not known. The case is closed.
6	aldicarb	dog, sample	July	North Yorkshire	Two dogs became unwell after walking near a badger sett. One of the dogs died and tests confirmed aldicarb in the stomach. The other dog survived, but had symptoms consistent with being exposed to aldicarb. The source of the aldicarb is not known and there is no suspect. The case is closed.
7	aldicarb	raven, gull, two egg baits, chemical	May	Grampian	Small dark blue granules were present in remains of the egg. There was a prosecution under the Wildlife & Countryside Act and the defendant was fined £850.
8	alphachloralose	buzzard	April	Tayside	The buzzard had been in good condition before it died. It had recently eaten material from a game bird's carcase. A low residue of bromadiolone was identified in that bird's liver.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
9	alphachloralose	buzzard	September	Gloucestershire	Three buzzards were found, two of which were too decomposed for further investigation. A significant residue of alphachloralose was found in the kidney of the third. Difenacoum was also confirmed in the liver, but too low to cause death. The case is still being investigated.
10	alphachloralose	buzzard	September	Armagh	Suspected poisoning. There was one other bird with similar symptoms. It was taken to a local vet but it died. The symptoms were tremors and haemorrhaging. It was reported that other animals in the area had died suddenly, possibly due to poisoning. Tests for coumarin were negative.
11	alphachloralose	three buzzards, magpie, sample	March	Wiltshire	Alphachloralose was found in two buzzards and a magpie. No bait was found, but abuse is suspected. Some bromadiolone was also found in another buzzard. A pesticide sample was also found. It contained triazophos, mevinphos and endrin. The police are leading an investigation into this case.
12	alphachloralose	buzzard, tawny owl	April	Tayside	Birds had been recovered in a police Wildlife Crime Officer (WCO) investigation. Low residues of bromadiolone and difenacoum were identified in the buzzard's liver.
13	alphachloralose	falco, peregrine, suspected bait	April	Anglesey	Tests found alphachloralose in the kidney of this bird, although the amount found was quite small. It seems likely that the peregrine had fed on a bird, possibly a pigeon.
14	alphachloralose	red kite	September	Powys	A dead red kite was found with a mouthful of what was thought to be pheasant meat. Tests found alphachloralose in the kidney and a significant amount of brodifacoum in the liver of this bird. Signs of asphyxiation were also seen. The source of the alphachloralose is not known at the moment, but abuse is suspected.
15	alphachloralose	two red kites	April	Ceredigion	The residue was found in one of the red kites, but where this is from is not known. There were also small residues of difenacoum and brodifacoum in the liver of this red kite, but none were found in the other red kite. The rodenticide residues found are unlikely to have contributed to the death of this bird. It is not certain where this red kite got the alphachloralose residue from, but abuse is suspected.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
16	alphachloralose	red kite, bait	November	Denbighshire	A wing-tagged red kite in good condition was found belly down near to a footpath where there is upland pasture with hill sheep farming and some game rearing. Tests found a significant amount of alphachloralose in the bird's kidney. This is likely to be the cause of death. Difenacoum was also found in the liver, but not enough to kill the bird. It is not known where this red kite was exposed to the alphachloralose.
17	alphachloralose/ strychnine	sparrowhawk, four crows, two rabbit baits, two pheasant baits, chemicals	May	Border	Two rabbit baits and two pheasant baits were recovered in a police and SEERAD joint investigation. Low residues of bromadiolone and difenacoum were confirmed in the sparrowhawk's liver. No other pesticides were found in the animal carcases. Quantities of alphachloralose and strychnine were recovered during the investigation.
18	aluminium phosphide	fox earth, magpies, egg baits	April	Lincolnshire	Magpies and eggs were suspected to contain pesticides but the results were negative. The investigation uncovered alleged gassing of a fox earth. The police investigated, but have now closed the case.
19	bendiocarb	dog, crow, Raven, four magpies	March	Cheshire	Bendiocarb was confirmed in the dog, raven and a magpie and was also found on the suspected bait, which consisted of a shot rabbit. The source of the pesticide is not known. The case is closed.
20	carbofuran	buzzard	February	Border	An adult bird that had been in good condition was found.
21	carbofuran	buzzard	March	Central	In a joint police and SEERAD investigation a very low residue of bromadiolone was also found in the buzzard's liver.
22	carbofuran	buzzard	April	Tyrone	A female buzzard was found dead. It was in reasonably good condition and there was no evidence of infectious disease. The oesophagus and crop contained strips of fat and meat. Carbofuran residue was found in the gizzard.

Incident Number	Pesticide	Species or sample	Month	County	Comments
23	carbofuran	buzzard	September	Border	An old, partially dried-up buzzard carcase was found. Analysis of material from the body and mouth revealed residues of carbofuran. The case is being investigated by the police and SEERAD.
24	carbofuran	buzzard	October	Border	A residue of brodifacoum was also found in the bird's liver.
25	carbofuran	buzzard	November	Border	A low residue of difenacoum was found in the buzzard's liver.
26	carbofuran	two buzzards	September	Strathclyde	Samples analysed from one of the buzzards showed that carbofuran poisoning was the cause of death.
27	carbofuran	two buzzards	September	Strathclyde	Residues of carbofuran were found in both birds.
28	carbofuran	buzzard, rabbit bait	September	Strathclyde	Carbofuran was found in tissues from the buzzard and on a tissue sample taken from the rabbit.
29	carbofuran	two buzzards, pigeon bait	February	Strathclyde	The remains of two buzzards were found in an area where there is a history of abuse. Residues of carbofuran were found. A pigeon carcase had been skinned on the breast and a small metal stake had been pushed through the breast. Blue granules could be seen.
30	carbofuran	four buzzards, three hare baits	February	Border	Two dead buzzards were found close to what appeared to be poisonous baits prepared using hare carcases. Both buzzards had been in very good condition. Granules were seen in material from the beak and gullet of one of the buzzards. There were a lot of blue granules in the exposed tissues of the hare carcases. Two other buzzards had also been poisoned with carbofuran. Residues of bromadiolone were found in the livers of three of the four buzzards.
31	carbofuran	buzzard, rabbit bait, egg baits	June	Strathclyde	Carcases were found at the edge of a wood in the same general location as incident number 38. A very low residue of difenacoum was found in the buzzard's liver.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
32	carbofuran	buzzard, raven, hooded crow, rabbit bait	May	Highland	This incident was in the same area as incident 46. A residue of bromadiolone was found in the buzzard's liver.
33	carbofuran	fox	March	Kent	Residue of carbofuran was found in the stomach of the fox. The case is still being investigated.
34	carbofuran	golden eagle	May	Grampian	The police Wildlife Crime Officer is investigating this case.
35	carbofuran	golden eagle	June	Highland	The dead eagle was found near the top of a hill. The bird had been in good condition before it died.
36	carbofuran	peregrine falcon	June	Grampian	A severely decomposed peregrine falcon's carcase was found with feathers from a pigeon wing around it. A residue of carbofuran was found is the falcon's liver. The police are investigating the matter.
37	carbofuran	pheasant bait	March	Tayside	The carcase was recovered by a police Wildlife Crime Officer. It was confirmed that it had been used to form a poisonous bait.
38	carbofuran	two rabbit baits, three egg baits	May	Strathclyde	Baits were recovered from an area with a recent history of pesticide abuse. This incident was in the same area as incidents 29 and 52.
39	carbofuran	raven	January	Highland	A dead raven was found in a garden. An animal's carcase had probably been used to prepare a poisonous bait.
40	carbofuran	raven	April	Derbyshire	A dead raven tested positive for carbofuran. The case is still being investigated.
41	carbofuran/ carbosulfan	two ravens	February	Border	Significant residues of carbofuran were found in a raven's stomach and liver. Carbosulfan was also found in the raven's stomach. The limited remains of the second raven were analysed two weeks later. A trace of carbofuran was found in samples of vertebrae and from the throat area.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
42	carbofuran	red kite	April	Highland	A dead kite was found in a field. It had been in good condition before it died. Granules were found in the digestive tract. Low residues of bromadiolone and difenacoum were found in the liver.
43	carbofuran	red kite	April	Highland	A significant residue of brodifacoum and a trace of flocoumafen were also found in the kite's liver.
44	carbofuran	red kite	June	Highland	In the same area as incident 42, residues of bromadiolone, chlorophacinone and difenacoum were found in the kite's liver.
45	carbofuran	red kite	September	Highland	A red kite was seen to fall from a tree. Residues of carbofuran have been found in its liver and digestive tract.
46	carbofuran	red kite, raven, rabbit bait	March	Highland	A dead kite and a raven were found within 200 metres of what appeared to be a poisonous bait. Both birds appeared to have been in good condition before they died. The rabbit had been cut open on the abdomen, and some of the organs had been removed. Blue-coloured granules had been placed in little pockets cut into the hind legs. More of this material was on the surface of the exposed tissue.
47	carbofuran/ aldicarb	jackdaw, two magpies	July	County Durham	Two magpies and one jackdaw were found dead or dying in parkland in a residential area. Tests found carbofuran and aldicarb in the jackdaw's gizzard. The source of the pesticides is not known and there is no suspect. The case is closed.
48	carbofuran/ aldicarb/ lindane	cat, chemicals	April	Fife	The cat died suddenly after a short period of vomiting. At least two other cats in the area were believed to have died in similar circumstances. A jar containing aldicarb and a bottle containing lindane were recovered during a SEERAD investigation.
49	carbofuran/ alphachloralose/ mevinphos/ sodium cyanide/ aluminium phosphide	chemicals	September	Highland	Chemicals were recovered from premises in an area where there is a history of pesticide poisoning.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
50	carbofuran/ alphachloralose/ sodium cyanide	two buzzards, crow, baits, chemicals	October	Grampian	The buzzard and crow were poisoned with carbofuran. Rabbit baits had been used. The gamekeeper was fined £750 after he admitted being in possession of the three pesticides. Residues of bromadiolone and difenacoum were found in the buzzard's liver.
51	carbofuran/ alphachloralose/ isofenphos	pigeon bait, various seized items	June	Tayside	A number of items were seized in a police and SEERAD joint investigation. This incident was in the same area as incident 53.
52	carbofuran/ isofenphos	crow, two buzzards, two rabbit baits, chemical	April	Strathclyde	Buzzards, a crow and rabbits were found in an area with a recent history of pesticide abuse. Blue-coloured granules were on the rabbit carcases, and a few could be seen in material from the buzzards' digestive tracts. A small bottle recovered by the investigating officers was shown to contain carbofuran and isofenphos.
53	carbofuran/ isofenphos	rabbit bait	May	Tayside	A rabbit carcase was staked out on hillside. There were blue granules in cuts on the hind legs and in a wound around the neck. The police and SEERAD are investigating this case.
54	carbofuran/ isofenphos	raven, two buzzards, baits, seized items	September	Strathclyde	This case, where three rabbit baits and egg baits were used, is being investigated by the police.
55	carbosulfan/ carbofuran/ sodium cyanide	pheasant baits, chemical	August	Border	Residues of carbofuran and carbosulfan were found on several pheasant carcases. A gamekeeper pleaded guilty to offences under the Wildlife and Countryside Act and the Protection of Animals Act and was ordered to carry out 220 hours of community service.
56	difenacoum	dog	September	Cornwall	A guard dog was found dumped on a roadside. Tests found difenacoum in the dog's liver. The police are leading an investigation into this case.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
57	difenacoum	dog, bait	October	Cambridgeshire	A dog was seen eating from dog food mixed with small blue particles. Blue-coloured material was seen in its vomit, but a sample was not taken. More bags that looked similar were in the garden the following morning. The bags of food and blue particles, and a small amount of dog faeces, were tested and difenacoum was confirmed in both. It appears that dog food has been laced with difenacoum. A suspect has not been identified so the case has been closed.
58	lindane	dog	July	Tayside	A working dog had a fit while gathering sheep on a hill. The owner noticed a small fleck of blue material in the dog's mouth.
59	metaldehyde	badger sett, bait, sample	January	Devon	A badger sett was blocked with cattle afterbirth and slug pellets. A pesticide sample was also found. It contained chlorophacinone and chlorpyrifos. The police are leading an investigation into this case.
60	metaldehyde	two badger setts, bait	April	South Yorkshire	Potatoes, stuffed with slug pellets, were found near a badger sett. This case has been closed as there is no suspect.
61	methomyl/ bromadiolone	three baits, five samples, fox	April	Greater London	In an allotment area, a pesticide not approved in the UK was stored in an aspirin bottle. Methomyl was applied to meat baits, but residues were not found in some foxes and a crow that were tested. However, these carcases were quite decomposed. Two people were also exposed to the pesticide and recovered after treatment. The police investigated this case. No evidence was found to link the methomyl found in the aspirin bottle and the human and wildlife poisonings. The case is closed. Significant bromadiolone was also confirmed in a fox's liver.
62	mevinphos	raven	May	Highland	A raven was found dead in a larch plantation close to a public footpath. A high-profile investigation by the police and SEERAD failed to find any incriminating evidence.
63	mevinphos	two ravens, samples	June	Derbyshire	Two ravens were found dead near a quarry. The case is still being investigated. Some samples were also found. They contained alphachloralose, carbofuran, difenacoum, lindane, methiocarb, mevinphos, strychnine and warfarin.

Incident Number	Pesticide	Species or sample involved	Month	County	Comments
64	paraquat	dog	April	Tyrone	Paraquat was found in the dog, which had displayed respiratory distress.
65	paraquat	cat, three dogs, fox, samples	January	West Yorkshire	One dog and the fox had residues of paraquat. The fox also had a significant level of brodifacoum. Some samples were also found. They contained MCPA and bromadiolone. The police are investigating this case.
66	paraquat	two dogs, samples	July	Flintshire	Two dogs died of paraquat poisoning and a third became ill. Analysis has confirmed a residue of paraquat in a kidney of one dog. Two samples of liquid were found. One was an orange liquid containing lindane, but the contents of the other liquid remains uncertain.
67	phorate	six cows	May	Fife	Bruised cereal feed in a trough had granules in it.

Incidents caused by unspecified use, or veterinary use of pesticides, and other incidents where pesticides were found

Incident Number	Pesticide	Category	Species or sample involved	Month	County	Comments
1	boscalid/ pyraclostrobin/ lambda- cyhalothrin	unspecified	horse, sample	September	North Yorkshire	A horse became ill three days after a neighbouring field of carrots was sprayed with a fungicide and pyrethroid treatment. Grass samples taken from the field had residues of boscalid, pyraclostrobin and lambda- cyhalothrin. Samples taken from the horse were negative. The case is still being investigated.
2	bromadiolone	unspecified	buzzard, grey squirrel	April	Hampshire	Significant residues of bromadiolone were found in the livers of the buzzard and grey squirrel. This case has been closed as the source of the pesticide is not known.
3	bromadiolone	unspecified	dog	July	Gloucestershire	A farm dog was put down after being treated by a private vet. Tests confirmed bromadiolone in the liver of this dog. The amount found could be considered to be significant and there were symptoms consistent with this, such as diarrhoea containing blood. The source of the pesticide is not known and the case has been closed.
4	bromadiolone	unspecified	fox	January	Fife	The fox was found in an area often used for fly-tipping. Its muzzle had been taped up. The fluid in its stomach was slightly stained with blood, and there was some blood in the stomach. The bromadiolone residue in its liver was well into the level that causes death.
5	bromadiolone	unspecified	fox	February	Essex	This case was in a neighbourhood with no farming, close to some wasteland and in an area where rodenticide poisoning of foxes had been carried out before. Tests found a residue of bromadiolone in the liver of the fox. The amount found is significant, although the fox may also have had an underlying condition. The source of the pesticide is not known, and the case has been closed.

Incident Number	Pesticide	Category	Species or sample involved	Month	County	Comments
6	bromadiolone	unspecified	fox	October	Border	A fox was found dead in a stubble field in an area with a history of pesticide abuse. A residue of bromadiolone, in an amount that could kill, was found in its liver.
7	bromadiolone/ brodifacoum	unspecified	three foxes	January	Fife	The dead foxes were found on a farm over a 10-day period. No pest control was being carried out on the farm. The carcases were decomposed and tissues were only available from two of the animals. An amount of bromadiolone, high enough to cause death, was found in one fox, along with a smaller residue of brodifacoum. A low background residue of bromadiolone was found in the liver of the second fox.
8	bromadiolone/ difenacoum	unspecified	barn owl	January	Dumfries & Galloway	This young barn owl was found in an old farm building. The residue of bromadiolone in its liver was within the level thought to kill. Difenacoum was also found in the liver. There was no evidence of internal bleeding in the carcase, and starvation may have been the cause of death.
9	bromadiolone/ difenacoum	unspecified	red kite	March	Highland	The red kite was found next to a railway line. It had been in good condition before it died and there were signs of injury to its head. Residues of bromadiolone and difenacoum were high enough to kill.
10	cypermethrin/ fluvalinate	unspecified	honey bees	September	Hampshire	Honeybees tested positive for cypermethrin and fluvalinate. The fluvalinate residue is very small (and not confirmed by another method) and probably came from a treatment for varroa mite. The source of the pesticide is not known and the case has been closed.

Incident Number	Pesticide	Category	Species or sample	Month	County	Comments
11	difenacoum	unspecified	buzzard	November	Essex	A dead buzzard was found in a field. Its mouth was open, its tongue hanging out, and its talons clenched around soil and grass. Natural causes may account for the death of this buzzard because of starvation following a fractured jaw. Difenacoum and some brodifacoum was found in the liver of this buzzard at a level that may be high enough to kill. A small amount of bromadiolone may also be present. Further tests are being carried out on this buzzard.
12	difenacoum	unspecified	buzzard	November	Lothian	The buzzard was found dead. A residue of difenacoum, high enough to cause death, was found in its liver.
13	difenacoum	unspecified	fox	January	Somerset	Rodenticide treatment was being carried out on a farm. This treatment appeared to be to a satisfactory standard. Tests found difenacoum in the fox's liver at a level high enough to kill. Details of the case were passed to the Health and Safety Executive as the product is a rodenticide.
14	difenacoum	unspecified	three peacocks	April	Cambridgeshire	Three peacocks were found dead and tests found difenacoum at a level high enough to kill, in the liver of one bird. The police are leading an investigation into this case.
15	difenacoum	unspecified	red kite	June	Highland	This red kite was found dead after being hit by a car on the A9. The residue of difenacoum in its liver tissue was high enough to kill. There was no evidence of internal bleeding in the carcase. Injuries associated with a road traffic accident are likely to have been the immediate cause of death.
16	difenacoum/ brodifacoum/ bromadiolone	unspecified	barn owl	April	Northumberland	The barn owl was found dead in farm buildings where rodenticide treatment was being carried out. The residue of difenacoum in its liver was at a level high enough to kill, and there were also small residues of brodifacoum and bromadiolone. The method of use of the rodenticide was considered to be acceptable. The case is now closed.

Incident Number	Pesticide	Category	Species or sample involved	Month	County	Comments
17	difenacoum/ bromadiolone	unspecified	red kite	March	Highland	The residue of difenacoum in the liver was high enough to kill. A trace of bromadiolone was found. The immediate cause of death was probably injuries.
18	diquat/ paraquat	unspecified	three hares	August	South Yorkshire	Three hares were seen having fits before dying. Tests found that one of the hares was exposed to a product containing both paraquat and diquat. Another hare was tested but no residues were found. This case is still being investigated.
19	phorate	unspecified	buzzard	February	Somerset	Phorate was found in a sample of crop and the gizzard of a buzzard. This is likely to be the cause of death of the bird. This case is still being investigated.
20	bromadiolone	injury	two buzzards	November	Somerset	These buzzards were found near a road, in an area with a history of poisoning incidents. Bromadiolone may be present in the liver of one buzzard, but at a level unlikely to kill. The cause of death is not known. The other buzzard had injuries. This case is now closed.
21	bromadiolone	injury	peregrine falcon	April	Border	A very low background residue of bromadiolone was found in the liver.
22	bromadiolone	injury	red kite	December	Carmarthenshire	A dead red kite was found. Tests found bromadiolone in this bird's liver, but an amount unlikely to cause death. It is suspected that this red kite died from an injury.
23	difenacoum	injury	buzzard	October	Tayside	A very low background residue of difenacoum was found in the liver.
24	bromadiolone	starvation	barn owl	October	Pembrokeshire	A dead barn owl was found under a tree with no obvious signs of any injury. Tests found bromadiolone in the liver, but at a level unlikely to cause death. Starvation may be the cause of death.
25	bromadiolone	starvation	buzzard	March	Grampian	A very low background residue of bromadiolone was found in the liver.
26	bromadiolone	starvation	buzzard	March	Strathclyde	A very low background residue of bromadiolone was found in the liver.

Incident Number	Pesticide	Category	Species or sample involved	Month	County	Comments
27	diazinon	veterinary	red kite	July	Glamorgan	A dead red kite was found in an area where there could be sheep-dipping, but this is not known at present. A residue of brodifacoum was also found, which is consistent with exposure to the compound. Brodifacoum is restricted to controlling rodents indoors.
28	brodifacoum	disease	buzzard	November	Fife	A very low background residue of brodifacoum was found in the liver.
29	bromadiolone/ difenacoum	disease	kestrel	November	Norfolk	A kestrel was in a drowsy condition and died overnight. Bromadiolone and difenacoum were found in the liver of this kestrel, at a level unlikely to cause death. Infection was probably the cause of death. This case is now closed.
30	difenacoum	disease	cat	December	Norfolk	A cat died with symptoms of poisoning. Only a very small residue, possibly of difenacoum, was found in the liver. This was not considered to be the cause of death. A bacteria was found in tissues and this may have caused terminal septicaemia (blood poisoning). This case is now closed
31	difenacoum	disease	marsh harrier	September	Norfolk	A marsh harrier was found in distress on coastal marshes. It later died. Difenacoum was found in the liver of this bird. However, the death was more likely caused by a fungal infection and damage found in the post-mortem. This case is still being investigated.
32	brodifacoum	unknown	peregrine falcon	July	Highland	A very low residue of brodifacoum was found in the liver.
33	bromadiolone	unknown	buzzard	March	Cardiganshire	A background level of residue was found, but the cause of death is not known.
34	bromadiolone	unknown	buzzard	March	Carmarthenshire	A background level of residue was found, but the cause of death is not known.
35	bromadiolone	unknown	buzzard	June	Highland	A residue of bromadiolone was found in the liver at a level unlikely to cause death.
36	bromadiolone	unknown	buzzard	October	Grampian	A very low background level of bromadiolone residue was found in the liver.
37	bromadiolone	unknown	fox	November	Grampian	A very low background level of bromadiolone residue was found in the liver.

Incident Number	Pesticide	Category	Species or sample involved	Month	County	Comments
38	bromadiolone/ difenacoum	unknown	buzzard	January	Anglesey	A background level of residues was found, although the combined amount may be close to a level that can cause death. The cause of death is not known.
39	bromadiolone/ difenacoum	unknown	sparrowha wk	January	Border	A dead sparrowhawk was found in the garden of a house in a village. The bird had been in poor condition before it died. Residues of bromadiolone and difenacoum, at a level unlikely to cause death, were present in the liver tissue.
40	bromadiolone/ difenacoum	unknown	red kite	February	Carmarthenshire	A background level residue was found and the cause of death is not known.
41	bromadiolone/ difenacoum	unknown	red kite	May	Highland	Residues of bromadiolone and difenacoum, too low to cause death, were found in the liver.
42	DDE	unknown	sparrowha wk	Мау	Denbighshire	A background residue of DDE was found in this bird. Dieldrin and heptachlor epoxide may also have been present.
43	difenacoum	unknown	barn owl	October	Norfolk	A barn owl was found standing at the verge of a road. It appeared in a generally drowsy condition, but with no signs of injury. Tests confirmed difenacoum in the liver of this bird, but at a level unlikely to kill. The cause of death of this barn owl is not known. This case is still being investigated.
44	difenacoum	unknown	buzzard	February	Highland	The buzzard had been in a poor condition before it died. There was no evidence of injury. A residue of difenacoum, at a level too low to cause death, was found in the liver.
45	difenacoum	unknown	buzzard	March	Brecknockshire	It is possible that dehydration contributed to the death of this bird, as there were significant bony fragments found in the gizzard. However, a background level of residue was also found.
46	difenacoum	unknown	buzzard	March	Powys	A residue of difenacoum, at a level unlikely to cause death, was found in the liver.
47	difenacoum	unknown	buzzard	April	Grampian	A very low background level of difenacoum was found in the liver.
48	difenacoum	unknown	buzzard	June	Grampian	A very low background level of difenacoum was found in the liver.

Incident Number	Pesticide	Category	Species or sample involved	Month	County	Comments
49	difenacoum	unknown	cat	February	Norfolk	Tests have found a small residue of difenacoum in the cat's liver. The residue is not considered to be significant. The cause of death is still unknown. The case is closed.
50	difenacoum	unknown	two eagle owls	January	Fife	These captive birds died over the same weekend, possibly as a result of a management problem. A trace of difenacoum was found in the liver of one of the birds.
51	difenacoum	unknown	50 wild and racing pigeons	February	Suffolk	A number of dead and dying pigeons were found in an inner-city area. Tests found a residue of difenacoum in the liver of the pigeon examined, but this was not consistent with the sudden death of a number of birds. Further tests were carried out, but the cause of death of the birds is not known. The case is closed.
52	difenacoum	unknown	red kite	April	Tayside	A very low residue of difenacoum was found in the liver.
53	difenacoum	unknown	red kite	October	Highland	A residue of difenacoum, at a level unlikely to cause death, was found in the liver.
54	difenacoum	unknown	sparrowha wk	March	Dumfries & Galloway	A very low background level of bromadiolone was found in the liver.
55	difenacoum	unknown	tawny owl	March	Highland	A residue of difenacoum, at a level unlikely to cause death, was found in the liver.
56	fluvalinate	unknown	honeybee	June	Herefordshire	A small residue of fluvalinate was found but was not thought to be the cause of death. The cause of death was not confirmed by another method and was probably the result of a treatment for varroa mite.
57	lindane	unknown	honey bee	July	Gwent	A small residue of lindane may not account for the deaths of the bees.

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