

Raptor Round Up

2000 and 2001



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Contents

Introduction		2
European Honey Buzzard	<i>Pernis aviporus</i>	3
Red Kite	<i>Milvus milvus</i>	4
White-tailed Eagle	<i>Haliaeetus albicilla</i>	5
Eurasian Marsh Harrier	<i>Circus aeruginosus</i>	5
Hen Harrier	<i>Circus cyaneus</i>	6
Northern Goshawk	<i>Accipter gentilis</i>	9
Eurasian Sparrowhawk	<i>Accipter nisus</i>	10
Common Buzzard	<i>Buteo buteo</i>	11
Golden Eagle	<i>Aquila chrysaetos</i>	13
Osprey	<i>Pandion haliaetus</i>	16
Common Kestrel	<i>Falco tinnunculus</i>	18
Merlin	<i>Falco columbarius</i>	20
Eurasian Hobby	<i>Falco subbuteo</i>	22
Peregrine Falcon	<i>Falco peregrinus</i>	23
Barn Owl	<i>Tyto alba</i>	26
Tawny Owl	<i>Strix aluco</i>	27
Short-eared Owl	<i>Asio flammeus</i>	27

Introduction

This report covers 2000 and 2001. Another round up for 2002 will be produced in this format. It is expected that compilation of future reports will then be the responsibility of the recently established Scottish Raptor Monitoring Group. This group's aim is to promote effective monitoring of all species of birds of prey, of owls and Ravens in Scotland. It intends to consolidate good data standards and to make better use of the information for the understanding and conservation of these birds. The group consists of an equal partnership between Scottish Natural Heritage, Scottish Raptor Study Groups, Royal Society for the Protection of Birds Scotland, British Trust for Ornithology Scotland, Joint Nature Conservation Committee, Rare Birds Breeding Panel and Scottish Ornithologists' Club. The group has appointed a Raptor Monitoring Officer who will collect and collate data from all sources on our birds of prey, owls and Ravens. This data will be published in an annual report from 2003, giving a full analysis of the population monitoring of these birds.

Persecution remains a serious threat to birds of prey in Scotland. At least 93 Red Kites are known to have been killed by feeding on poisoned bait in the 10 years from 1989 to 1998. These losses continue. In 2000, 4 Kites were found poisoned with carbofuran, while another 5 were discovered in 2001. Other kinds of persecution are less easy to substantiate. For example, it has been suggested that the numbers of Hen Harriers and Goshawks breeding in Scotland are severely restricted by the illegal human destruction of nests and birds; and Peregrines and Golden Eagles are absent from many formerly occupied home ranges in areas managed for driven grouse shooting.

Persecution is one of a number of factors thought to govern the distribution and success of raptor populations in Scotland. The Scottish Raptor Monitoring Group aims to identify these.

Monitoring in 2001 was badly affected by access restrictions caused by foot and mouth precautions. Dumfries and Galloway, South Strathclyde and Lothian and Borders groups could not visit many home ranges and survey work in these areas was limited or absent.

Jon Hardey

This report was produced by Jon Hardey for the Scottish Ornithologists' Club & SNH. The data are from the annual reports of the Scottish Raptor Study Groups, the Red Kite and Osprey newsletters. The report has been supported by grant aid from Scottish Natural Heritage. Illustrations are by Andrew Stevenson and Lorna Hardey. The photograph of a Goshawk on the front cover is by Laurie Campbell (courtesy of SNH), from the forthcoming book 'Birds of Prey in a Changing Environment'.

Please note that where '-' appears in a table, no data is available. Tables only show data collected by the Scottish Raptor Study Groups. Other data may be available elsewhere.

European Honey-buzzard

Pernis apivorus

Two pairs were monitored in northern Scotland in 2001. Both reared 2 young. Small satellite transmitters were fitted to both chicks from one nest. These chicks were followed on their migration. The larger chick moved through Kintyre and western England to south-east Spain and into Morocco before the signal failed. The smaller chick migrated into Ireland before moving out into the Atlantic. The last signal was from 100 km SSW of Cape Clear in Eire. Fuller details can be obtained at www.roydennis.org.uk

Honey Buzzards were reported from central Scotland in both years. No nests were located.



Red Kite*Milvus milvus*

Table 1. Breeding success of Red Kites in Scotland, 2000-2001

Region	Year	Pairs located	Pairs laying eggs	Pairs hatched	Pairs successful	Chicks fledged
Highland	2000	37	33	33	31	76
	2001	40	34	31	31	77
Tayside	2001	1	1	-	0	0
Central	2000	8	7	-	5	10
	2001	13	11	-	7	17-18
TOTAL	2000	45	40	-	36	86
	2001	54	46	-	38	94-95

In 2001, a minimum of 5 kites were known to have been killed by the poison carbofuran. This agricultural insecticide is widely used in illegal poisoned baits. Illegal poisoning is the greatest cause of mortality in the Scottish Red Kite population (Etheridge 2001). Between 1989 and 1998, analysis has revealed that 37.5% (93 birds) of kites that were released or bred in north Scotland, were killed by feeding on poisoned baits. This level of persecution has slowed the expansion of the Scottish Red Kite population.

In 2000, 3 Red Kite chicks in north Scotland and a breeding female from central Scotland died from secondary poisoning by rodenticides. These deaths occurred after the kites had scavenged dead rats that had been legally controlled. Following publicity on the effects on kites and other birds by this secondary poisoning and the publication of recommendations on the safe use of rodenticides, there were no recorded deaths of either adult or young kites in 2001. This is very encouraging. Farmers and others involved in the control of rats and mice are to be congratulated for adopting safer methods for the use of these anticoagulants.

The re-introduction of Red Kites continued in central Scotland in 2000 with 20 young being imported from Germany and successfully released. This was the final year for the project in this area. In 2001, 13 kites that had been illegally removed from the wild in Germany, were made available for the Scottish reintroduction project. Six of these were released in central Scotland with the other 7 going to the new release site in Dumfries and Galloway. Twelve chicks from nests in the Highlands and 14 from nests in the Chilterns were also released at this site in early August. These young were all removed under licence from nests that contained 3 to 4 young.

Reference

Etheridge B 2001. *Red Kite, North Scotland, Newsletter 2001*. Royal Society for the Protection of Birds, Inverness.

White-tailed Eagle*Haliaeetus albicilla*

Table 2. Breeding success of White-tailed Eagles in Scotland, 2000-2001

Year	Pairs located	Pairs known to lay eggs	Pairs known to hatch eggs	Pairs known to fledge young	Minimum number of young fledged
2000	21	19	11-13	8	12
2001	24	17	10	7	11

2000 was the second most successful year since reintroduction began. Of the 21 pairs located, only 8 went on to fledge a total of 12 young. One nest was robbed by humans but all the other failures are believed to be natural. Twenty four home ranges were occupied in 2001. Ten were successful, rearing 11 young. There is concern that the number of chicks raised annually has not increased as more pairs begin to breed.

Eurasian Marsh Harrier*Circus aeruginosus*

Marsh Harriers bred successfully in Orkney at 2 sites for the first time in 2001. The 2 males were bigamous. The 4 females all reared young. A single pair in the North-east bred in both years, rearing young in 2000 and failing in 2001. In Tayside, 5 nests were located in 2000 with 12 young fledged. However there were only 3 in 2001 with a single nest fledging 3 young.

Table 3. Breeding success of Marsh Harriers in Scotland, 2000-2001

Region	Year	Nests	Nests with fledged young	Number of fledged young
Orkney	2001	4	4	9
North-east	2000	1	1	4
	2001	1	0	0
Tayside	2000	5	4	12
	2001	3	1	3



Hen Harrier

Circus cyaneus

Orkney

In 2000, 45 females and 20 males were located. Twenty-three of the females bred, rearing 28 young from 18 successful nests. Breeding success was better as chicks were fed at some of the nests as part of a research programme and good weather in the early part of the season. There was considerable chick loss (approximately 34%) between the ringing stage and fledging. In 2001, more breeding attempts were recorded but productivity was lower than in 2000.

Highland

Harriers have declined in the Highlands since the survey in 1988 and 1989 from 85 pairs to only an estimated 30 pairs in the 1998 survey. The nests surveyed in 2000 were very successful with 17 of the 19 nests monitored being successful. Two young out of a brood of 4 were shot by a gamekeeper.

The birds monitored in 2001 reflected the previous year's success with 14 nests fledging 43 young. The 4 nests which failed were all due to natural causes with 3 broods being predated. It is believed that the absence of Hen Harriers from large tracts of suitable breeding habitat is due to persecution.

North-east

Hen Harriers remain at low density in north-east Scotland. Only 13 and 14 breeding attempts were made in 2000 and 2001 respectively. It is estimated that the region should hold between 60 and 80 breeding females. Breeding success improved in 2000 with 11 nests out of 33 fledging young. This success was maintained in 2001 with 38 young fledging from 11 successful nests. Most of the successful nests were on estates actively involved in a protection scheme organised by Scottish Natural Heritage, Grampian Police and the raptor study group.

Table 4. Breeding success of Hen Harriers in Scotland, 2000-2001

Region	Year	Females with nests	Nests fledging young	Minimum number of young known to fledge
Orkney	2000	23	18	28
	2001	32	15	31
Highland and west Moray	2000	19	17	47
	2001	18	14	43
North-east	2000	13	11	33
	2001	14	11	38
Tayside	2000	26	12	35
	2001	18	7	19
Uists	2000	-	9	26
	2001	-	14	27
Argyll	2000	32	22	58
	2001	43	28	92
South-west Scotland	2000	48	21	62
	2001	7	3	11
Lothian and Borders	2000	5	4	10
	2001	-	-	-
TOTAL	2000	166	114	299
	2001	132	92	261

Tayside

The number of Hen Harriers in Tayside is gradually declining with large tracts of apparently suitable habitat devoid of harriers. Coverage in 2000 was poor. Less than half the monitored nests fledged young. Breeding success was low on grouse moors. In 2001, coverage was again poor. A large number of pairs breeding on grouse moors again failed.

Central

Three pairs of breeding harriers were reported from 3 separate areas in 2000 with one pair probably being successful. In 2001, 2 pairs fledged young in the east (3 young) and west (2 young) of the group's area. A separate study area in west Dunbartonshire was occupied by 2 pairs of harrier in 2000 and by 3 pairs in 2001. These birds fledged 2 young from 1 nest in 2000. The results are not recorded for 2001.



Argyll

In 2000, breeding success was better on Islay and Cowal than in other areas. Three nests in Kintyre/Knapdale all failed. The Rhinns of Islay was surveyed in 2001 for Scottish Natural Heritage. Twenty-two home ranges were identified with breeding confirmed at 18 with 50 chicks estimated to have fledged. Harriers were recorded at another 19 home ranges with 14 successful pairs fledging 42 young. Polygamy was suspected at 6 'sites'. Each female breeding attempt has been counted as a separate home range.

Uists

In 2000, Hen Harriers were suspected to be breeding on 14 home ranges of which 9 were monitored, fledging 26 young. Successful breeding was recorded at 14 home ranges in 2001, fledging at least 27 young. Breeding was suspected at another 11 locations.

South-west Scotland

Human persecution was strongly suspected to be the cause of failure at 15 nests in 2000. In south Strathclyde, 71% of the nests failed despite excellent weather and a high vole population. In 2001, many home ranges could not be visited as access was restricted by foot and mouth precautions. In

south Strathclyde, 13 occupied home ranges were found. Nests were located on 7 of these with 3 successful nests fledging 11 young. One failure was caused by predation by a fox but human interference was strongly suspected at the other 3 nests.

Lothian and Borders

In 2000 only 5 pairs were reported compared to 10 in 1999. No data from 2001 owing to Foot and Mouth restrictions.

Northern Goshawk

Accipter gentilis

Table 5. Breeding success of Goshawks in Scotland, 2000-2001

Region	Year	Home ranges checked	Occupied home ranges found	Pairs fledging young	Minimum number of young fledged
Highland	2000	8	4	3	7
	2001	8	5	3	6
North-east	2001	28	17	15	40
Tayside	2000	2	2	2	4
	2001	5	5	4	10
Central	2000	1	1	0	0
Dumfries and Galloway	2000	16	10	8	17
Lothian and Borders	2000	56	41	29	82
	2001	46	36	26	73
TOTAL	2000	83	58	42	110
	2001	87	63	48	129

This species is under-recorded in most areas. Breeding success is restricted by persecution in all areas. This is preventing expansion of Goshawks into new home ranges. In Highland, only 3 pairs fledged young in either year from 8 home ranges checked. Occupancy was low (61%) in the North-east but the breeding success of the pairs located was good (2.35 young fledged/ occupied home range). In Tayside, the small number of home ranges checked were successful. In central Scotland, a nest that later failed was found in 2000. These birds were not present in 2001. In Dumfries and Galloway in 2000, occupancy was low (62%) with the birds being moderately successful (1.7 young fledged/ occupied home range). No home ranges were visited in 2001 as access was restricted because of the foot and mouth outbreak.

In Lothian and Borders there were several instances of recorded nest persecution in both years. Despite Foot and Mouth, the majority of sites were still monitored in 2001 owing to the good nature of Forest Enterprise and other landowners and the care taken by raptor workers entering and leaving forest areas.

Eurasian Sparrowhawk

Accipiter nisus

Orkney

Four sites were checked in 2000. None fledged young. In 2001, Sparrowhawks were more successful with 4 sites fledging a minimum of 6 young. Birds failed at another 3 sites.

Highland

Sparrowhawks in the Highlands had a lower productivity (3.13 young fledged/occupied home range) in 2001 than in 2000 (5.00 young fledged/occupied home range). The sample size was small.

Table 6. Sparrowhawk breeding data, Highland, 2000-2001

Year	Home ranges checked	Home ranges occupied	Pairs known to lay eggs	Pairs known to fledge young	Young fledged
2000	6	6	6	6	30
2001	8	8	7	7	25

Lothian and Borders

In 2001, Sparrowhawks in Edinburgh were surveyed. Fieldworkers were prevented from visiting other raptors as access was restricted due to foot and mouth.

Table 7. Mean number of young produced from all clutches of different sizes including those that produced no young (from Edinburgh 2001 G. D. Smith)

	Initial clutch size					
	1	2	3	4	5	6
Number	0	0	4	18	7	2
Mean brood size at hatching	0	0	2	2.61	4.40	5
Mean brood size at fledging	0	0	1.75	2.10	3.20	4.50

This survey by G. D. Smith shows a drop in productivity (2.08 young fledged/occupied home range) from M. McGrady's work from 1986 to 1989 (2.50 young fledged/occupied home range). The biggest losses were of young between hatching and fledging with 2 nests robbed of 4 young each and another 4 young found dead at the nest site with the other 2 missing and presumed eaten.

Common Buzzard

Buteo buteo

Orkney

Only 1 nest was located in 2000. It had a clutch of 3 eggs. It is not known if this nest was successful. A second pair was seen but no nest was found. In 2001, 3 home ranges were occupied. Only one was successful. The number of fledged young is not known. At the second home range, a nest was refurbished but not used, while at the third, no nest was found.

Highland

In 2000, 60 pairs were monitored in East Ross. An unusually large number did not lay (10), or failed just after laying. This was assumed to be linked to prolonged rain in late April. Another 13 pairs failed. Productivity was low (1.3 young fledged/occupied home range). In the other main study area in north and west Sutherland, productivity was higher at 1.68 young fledged/occupied home range from the 25 ranges monitored. Long dry spells of sunny weather may have assisted this improved output. In Skye and Lochaber (n=17), productivity was even higher with 1.76 young fledging/occupied home range. The greatest output was in the Black Isle, mid Ross and Badenoch and Strathspey, where 2.05 young fledged/occupied home range (n=22). In 2001, 51 pairs in East Ross had a higher productivity (1.35 young fledged/occupied home range) than 2000. The north and west

Sutherland population (n=15) was again successful with a productivity of 1.87 young fledged/occupied home range. Productivity fell in Skye and Lochaber (n=18) to only 1.28 young fledged/occupied home range. The Badenoch Buzzards were also less productive with 1.85 young fledged/occupied home range. Overall, Buzzards were slightly less successful in 2001 (1.50 young fledged/occupied home range) than in 2000 (1.55 young fledged/occupied home range).

Central

A post fledging survey of Common Buzzards in 2000 around Doune, revealed 11 successful nests rearing 22 young. In 2001, 12 occupied home ranges were found in the same area. The outcome of two of these is not known but the other 10 all reared young. Productivity for the Doune population in 2000 was 2.0 young fledged/occupied home range and in 2001 was 2.7 young fledged/occupied home range.

Table 8. Breeding success of Common Buzzards in Scotland, 2000-2001

Region	Year	Home ranges occupied	Pairs laying eggs	Pairs fledging young	Minimum number of young fledged
Orkney	2000	1	1	-	-
	2001	3	1	1	1+
Highland	2000	130	119	96	202
	2001	102	97	82	153
Central	2000	11	11	11	22
	2001	12	-	10	27
Argyll	2000	82	-	66	128
	2001	47	42	39	72
Uists	2000	19	-	-	41
	2001	21	-	-	38
Lothian and Borders	2000	43	-	30	67
	2001	2	2	1	1

Argyll

In 2000, Common Buzzards breeding in Cowal produced 1.9 young fledged/occupied home range ($n=31$) with 2 pairs failing on eggs and 1 with young. On Colonsay, 10 pairs out of 17 apparently failed or did not breed. The remaining 7 pairs bred rearing 9 young with a productivity of 0.52 young fledged/occupied home range. Buzzards on Bute were more successful with 2.21 young fledged/occupied home range ($n=14$). Data from SW Mull records that 20 successful pairs reared 30 young. In 2001, 18 occupied home ranges were monitored in the same area. All fledged young (1.61 young fledged/occupied home range, $n=18$). Fifty home ranges were checked on Colonsay. Twenty were occupied with 7 pairs presumed to have fledged 13 young (0.65 young fledged/occupied home range). Only 5 sites were monitored in Cowal (1.4 young fledged/occupied home range) but Buzzards were known to have occupied another 21 home ranges, most of which were believed to be successful. On Bute, 8 home ranges all fledged young with 2.38 young fledged/occupied home range.

Lothian and Borders

In the Borders in 2000, Buzzards were reported from 44 new tetrads. This brings the population closer to the estimated maximum of 1000 pairs. In a study area around Fountainhall, 26 home ranges were identified giving a density of 0.43 pairs/km². Nineteen nesting attempts were recorded with 10 successful pairs rearing 18 young (0.95 young fledged/occupied home range). In Mid and West Lothian, 24 home ranges were monitored. Four failed and the remaining 20 reared 49 young (2.04 young fledged/occupied home range). In 2001, access was restricted by foot and mouth precautions. In the Fountainhall study area, 29 home ranges were identified (0.48 pairs/km²). Only two nests were visited, one reared a single chick and the other failed.

Golden Eagle

Aquila chrysaetos

Highland

2000 was a successful year for Highland Golden Eagles. The poorest breeding success was in Lochaber (0.30 young fledged/pair) and in the east of the region (0.48 young fledged/pair) where it was linked to poor spring weather, land use changes and persecution. Birds on Skye (0.55 young fledged/pair) were more successful than in neighbouring Lochaber although this was below the annual mean for the island. The eagles in West Inverness bred well (0.64 young fledged/pair) but productivity was exceptional in NW Sutherland and Wester Ross (0.92 young fledged/pair). It is possible that these birds benefited from good spring and summer weather.

In 2001, overall breeding success (0.58 young fledged/pair) was above the annual mean of 0.50 young fledged/pair. The birds in West Inverness (0.75 young fledged/pair), in NW Sutherland and West Ross (0.81 young fledged/pair) and in the eastern part of the region (0.71 young fledged/pair) had a successful year. Lochaber eagles continue to have poor success (0.32 young fledged/pair) with the birds on neighbouring Skye being less productive than usual (0.46 young fledged/pair).

As part of the Golden Eagle re-introduction programme in Ireland, six chicks were removed, under licence, for translocation.

North-east

Breeding success was low in 2000, with only 5 pairs from 19 occupied home ranges fledging 6 young (0.32 young fledged/pair). Five pairs were known to fail with eggs. The other pairs may not have laid. This may be linked to poor weather in the spring. In 2001, 4 home ranges were occupied by single birds. Three of these home ranges are on grouse moors. Six pairs are known to have failed with eggs. Five pairs fledged 7 young (0.40 young fledged/pair).



Tayside

The eagles were less successful than usual west of the A9 in 2000 with only 2 sites fledging 3 young (0.33 young fledged/pair). Coverage east of the A9 was poor with data only collected from 4 successful home ranges. In 2001, 11 home ranges were checked with 6 pairs rearing 8 young (0.80 young fledged/pair). West of the A9, 8 home ranges were occupied and 3 pairs fledged 4 young (0.50 young fledged/pair). There is concern about the number of home ranges not producing young.

Central

In 2000, only 4 pairs fledged young in the 10 occupied home ranges (0.4 young fledged/pair). Two home ranges were occupied by single birds in 2001, with the other 7 which were checked occupied by pairs. Four pairs successfully reared 5 young (0.71 young fledged/pair). Disturbance by hang gliders may be a problem at one nest site.

Argyll

2000 was a more productive year (0.37 young fledged/pair) than 1999 (0.30 young fledged/pair) but the number of occupied home ranges fledging young (32.2%) was still well below the mean for the last 5 years (38.8%). The 2001 season was slightly better with 0.39 young fledging/pair and 33.3% of occupied home ranges fledging young. The majority of nests were on crags but 2 pairs bred in trees, a Scots pine and an ash, while one pair bred in a nest on the ground at the top of coastal slope.

Table 9. Breeding success of Golden Eagles in Scotland, 2000-2001

Region	Year	Home ranges checked	Home ranges occupied	Pairs fledging young	Minimum number of young fledged
Highland ¹	2000	95	95	44	52
	2001	96	96	42	55
North-east	2000	23	19	5	6
	2001	22	18	5	7
Tayside	2000	16	13	6	9
	2001	22	18	9	12
Central ¹	2000	10	10	4	4
	2001	9	9	4	5
Argyll	2000	62	59	19	22
	2001	54	54	18	21
Uists ²	2000	22	22	9	11
	2001	23	23	(5)	(7)
Dumfries and Galloway	2000	2	2	1	1
Lothian and Borders	2000	2	2	1	2
	2001	2	2	2	2
TOTAL (excluding Uists)	2000	210	201	80	96
	2001	205	196	80	102

1. The number of home ranges checked includes only those which were occupied in Highland and central Scotland.
2. Data from the Uists were not included in the totals as not all occupied home ranges were checked for fledged young.

Uists

In 2000, 22 occupied home ranges were identified in the Uists and Barra. Successful breeding was known to occur at 9 sites which reared 11 chicks. This was the most successful year since monitoring began in 1988. Golden Eagles were present on 23 home ranges in 2001 with breeding attempted on at least 13. Two sites were disturbed by an egg collector. One of these still managed to fledge a chick. Five home ranges are known to have fledged 7 young.

Dumfries and Galloway

Two pairs attempted to breed in 2000. Both laid 2 eggs. One pair hatched 2 chicks, one of which died. The other fledged. The eggs of the second pair failed to hatch.

Lothian and Borders

As usual, in 2000 only one pair was successful, although two young fledged. The success of the second pair in 2001 was attributed to reduced disturbance owing to Foot and Mouth restrictions.

Osprey

Pandion haliaetus

Table 10. Breeding success of ospreys in Scotland, 2000-2001 (from Dennis 2000, 2001)
The areas in the table are those used by Dennis (2001).

Region	Year	Pairs located	Pairs laying eggs	Pairs fledging young	Minimum number of young fledged
North (Highland)	2000	70	61	47	101
	2001	76	68	51	106
Aberdeenshire	2000	13	10	8	14
	2001	13	12	7	20
Perthshire/Angus	2000	50	36	-	52
	2001	45	37	29	60
South and West	2000	14	14	12	28
	2001	19	18	15	33
Lothian and Borders	2000	1	1	1	3
	2001	2	1	1	1
TOTAL	2000	148	122	-	198
	2001	155	136	105	220

North (Highland)

Productivity was higher in 2000 (1.44 young fledged/pair) than in 1999 (1.41 young fledged/pair). One pair lost its eggs, either to a pine marten or to humans. Another young pair lost their eggs in high winds. Six pairs failed when small young died. These were all in Moray and it may have been caused by a lack of flounders in Findhorn Bay. They all migrated successfully. Six more pairs were

located in 2001 than in 2000, with 5 more pairs laying eggs. At least 3 probably 4, nests were predated by pine martens. Three nests were robbed by egg collectors. Seven pairs failed to hatch their eggs. One of these was probably due to interference by a close nesting pair of Common Buzzards. A nest in Sutherland fledged 4 young, the first record of this brood size for the Highlands. Productivity was similar to 2000 with 1.43 young fledging/pair. In both years, twelve young were collected under licence and released at Rutland Water.

Aberdeenshire (North-east)

In 2000, productivity was low with 1.08 young fledging/pair. It is suggested that the failure of 2 pairs was caused by high winds. 2001 was similar with 3 pairs failing after strong winds. Productivity was higher at 1.54 young fledged/pair.

Perthshire and Angus (Tayside)

In 2000, the increase in the number of pairs continued with 5 more pairs located giving a total of 50 pairs. A pair built a nest on a building for the first time. Three nests were robbed of eggs. Productivity was 1.04 young fledged/pair. The number of pairs located fell by 5 pairs in 2001. Productivity was higher at 1.33 young fledged/pair. An adult Osprey was illegally trapped and had to be put down.



West and South (Central and Argyll)

The number of pairs located increased by 2 in 2000. These birds were very successful and produced a mean of 2.00 young fledged/pair. One home range was unoccupied. A chick ringed in Argyll in 1998 was recovered in Gambia in November. The ring was found inside a crocodile. In 2001, productivity was lower at 1.74 young fledged/pair but these Ospreys were the most productive in Scotland for the second year. Five new pairs were located.

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-

Common Kestrel

Falco tinnunculus

Ayrshire

In 2000, the first hen laid on 17 March. This was the earliest record for 29 seasons. Other birds didn't lay until much later with another hen laying the first egg of a clutch of 6 on the 31 March. The majority of clutches were started in April with two late clutches in the second week of May. It was a productive season with high brood survival which was expected as field voles were at a peak in their cycle.

Fieldwork in 2001 was curtailed by access restrictions related to the outbreak of foot and mouth. Eggs were laid later than 2000 with the first egg being found at a lowland home range on 15 April. Occupation of home ranges and clutch size were slightly down on 2000 but vole numbers were still high and the Kestrels had a good season.

Table 11. Breeding success of Kestrels in the Ayrshire Study Area, 1999-2001

	2001	Year 2000	1999
Number of home ranges checked	24	41	40
% occupation	70	76	52
Number of clutches known	15	22	10
Average clutch size	5.00	5.70	5.00
% of eggs which hatched	76	85	90
Number of results known	17	27	17
Average young per breeding pair	3.80	4.00	2.76
Average young per successful pair	4.60	5.65	4.30
Number of breeding attempts failed	3	4	6
% failed	23	15	35
% brood survival	98	93	91

Orkney

In 2000, five nests were reported. These raised 14 young from 4 nest sites. One ground nest was predated. Six nests were recorded in 2001, with another 6 sites being occupied. Three of the nests failed with 11 young being raised from the other 3. It is believed that 2 of the other occupied sites may have fledged young.

Highland

The downward trend in the number of recorded nests continued in 2000. Mean clutch size (4.4 eggs, n=11) was the lowest recorded. In 2001, 11 home ranges were again recorded. Clutch size (4.9 eggs, n=11) was higher than the previous year. Productivity was also higher with 4.2 young fledging/occupied home range in 2001 compared to 3.5 young fledged/occupied home range in 2000. More work is required on Highland Kestrels to ascertain if the population has declined in recent years or if the lower number of records reflects less interest in the species.

Table 12. Breeding success of Kestrels in Highland, 2000-2001

Year	Home ranges occupied	Pairs fledging young	Fledged young
2000	11	10	38
2001	11	11	46

Uists

Eighteen pairs were recorded in both 2000 and 2001. There is no data on the breeding success.

Argyll

In 2000, only 6 out of 20 known home ranges on the Ross of Mull were occupied. A pair bred on Bute and fledged 3 young. Sixteen home ranges were occupied in south-west Mull in 2001. Six of these were successful but the number of young reared is not known. Data from 11 home ranges recorded that 23 young fledged.

Table 13. Breeding success of Kestrels in Argyll, 2000-2001

Year	Home ranges occupied	Pairs fledging young	Minimum number of young known to fledge
2001	11	10	23



Merlin*Falco columbarius*

Table 14. Breeding success of Merlins in Scotland, 2000-2001

Region	Year	Home ranges checked	Home ranges occupied	Pairs fledging young	Minimum number of young fledged
Shetland	2000	-	10	8	27
	2001	-	8	6	16
Orkney	2000	-	15	4-8	13-24
	2001	-	14	10	34
Highland	2000	76	43	30	109
	2001	61	35	21	73
North-east	2000	86	37	27	102
	2001	70	39	35	104
Tayside	2000	86	38	25 ¹	75
	2001	56	33	15	43
Argyll	2000	7	3	3	11
Uists	2000	-	9	9	31
	2001	-	9	9	21
Dumfries and Galloway	2000	13	9	5	10
Lothian and Borders	2000	54	26	16	57
	2001	25	22	11	30
TOTAL	2000	-	187	127-131	435-446
	2001	-	160	107	321

¹ the number of young fledging from 4 home ranges is not known

Shetland

Fewer occupied home ranges were located and productivity was lower in 2001 (2.0 young fledged/occupied home range) than in 2000 (2.7 young fledged/occupied home range).

Orkney

2000 was the poorest breeding season for some years. Coverage was incomplete but only 15 sites showed strong signs of occupation with only 8 nests being found. Four of these nests could not be visited at fledging so the number of young known to have been reared on the islands is between 13 to 24. Only 14 occupied home ranges were located in 2001 as access was restricted early in the season by precautions against foot and mouth. Young hatched at all of the 11 nests located but at one site a whole brood was predated, while at a second, part of the brood was lost – probably by feral cats. The 10 successful nests are believed to have fledged 34 young. Productivity was 2.4 young fledged/occupied home range.

Highland

In 2000, 43 occupied home ranges were located, of which 3 were occupied by single pairs. Home range occupation improved in west Moray rising from 36% in 1999 to 66%. It fell in Inverness-shire from 50% to 38%. Excessive burning of heather is believed to be a factor as this removed nest sites. The mean clutch size of 4.3 eggs (n=29) was the highest recorded for the whole area. The mean of 3.6 young fledged/successful pair was above the long-term average. In 2001, site occupancy fell in Moray to 53% and in Sutherland, from 52% in 2000 to 48%. Inverness-shire was not covered as the fieldworker left the area. The mean clutch size was 4.1 eggs (n=17) with 3.4 young fledged/successful pair. Productivity was lower in 2001 (2.09 young fledged/occupied home range) than in 2000 (2.53 young fledged/occupied home range).

North-east

Despite cool wet spring weather, Merlins bred well in 2000. Occupancy was low on the lower moors on Deeside and Donside. Productivity was 2.76 young fledged/occupied home range. In 2001, breeding success was high. Weather in the early part of the season was warm and dry although it is probable that brood reductions later on were linked to wetter weather in June affecting more exposed sites. Productivity was lower (2.67 young fledged/occupied home range) than in 2000.

Tayside

Merlins had an extremely good season in Angus in 2000 with 44 young fledging from 18 occupied home ranges. Perthshire was less successful. Only 31 young fledged from 24 occupied home ranges. There is evidence to suggest that there is a continued decline in breeding pairs in the west of the area. In 2001, the Angus Merlins were less successful with only 15 young known to have fledged from 14 occupied home ranges. The reasons for this reduced success are unclear. Perthshire Merlins had improved breeding success with 28 young fledging from 21 occupied home ranges. The productivity for the whole area was lower in 2001 (1.30 young fledged/occupied home range) than in 2000 (2.21 young fledged/occupied home range) which reflects the poor season in Angus.

Argyll

Very few sites were monitored in 2000. Occupancy was low. Productivity was high with all three occupied home ranges fledging young. Coverage in 2001 was lower than in 2000 with only 5 home ranges being checked. Three were occupied but they were not followed up and it is not known if young fledged.

Uists

Merlins bred successfully at 9 home ranges with birds being seen at another 8 where the outcome was not known. The 9 pairs were successful fledging 21 young. In 2001, Merlins again bred successfully on 9 home ranges. They were recorded from another 6 home ranges.

Dumfries and Galloway

Merlins could not be monitored in 2001 as the outbreak of foot and mouth prevented access. In 2000, 9 pairs fledged a minimum of 10 young.

Lothian and Borders

Occupancy in 2000 continued to be low in the Lammermuirs (13 out of 28 home ranges occupied) and Moorfoots (5 out of 12 home ranges with signs of occupation). Coverage was restricted in the Moorfoots as access remains a problem. In the Pentlands, 5 home ranges out of 7 monitored were occupied. Four nests were located in trees. This is a reflection of the poor heather and the availability of shelter belts. Nests in the other areas are normally on the ground. Productivity was highest in the Pentland tree nests with 14 young fledging from 5 occupied home ranges. Over the whole area, productivity was 2.19 young fledged/occupied home range. Data from 2001 was collected from a variety of sources as access was restricted by foot and mouth. The recorded productivity was 1.36 fledged young/occupied home range. This figure must be treated with caution as coverage is incomplete and only partial data were obtained.

Eurasian Hobby

Falco subbuteo

In 2001 a pair of hobbies successfully bred in northern Scotland and reared 4 young. Birds were reported from another 2 possible breeding localities in the same year.

Peregrine Falcon*Falco peregrinus*

Table 15. Breeding success of Peregrine Falcons in Scotland, 2000-2001

Region	Year	Home ranges checked	Home ranges occupied by a pair or single bird	Pairs known to fledge young	Minimum number of young fledged
Highland	2000	37	26	12	25
	2001	45	26	18	40
North-east	2000	110	61	23	46
	2001	101	59	31	73
Tayside	2000	102	76	51	82
	2001	102	71	50	99
Central	2000	33	24	18	38
	2001	20	16	16	34
Argyll	2000	17	16	13	24
	2001	12	12	8	14
South Strathclyde	2000	34	21	9	23
Dumfries and Galloway	2000	109	86	48	103
Lothian and Borders	2000	64	51	23	54
	2001	15	9	6	17
TOTAL	2000	506	361	197	395
	2001	295	193	129	277

Shetland

Peregrines are now extinct in the Shetlands. No breeding Peregrines were found in either year. The last known pair bred in 1998 and fledged a single chick.

Orkney

Coverage was incomplete in both years. In 2000, four nests were located. These reared 5 chicks. Peregrines may have attempted to breed at another 9 to 10 sites. Seven sites were known to have been occupied in 2001 with 4 pairs fledging 11 young.

Highland

The high number of unoccupied sites is of concern. It is believed that a decline in available prey may be responsible for the loss of some pairs. Productivity was low in 2000 with many pairs failing to rear young (54%). Brood size of successful pairs was high (2.08 young/successful pair) compared to 1998 and 1999 (1.26 young/successful pair). Brood size for successful pairs in 2001 (2.2 young/successful pair) was slightly higher than in 2000 with fewer pairs failing to fledge young (31%).



North-east

Occupation of home ranges on grouse moors continues to decline with 46% of the home ranges that were checked occupied in 2000 and only 33% in 2001. It is believed that this decline is linked to illegal persecution. Productivity was also low with 0.50 young/occupied home range in 2000 and 1.06 young/occupied home range in 2001. This compares unfavourably with other inland home ranges associated with other land uses, which reared 1.57 and 1.40 young/occupied home range in 2000 and 2001 respectively. Occupancy was also higher with 56% in 2000 and 76% in 2001 of home ranges occupied. The lower occupancy in 2000 was linked to atrocious weather early in the season. Coastal Peregrines bred poorly in 2000 with only 3 young fledging from 15 occupied nest sites. It is believed that the majority of nests failed during a gale in late April. In 2001, these Peregrines reared a record number of young with over 21 young flying from 18 occupied nest sites.

Tayside

Productivity was low in 2000 across the whole region (1.08 young/occupied home range) compared to 2001 (1.39 young/occupied home range). In north-west Perthshire, a huge area now only supports a few breeding pairs. Persecution is not suspected but a lack of prey may be the problem. The number of coastal pairs increased.

Central

In central Scotland, productivity was higher in 2001 (2.13 young/occupied home range) than in 2000 (1.52 young/occupied home range). The settled weather from early spring through to late June may be the reason for this improvement.

Argyll

The majority of the Argyll data came from one area with only 3 nests in 2000 and 4 in 2001 being in other areas. Productivity was lower in 2001 (1.17 young/occupied home range) than in 2000 (1.50 young/occupied home range).

Uists

Peregrines were believed to be present and breeding at 10 home ranges in 2000. Birds were located at 12 home ranges with breeding proved at 8 in 2001.

Lothian and Borders

2000 was a poor season for Peregrines in south-east Scotland with only 45% of occupied home ranges fledging young (1.06 young/occupied home range). This may be due to poor weather. Failure due to persecution was suspected in several areas. Coverage was poor in 2001 as foot and mouth restrictions prevented access. Only 15 sites were checked with 9 occupied.

South Strathclyde and Dumfries and Galloway

Persecution is still a problem on grouse moors and in Ayrshire close to pigeon lofts. Productivity in 2000 was similar to 1999 (1.22 young/occupied home range in 2000, 1.19 young/occupied home range in 1999). Occupancy was higher in 2000 (80%) than in 1999 (69%). No sites were checked in 2001 as access was restricted by the outbreak of foot and mouth.

Barn Owl

Tyto alba**Highland**

In Highland, records were received from 5 nest sites in 2000. All were occupied with 4 successful pairs fledging 9 young. Twelve nests were reported in 2001. Two nests failed. The remainder fledged 23 young. Two other known nest sites were not used. The other records came from Argyll where 54 nests were found in 2000 and 32 in 2001 (Table 16).

Table 16. Breeding success of Barn Owls in Argyll, 2000-2001

Area	Year	Nests with eggs	Nests fledged young	Minimum number of young fledged
Cowal	2000	11	10	36
	2001	5	4	11
Mull	2000	1	1	2
	2001	2	2	3
Kintrye/Knapdale	2000	31	27	65
	2001	22	19	37
Other	2000	11	-	24
	2001	3	3	12

Tawny Owl

Strix aluco

Highland

Records were received for 43 nests in 2000 with 36 pairs successfully rearing 67 young (1.6 young fledged/occupied home range). Most of these records came from a study area in East Ross (n=36). Twenty nine pairs were successful, fledging 53 young (1.5 young fledged/occupied home range). In 2001, only 35 nests were recorded, This is partly due to lower occupancy rates and partly due to foot and mouth restrictions. Twenty-six of these nests were successful fledging 54 young (1.5 young fledged/occupied home range). In the East Ross study area, only 20 owls were known to lay with 12 successful nests fledging 30 young. This gave the same productivity as 2000. In the Inner Moray Firth, 11 nests were monitored with 10 successful nests rearing 18 young (1.6 young fledged/occupied home range).

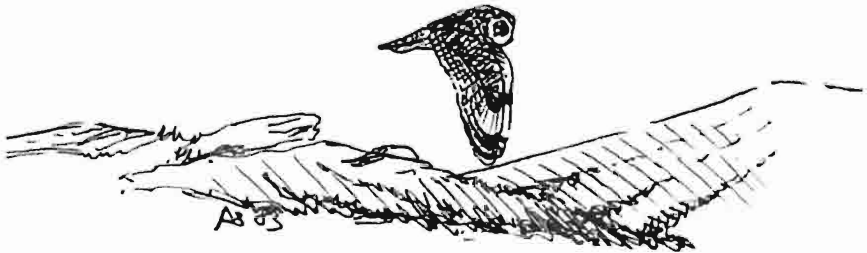
Argyll

Only one record was received in 2000. A pair fledged a single chick on Bute. In 2001, for the whole of Argyll, 21 pairs were known to fledge 29 young.

Short-eared Owl

Asio flammeus

The only records received were from Argyll. In 2000, a pair bred at RAF Machrinanish. Elsewhere in Kintyre, 2 to 3 pairs were recorded as breeding successfully in Glen Barr. On the Ross of Mull, there were 6 pairs and in Cowal, 7 to 8 pairs were located with at least 2 successful. In 2001, pairs were reported from Bute (1 pair fledged at least 1 chick), Islay (1 pair fledged 4 young) and Cowal where 5 pairs were located. Four of these were successful rearing over 9 young.



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