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Scottish Birds, the official publication of the SOC, contains original papers relating to ornithology in Scotland, short notes on bird observations, topical articles and Club-related news, reports of rare and scarce bird sightings and information on birding sites.

Four issues of *Scottish Birds* are published each year, in March, June, September and December. The SOC also publishes an annual *Scottish Raptor Monitoring Scheme* Report, which is produced on behalf of the Scottish Raptor Monitoring Group with grant aid from Scottish Natural Heritage. It is sent to all members.

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President's Foreword

In this 75th anniversary year it is fitting that the Club should seek ways to celebrate the contributions of individuals to Scottish ornithology. Consequently, Council has been reviewing our Honorary Membership and will announce a new Honorary Member at the Club's AGM at Carnoustie. The post of Honorary President has remained vacant since the death of Donald Watson in 2005. Council has considered this situation and following further discussion at the Council meeting in August expect to bring a proposal for Honorary President to the Club AGM in October for decision by members.

The summer has been busy as the SOC has also been working to recruit a Membership Development Officer (MDO) on a fixed term appointment. We received tremendous interest in the post, with around 60 applications. Interviews took place in August and we hope to have the new MDO in post shortly. The MDO will be charged with working with staff, branches and members to increase the membership and profile of the SOC. Please give them all your personal support as the Club moves forward.

This autumn sees two major events; shortly after this issue of *Scottish Birds* is mailed, Chris Packham will be giving the anniversary lecture in the Queen's Hall in Edinburgh. There may just be time for you to get your tickets! There will certainly still be time to book your place at the Annual Conference to be held in Carnoustie on 28-30 October. This year we have a special programme and I am particularly looking forward to hearing Ian Newton's lecture on bird migration. We are honoured to have Ian, one of the world authorities on migration, to come and give this special talk.

The Angus coast in late October is an interesting place to be holding the conference and hopefully, given the correct weather conditions everybody at the conference will be able to get out and find a few migrants on the Saturday morning. I hope that you will be able to join us.

This summer David Jenkins retired from the Editorial Panel of *Scottish Birds* on which he has served for 21 years supporting the editor. The SOC is built upon the unstinting support of members such as David and I'd like to thank him and all those who are responsible for ensuring that our journal remains of such a high calibre.

I write this foreword as the fieldwork for the latest UK Bird Atlas comes to a close. During the last four years a huge effort has been put in to ensure that coverage in Scotland has been comprehensive. I'd like to thank all the observers for their records and pay tribute to Bob Swann, the National Organiser for Scotland for all his efforts and also to all the regional organisers (and in particular those in large remote areas) to ensure that it has been such good coverage has been achieved. As we now move towards publication please can everybody make sure that all those last remaining records are submitted promptly and any queries are quickly resolved. All this will speed the publication of the Atlas – I am sure that there will be some fascinating new insights to Scotland's Birds and it will be great to see them in print.

As I shall be retiring as President at this year's Annual General Meeting, I'd like to thank everybody for their support and encouragement during the last two years, and to wish my successor, Ken Shaw, all the very best during his tenure.

David Jardine, President



Plate 176. Gamekeepers and hill men, Atholl Estate, 1886. © Courtesy of Atholl Estates archive

Raptor persecution on a large Perthshire estate: a historical study

R.L. MCMILLAN

The Atholl Game and Vermin Lists provide an almost continuous record from 1867 until 1988 and in many respects are unique for a large estate in Scotland. Large numbers of raptors and owls were destroyed by gamekeepers during the latter part of the 19th century and into the late 20th century. The implementation of legislation to protect predatory birds appears to have made little difference to persecution levels. Gamekeepers on individual beats seemed able to decide whether they killed predators or not. A few gamekeepers chose not to kill any birds of prey. Some persecution continued well into the late 20th century and a comparison between estate records and incidents recorded by the authorities strongly suggests that a substantial amount of illegal persecution was not recorded.

Introduction

Game and Vermin Lists provide a valuable source of information on the relative abundance of quarry species shot on sporting estates in Scotland. They also provide important data on the persecution of species perceived as pests or 'vermin', amongst them birds of prey. There are many historical accounts of this information, and more recently, a number of authors including Smout (2000), Lovegrove (2007) and Jones (2007) have brought some of the information up to date. Although an increasing amount of data is now in the public domain through local historical archives, much remains within private estate records, where there can be a degree of sensitivity as to its release. The author is currently collating and analysing previously unpublished

information as part of a broad examination of the problems of raptor persecution in Scotland (McMillan, in prep.). Most vermin records in Scotland are drawn from the 19th and early 20th centuries. The Atholl Estates records may be unique in that they span a period of 120 years.

Study area and methods

The Atholl Estates in Perthshire extend to 140,000 acres (Figure 1). Now held in trust, this is the second largest private estate in Scotland after the Buccleuch Estates in the Borders (Cramb 1996). The estate is divided into a portion north of Dunkeld and the major part north and north-west of Blair Atholl. Historically, the estate has been managed for sport shooting of Red Grouse *Lagopus lagopus* and Red Deer *Cervus elaphus* and was sub-divided into a number of units, which were let out to shooting tenants. These had their own dedicated gamekeepers or stalkers, and many had their own shooting lodges.

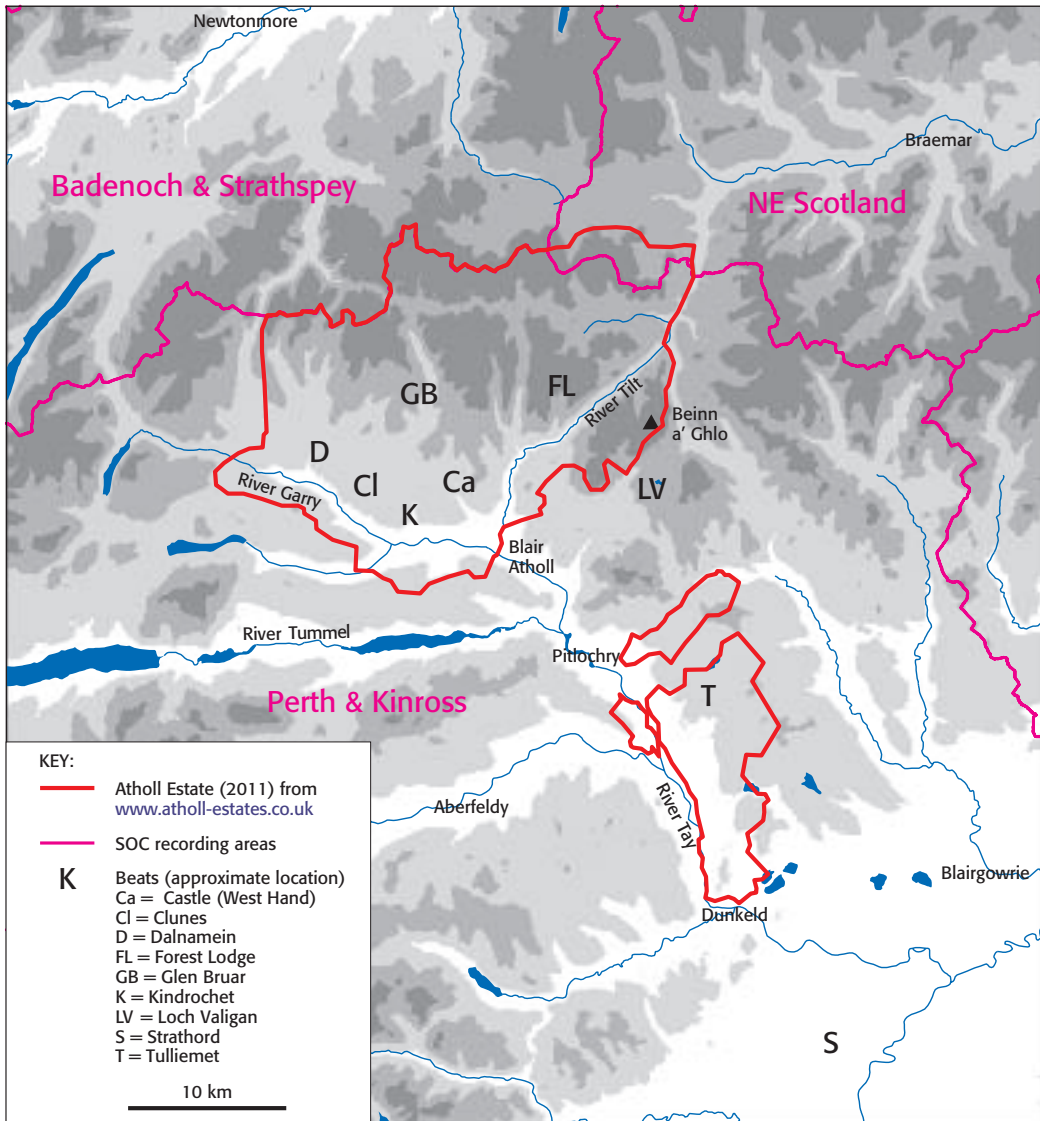


Figure 1. Map showing the location of the Atholl Estates, Perthshire.

To maintain the estate record of game and vermin killed, the individual shooting beats were required to complete a card by the end of February each year and this contained details from the preceding year. The same printed card had been in use for many years and this included hawks, owls and Ravens. Although the estate factor regularly checked the returns on these cards, it was only when a member of staff expressed concern that protected birds were included in the returns, that a new form was introduced for the 1988/89 season which excluded protected species.

Although shooting beats would retain their own game and vermin records, in time these were held centrally in the estate offices at Blair Castle. All the data in this paper was collated by the late Roger Hayward from the estate archives. Though the original datasets have not been checked by the author, from discussions with Roger Hayward when he was alive, and, more recently, with the archivist on Atholl Estates, there is no reason to doubt their veracity.

An analysis was made of the first dataset which forms an estate-wide record of the killing of predatory birds for the period 1867/68 to 1910/11. Game and vermin records for this period were collated centrally from the nine main beats of the estate namely Strathord, Tulliemet, Kindrochet, Loch Valigan, Forest Lodge, Clunes, Bruar, Dalnamein and the Castle Beat. The Castle Beat was also known as West Hand, but for the purpose of this paper is referred to as Castle. The recording season finished at the end of February as the season for shooting Red Deer hinds ends on 15 February. The lists also included mammals, but these have been excluded from this paper and the columns subdivided into Pests/Vermin and Game. The second part of the record commences in 1915/16 and was divided into individual beats, which contained the name of the specific gamekeeper on that beat. It was therefore possible to assess the 'vermin-killing effort' of the individual gamekeepers. However, as under-keepers were employed on every beat, any vermin killed by them would be included in the beat total. The record for some of these beats is incomplete. However, a detailed analysis was possible for two of the beats. To give some indication of the extent to which official statistics on persecution under-count the true figures, estate records for the period after the passing of legislation protecting birds of prey were compared with figures collected by the authorities.

Results

Game and vermin records 1867/68 to 1910/11

The overall totals of hawks, owls and Ravens *Corvus corax* killed in the period between 1867/68 and 1910/11 are shown in Table 1. In all 14,386 'hawks', 5,495 owls and 1,921 Ravens were killed. There is no evidence that Atholl Estates had at this time a policy of protecting Golden Eagle *Aquila chrysaetos* sites and it is therefore assumed that any in close proximity to grouse moors may have been systematically destroyed. The term 'hawks', is interpreted as including all raptors including Golden Eagle, Peregrine *Falco peregrinus*, Hen Harrier *Circus cyaneus*, Buzzard *Buteo buteo*, Kestrel *Falco tinnunculus*, Sparrowhawk *Accipiter nisus* and Merlin *Falco columbarius*. It may also have included species such as White-tailed Eagle *Haliaeetus albicilla*, Red Kite *Milvus milvus*, Goshawk *Accipiter gentilis* and Osprey *Pandion haliaetus* which became extinct during the period. Red Kite at least probably bred on the Atholl Estate (Drummond-Hay 1879, Holloway 1996). Atholl is one of the few vermin lists to include owls. Again, we do not know what species are involved, but assume Tawny Owl *Strix aluco* was the most common, with the area also holding Short-eared Owl *Asio flammeus*, Long-eared Owl *Asio otus*, as well as Barn Owls *Tyto alba*.

The annual cull of hawks remained fairly constant, probably as replacement birds came in from neighbouring areas to take up vacant territories. The same probably also applies to the owls. The numbers of Ravens killed declined considerably in the last 15 years of the recording period suggesting there was no surplus elsewhere to recruit from. Magpie *Pica pica*, which was virtually extinct in the area by the 1900s, was part of a systematic eradication policy, which removed it completely from the Perthshire avifauna. It has yet to re-establish itself as a resident breeding species in the north Perthshire area.

Table 1. Atholl Estate (all beats) persecution records and shooting bags 1867/68–1910/11.

Year	Crow	Raven	'Hawk'	Owl	Magpie	Black Grouse	Ptarmigan	Red Grouse	Capercaillie	Pheasant
1867/68	181	92	306	56	26	325	131	15728	60	214
1869/69	126	54	243	5	2	421	78	10949	29	288
1869/70	148	46	266	4	10	476	26	10687	36	231
1870/71	166	51	273	59	32	740	58	16341	63	446
1871/72	225	59	267	55	21	912	54	21155	135	522
1872/73	224	80	268	84	23	399	89	20962	89	552
1873/74	201	64	265	80	30	317	24	5138	56	652
1874/75	211	55	274	59	20	555	23	3079	101	626
1875/76	252	38	303	79	21	490	2	3626	98	517
1876/77	226	61	276	84	23	1031	8	8909	92	714
1877/78	220	76	278	65	30	553	27	13580	75	411
1878/79	276	76	311	78	24	815	61	14367	64	873
1879/80	298	42	225	100	18	530	75	18633	62	611
1880/81	341	37	240	71	7	757	154	19420	125	1026
1881/82	301	16	243	76	27	628	122	20459	195	1131
1882/83	335	36	234	83	18	370	83	16487	136	1187
1883/84	329	33	233	84	22	386	57	9556	187	1148
1884/85	281	32	221	78	31	376	113	11184	130	1148
1885/86	311	43	209	58	18	478	100	12482	88	860
1886/87	319	29	224	56	18	394	130	14770	75	695
1887/88	319	25	207	39	18	495	167	21921	174	1592
1888/89	328	22	206	70	19	391	113	23965	113	725
1889/90	335	21	226	75	29	270	120	19160	145	991
1890/91	337	19	230	63	17	225	141	18900	138	1012
1891/92	424	13	262	81	26	273	189	13660	127	903
1892/93	427	19	236	104	22	133	38	7273	65	691
1893/94	446	29	271	104	22	323	73	9304	85	2015
1894/95	446	26	247	104	11	313	13	11247	52	2275
1895/96	434	17	211	85	13	253	21	13173	105	3173
1896/97	458	19	212	112	30	346	77	14904	125	3183
1897/98	450	5	221	108	24	241	118	17447	87	2403
1898/99	377	2	289	101	24	507	72	16466	75	2806
1899/00	342	9	243	92	20	463	113	17279	103	2713
1900/01	404	8	270	130	16	563	155	22946	78	3036
1901/02	386	8	344	143	25	434	130	25136	106	4609
1902/03	365	8	311	117	12	341	36	16653	85	4018
1903/04	337	15	242	90	1	164	28	11520	204	3837
1904/05	279	13	252	124	2	293	149	12325	134	3418
1905/06	273	8	305	145	6	613	120	17838	216	4664
1906/07	317	29	339	98	0	575	133	22705	168	3605
1907/08	249	22	335	75	9	277	29	15730	156	2214
1908/09	194	27	293	135	10	506	140	15072	167	4650
1909/10	188	22	301	137	0	381	68	11690	99	2634
1910/11	186	28	216	85	0	639	112	16149	183	4032
TOTALS	13272	1434	11428	3731	777	19972	2827	659975	4886	78067
Mean	302	33	260	85	18	454	64	14999	110	1774

Taking into account normal population fluctuations, the numbers of Red Grouse shot remained consistently high throughout the period 1867–1911. There was a similar pattern for Black Grouse *Tetrao tetrix*, which probably benefited from the estate's pioneering tree-planting schemes. If anything, the number of Capercaillie *Tetrao urogallus* shot annually was increasing. It is evident from the game returns at Atholl that Pheasant *Phasianus colchicus* shooting became increasingly important from 1893/94. Associated with this would be intensive Pheasant rearing on the estate and the need for new measures around rearing pens. Over this period there was a 7% increase in the numbers of hawks killed, an increase of 15% in the number of crows killed, and a 33% increase in the number of owls killed. Historically, pole traps were used extensively around

Pheasant pens and this may have accounted for part of this increase. The fact that pole traps were banned in 1904 probably made little impact on their extensive use at the time.

Beat analysis 1915/16 to 1987/88

The volume of persecution probably declined in the period post 1915/16 when records were kept for the individual shoots, and these ceased in 1988. The following are ‘snapshots’ from the records. The Clunes Beat had its own lodge and may well have been sub-let to a tenant for the duration of the period shown in Figure 2 which shows the annual cull of owls, hawks and Ravens between 1916/17 and 1976/77 on the Clunes shootings.

The records show considerable variation between individual gamekeeper’s ‘persecution efforts’. The records bridge the period when the Protection of Birds Act 1954 came into force, but this clearly made no difference to the activities of the gamekeeper on the beat at that time. In fact persecution increased at the time of the implementation of the Act; in the two years bridging 1954–56, more owls were killed than in the preceding 40 years. Though Sparrowhawk did not receive legal protection until 1961, it was not thought that Clunes was a favourable habitat for this species. The persecution stopped when Phil Cairney assumed responsibility for keeping the Clunes beat in 1961/62. When Cairney left, some culling of Ravens resumed, then small numbers of hawks were killed from 1972/73. It was evident that a few gamekeepers, such as Cairney, did not follow the norm for the time, and protected hawks, Ravens and owls. This was also evident on the Castle Beat.

The Castle Beat was traditionally covered by the head keeper. Ravens did not breed on this beat and only small numbers were recorded as being killed. The annual totals of owls and hawks killed do not mean the birds were killed by the head keeper personally as he invariably was assisted by one or two under-keepers. As a contemporary record, the Castle Beat data is unique and covers a period of 70 years from 1917 to 1988 with four different head gamekeepers. It also covers the period in which the Protection of Birds Act 1954 was implemented; by 1961 all ‘hawks’ had legal

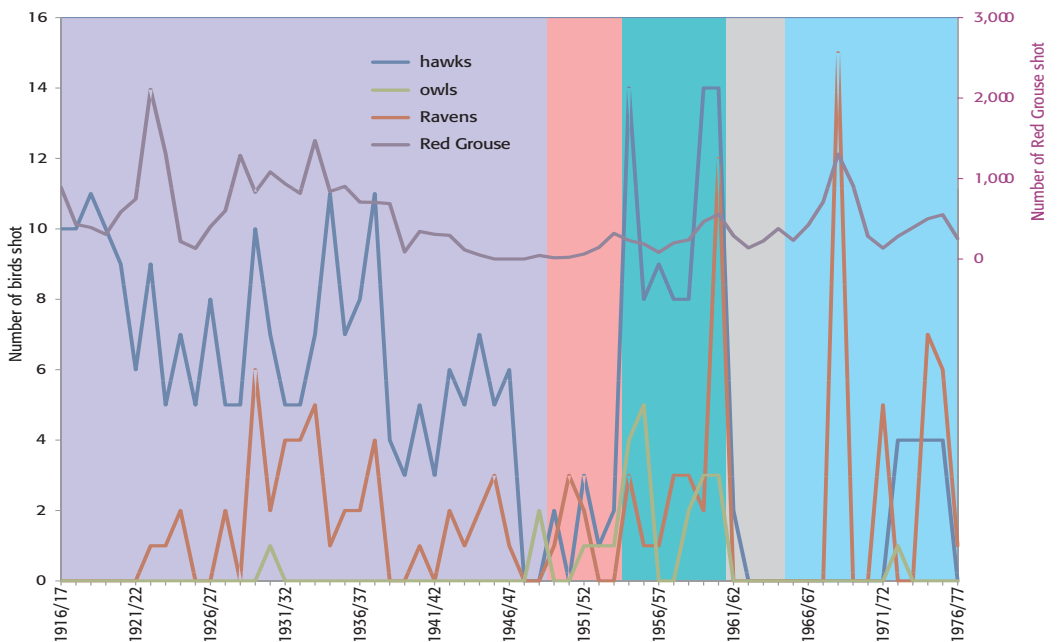


Figure 2. Numbers of owls, hawks and Ravens killed on the Clunes Beat, Atholl Estates, 1916/17 to 1976/77. The background colours reflect changes in keepers.

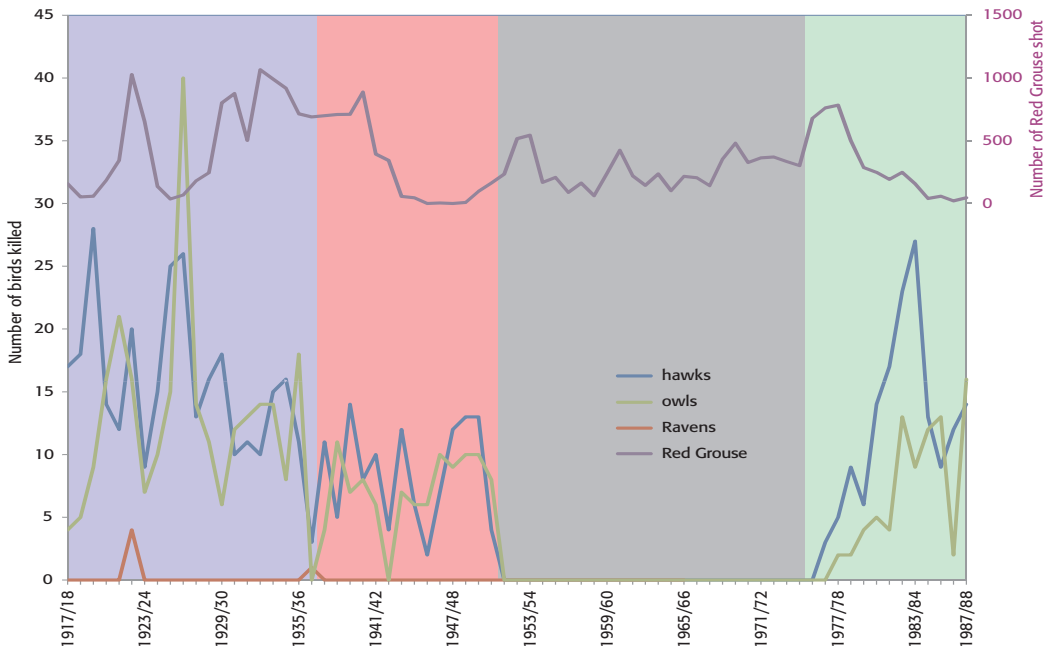


Figure 3. Numbers of owls, hawks and Ravens killed on the Castle Beat, Atholl Estates, 1917/18 to 1987/88. The background colours reflect changes in keepers.



protection. ‘Fergie’ Ferguson’ was head keeper from 1951 to 1976. He did not believe it was necessary to kill birds of prey and owls and this is evident from the statistics (Figure 3) and from personal discussions (R. Hayward pers. comm.). When Ferguson retired, it appears that the new head keeper gradually implemented increasing levels of hawk and owl control, which persisted until 1988 when recording stopped. It is understood that the new head keeper was trying to build up a significant Pheasant shoot at this time.

There were nine kept beats on the estate and I have extracted data from the lists to establish the last years when the persecution of hawks, owls and Ravens may have ceased, or at least ceased to be recorded (Table 2). Loch Valigan shoot is not included as it was sold off in 1946. The Strathord Beat is also excluded, as records ceased in 1935/36, but it is worth noting that in the 20 years for which records exist for that shoot, a total of 400 hawks and 535 owls were killed.

Plate 177. Fergie Ferguson, Atholl Estate. © c. 1970 Courtesy of Miss C. Ferguson

Table 2. Last recorded dates of persecution of hawks, owls and Ravens.

Beat	Hawks	Owls	Ravens	Remarks
Castle	1987/88	1987/88	1936/37	No Raven territories in this beat
Tulliemet	1964/65	1969/70	1981/82	
Forest Lodge	1975/76	1942/43	1975/76	This was deer forest so owls were scarce
Kindrochet	1981/82	1981/82	1979/80	All records ceased in 1981/82
Glenbruar	1961/62	1932–33	1967–68	This was deer forest so owls were scarce
Dalnamein	1972/73	1969/70	1975/76	
Clunes	1975/76	1972/73	1976/77	

The records for game and legally killed vermin such as Red Foxes *Vulpes vulpes* continued until 1999/2000. This raises the question whether illegal persecution on the various beats stopped at the times recorded? At Kindrochet, all records ceased in 1981/82 when 11 hawks and five owls were killed. As annual persecution had been consistent up to that time, there is no reason to suspect that the persecution effort would not have been sustained. Similarly, at the Castle, a total of 14 hawks and 16 owls were killed in the 1987/88 season, which does not suggest that the head keeper was subsequently going to cease persecution. At Tulliemet, Forest Lodge, Glenbruar, Dalnamein and Clunes, the extent of annual persecution recorded had been in slow decline suggesting that by the mid-1970s many of the gamekeepers may have stopped persecution completely. This raises a further question as to whether this was a self-regulatory response, or alternatively, did gamekeepers simply stop recording persecution? As part of the overall analysis it is important to examine any other information which was available at this time.

Raptor monitoring

Prior to the 1980s, very little systematic monitoring of raptor populations took place on Atholl Estates. During the 1970s, a number of Peregrine and Golden Eagle territories were checked by the author and Mike Marsland. Sandy Payne monitored Golden Eagle, Peregrine and Merlin sites on behalf of the RSPB between 1982 and 1986. Roger Hayward monitored Golden Eagles and Peregrines from the mid-1980s until his death in 2008, at various times assisted by Innes Smith. Ospreys first bred on the estate in the late 1970s and Keith Brockie has been actively monitoring this and other species on the estate for 30 years. Euan Cameron monitored Hen Harriers, Peregrines and Merlins on part of the estate from the 1980s until 2002. Wendy Mattingley has monitored Hen Harriers, Peregrines and Merlins on part of the estate since 2003.

During the mid-1970s and early 1980s there was some evidence that Golden Eagles were being interfered with and Peregrine breeding success was affected by the activities of falconers (personal notes, A. Payne & K. Brockie pers. comm.). Tulliemet developed as a large Pheasant shoot in the 1980s and there was evidence of poisoned baits, the destruction of young Peregrines and several other incidents including the removal of a pair of immature Golden Eagles during the 1980s (K. Brockie & I. Smith pers. comm.). Although the number of Ravens recorded killed had declined, the estate held some large Raven roosts in winter and there is some anecdotal evidence that these were targeted in the 1970s (W. Mattingley pers. comm.). Between 1989 and 1999 a number of incidents were logged by the RSPB on several shooting beats on the Atholl Estates (RSPB Scotland Investigations pers comm.), not all of which were confirmed, but which included shootings of raptors, trapping of birds including Golden Eagle and the deliberate destruction of broods of Hen Harriers and Peregrines. There was little evidence of persecution on either Dalnamein or Glen Bruar.

Discussion

The period coverage by the Atholl Estates Game and Vermin Lists are unprecedented for a single estate in Scotland. Details of published vermin lists, such as those contained in Lovegrove (2007), are for much shorter periods.



Plate 178. Fergie Ferguson with David Stephen, Atholl Estate. © c. 1960
Courtesy of Miss C. Ferguson

The Atholl record is also unusual in that it includes owls. It should be noted that the Wild Birds Protection Acts of 1880 to 1896 provided legal protection for 'owls' (the generic term was used) from 1 March to 1 August. The Wild Birds Protection (County of Perthshire) Order was implemented on 1 December 1898, which extended protection at all times of the year for all birds of prey, species of owls, and their eggs. The only exceptions in Perthshire were that Merlin was protected in the breeding season only, and that Hen Harrier and Sparrowhawk had no protection whatsoever. There is no evidence from Table 1 that this legal protection made any difference to the number of hawks and owls

killed. Figure 3 covers the period in which the Protection of Birds Act 1954 was implemented, and provided broad general protection to all species of raptors and owls with the exception of Sparrowhawk for which full legal protection was implemented in 1961. However, 'Fergie' Ferguson, who was a close friend of the naturalist David Stephen, put his views into practice even before the comprehensive legislation of 1954 was in place. He also influenced others and trained Phil Cairney, who looked after the Clunes beat as shown in Figure 2.

Smout (2000) has suggested that the returns of vermin killed might be exaggerated especially where bounty systems were in place. There is no evidence that any systems of paying bounties was in place on Atholl. From 1915/16, there is considerable variation in the persecution efforts made by individual gamekeepers which suggests that the head keeper, or, for that matter the estate, did not implement an overall policy of culling raptors. There is always a possibility that gamekeepers may have given false returns. However, given the absence of bounties, the remoteness of some of the shootings, and the difficulties of communication, it is equally likely that details of vermin killed might have been under-reported. While head keeper Ferguson implemented a tolerant and legal approach to the protection of raptors, he was unable to impose this approach on his other gamekeepers, although some others such as Cairney followed his lead. When a high level of persecution resumed on the Castle Beat with a new head gamekeeper in the 1970s and 1980s (Figure 3), the level of persecution on other beats on the estate appeared to be low, suggesting the head keeper was unable to direct the other gamekeepers to act illegally. However, it could also be that the other gamekeepers were more circumspect in recording data on activities which might potentially be incriminating.

By the late 20th century, Red Grouse bags did appear to be in slow decline and this is an area which would benefit from detailed analysis. Watson & Moss (2008) argue that it is possible to have a successful grouse shoot within the law. Red Grouse shooting was a relatively small component of the Castle Beat, but Ferguson averaged a bag of 285 Red Grouse over the 25 year period. His predecessor averaged 274 in 15 years and his successor 309 in 24 years. Red Grouse continued to be important on all the other shooting beats until the records ceased in 2000. At Forest Lodge, a bag of 1,032 Red Grouse in 1991/92 was the largest on record.

Measuring the levels of persecution against raptors is extremely challenging. Raptor crime is committed in an environment which is rarely policed or where cultural and social pressures mean it will rarely be reported. It is accepted that a large proportion of incidents will never be uncovered or reported. Monitoring raptor breeding performance can reveal indicators of persecution and pioneering work by Sandeman (1957) on Golden Eagles in Perthshire, found that on ground used for sheep and grouse, up to six birds were destroyed each year. Sandeman showed that field observations such as the presence of immature birds, the turnover of birds, evidence of nests being destroyed and robbed were valid indicators of persecution. In the north-east of Scotland, Watson (1957) also found heavy losses of Golden Eagles on sheep/grouse country, which he attributed to human persecution. Further indicators of persecution were evident in monitoring work carried out by raptor workers (Scottish Raptor Study Groups 1997). Etheridge *et al.* (1997) used data collected during annual monitoring of breeding Hen Harriers. They found evidence of human interference at nest sites on half of the grouse moor estates studied, and this accounted for at least 30% of breeding failures. These are examples of published studies which provide some validity for the use of 'persecution indicator' data collected by raptor fieldworkers in scientific studies. Some guidance regarding this is provided in Hardey *et al.* (2009).

Although the police are responsible for the investigation of crimes against raptors, they are unable to produce accurate statistics on raptor crime. Consequently, annual persecution reports produced by the RSPB (e.g. RSPB 2009) are extremely valuable tools, but deal only with known destruction. However, these known incidents have now been used in population modelling and analyses using Geographical Information Systems (GIS), and have shown that the most severe constraint on Scottish Golden Eagles in the central and eastern Highlands is illegal persecution, principally associated with grouse moors (Whitfield *et al.* 2008). Similar work on Hen Harriers has shown that breeding populations away from grouse moors have a higher net productivity and raise more young per year, because they are not persecuted. There is strong evidence in five Natural Heritage Zones in Scotland that illegal persecution of Hen Harriers is the most common reason when breeding attempts fail (Fielding *et al.* 2011).

Using data recorded by gamekeepers themselves is probably the most accurate way of measuring the extent of persecution over a period of time. The major drawbacks in the Atholl data are the lack of identification of individual species, the absence of data on the method of killing, and, certainly from the 1970s, a decline in recording levels. Watson & Moss (2008) suggest that the intensive predator killing that was widely practiced in the sporting estates of the 19th century relaxed somewhat during the latter part of the 20th century. The trends in the gamekeepers' own records on Atholl support that view. However, it is apparent that some persecution of raptors, including key conservation species such as Golden Eagle, Peregrine and Hen Harrier, continued on Atholl into the late 20th century.

On the premise that data recorded by gamekeepers itself is accurate, it is useful to compare this information against incidents recorded by the RSPB on the illegal killing of birds of prey in Scotland. Table 3 shows comparative data from the Blair Castle Beat with data for the whole of Scotland collated by the RSPB for the eight recording years from 1980/81.

Table 3. Comparison of gamekeeper records on one Atholl Estate beat with RSPB Scottish data, 1980/81–87/88.

Blair Castle Beat	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	Mean
Hawks	14	17	23	27	13	9	12	14	16.1
Owls	5	4	13	9	12	13	2	16	9.3
Totals	19	21	36	36	25	22	14	30	25.4
All Scotland, RSPB									
Hawks	9	23	16	12	10	8	13	12	12.9
Owls	0	0	0	1	2	0	0	3	0.75
Totals	9	23	16	13	12	8	13	15	13.65

The all Scotland data would also include incidents reported to and investigated by the police. The all Scotland data was collated by date to conform with the annual recording year used at Atholl. Most of this data related to single incidents and for comparative purposes only includes details of hawks and owls killed. Only in 1981/82 did the RSPB record more hawks killed in the whole of Scotland than was recorded on the Blair Castle Beat. Very few owls were recorded in the RSPB figures. The annual mean for predators killed on one shooting beat on Atholl Estate was 25.4, whilst the all Scotland mean was 13.7. There was no duplication between any of the figures, in other words there was no official record held by the RSPB of any of the gamekeeper recorded persecution incidents on the Blair Castle Beat. The head keeper's beat on this single large estate, between 1980 and 1988, therefore accounted for nearly twice as much illegal raptor and owl mortality as was officially recorded in the whole of Scotland. Whilst reporting of incidents to the RSPB may have improved, the keeper recorded figures for the period clearly endorse the RSPB (2009) position that "reported incidents represent minimum figures", and are merely the tip of the iceberg.

The purpose of this paper is not to be judgemental on the activities of gamekeepers or sporting estates. It has long been suspected that legislation and associated penalties had little preventive impact on overall persecution levels. There is also a tendency to generalise about the illegal activities of gamekeepers when individuals such as 'Fergie' Ferguson and Phil Cairney showed considerable independence in failing to conform with the behavioural norm of many of their peers. That Atholl Estates allowed them to operate within legal boundaries was to their credit. There is no evidence that persecution of raptors was part of an estate-wide policy to support important sporting interests during the second half of the 20th century. Conversely, there is no evidence that the estate had any positive policies of protecting Golden Eagles, Peregrines, or any other raptors. Persecution of raptors was probably driven by the individual prejudices and perceptions which gamekeepers had of raptors. Levels of persecution were probably influenced by the amount of effort individual gamekeepers were prepared to make. As the records show, this allowed the Head Gamekeeper in the 1970/80s to resume significant levels of persecution. Other evidence and 'persecution indicators' certainly suggest that several other gamekeepers were persecuting raptors at this time. There is no evidence that the owner or estate factor did anything other than condone these illegal activities. Keith Brockie had correspondence with the Duke of Atholl in 1982 regarding incidents involving Golden Eagles (K. Brockie pers. comm.). An incident was also reported to the police in summer 1986 as a result of which the RSPB had what was the first of several meetings with the then estate factor (T.D. Dick pers. comm.). There were opportunities for the owner or factor to impose constraints on their staff, but there is no evidence that this was done. Individual gamekeepers continued to operate with a great deal of autonomy, with little interference or direction from the head keeper, factor or owner.

Raptor workers have stressed that, certainly since the early 1970s on many parts of the estate, Hen Harriers and other raptors were allowed to nest in peace, and long-established nest sites for

Golden Eagles and Peregrines have been left alone. There is no suggestion that gamekeepers on the Atholl Estates continue to commit crimes against raptors or other species. Under the direction of Sarah Troughton the estate is now heavily committed to wildlife tourism and has developed a dedicated wildlife ranger service part-funded by Scottish Natural Heritage.

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Roger Hayward, who collated this data, monitored raptors on Atholl for over 20 years and worked tirelessly to establish good relationships with everyone on the estate. Roger, a member of Tayside Raptor Study Group, died in June 2008 and this paper is dedicated to his memory.

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References

- Cramb, A. 1996. *Who Owns Scotland Now? The use and abuse of private land*. Mainstream Publishing, Edinburgh and London.
- Drummond-Hay, H.M. 1879. Notes on the birds of the basin of the Tay and its tributaries. *Scottish Naturalist* 5: 56–62.
- Etheridge, B., Summers, R.W. & Green, R.E. 1997. The effects of illegal killing and destruction of nests by humans on the population dynamics of the hen harrier *Circus cyaneus* in Scotland. *Journal of Applied Ecology* 34: 1081–1105.
- Fielding, A., Haworth, P., Whitfield, P., McLeod, D. & Riley, H. 2011. *A Conservation Framework for Hen Harrier in the United Kingdom*. JNCC Report No. 441. Joint Nature Conservation Committee, Peterborough.
- Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. 2009. *Raptors. A field guide for surveys and monitoring*. 2nd edition. The Stationery Office, Edinburgh.
- Holloway, S. 1996. *The Historical Atlas of Breeding Birds in Britain and Ireland 1875–1900*. T. & A.D. Poyser Ltd.
- Jones, D.S.D. 2007. *Game on Lewis & Harris: past and present*. The Islands Book Trust, Isle of Lewis.
- Lovegrove, R. 2007. *Silent Fields: the long decline of a nation's wildlife*. Oxford University Press.
- RSPB. 2009. *The illegal killing of birds of prey in Scotland in 2008*.
- Sandeman, P.W. 1957. The breeding success of Golden Eagles in the southern Grampians. *Scottish Naturalist* 69: 148–152.
- Scottish Raptor Study Groups 1997. The illegal persecution of raptors in Scotland. *Scottish Birds* 19: 65–85.
- Smout, T. C. 2000. *Nature Contested: environmental history in Scotland and northern England since 1600*. Edinburgh University Press.
- Watson, A. 1957. The breeding success of Golden Eagles in the north-east Highlands. *Scottish Naturalist* 69: 153–169.
- Watson, A. & Moss, R. 2008. *Grouse*. HarperCollins, London.
- Whitfield, D.P., Fielding, A.H., McLeod, D.R.A. & Haworth, P.F. 2008. *A Conservation Framework for Golden Eagles: implications for their conservation and management in Scotland*. Scottish Natural Heritage Commissioned Report No. 193 (ROAME No. F05AC306)

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Local changes in bird numbers and habitat use in Midlothian

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To investigate changes in numbers of birds and their use of habitats in and around Penicuik, Midlothian, all the birds using 12 habitats in a 750 ha study area were counted on a series of four morning walks, repeated each month all the year round from October 2007 to September 2010, and compared with a similar study performed from October 1981 to September 1984 by the same observer. Overall, 77 species were recorded in the present study, one more than in 1981–84, but 18.7% fewer birds were recorded. Despite the overall decrease, 30 species recorded in 1981–84 had increased in numbers by 2007–10, e.g. Buzzard and Magpie. Monthly totals of all species and all individuals showed seasonal and annual variations. The seasonal average peak values for all species were similar in the two studies, but for all individuals these averages were reduced by 23.0% in the second study. Habitat use by species in 2007–10 was increased by 28.0% in hedgerows but only slightly increased on town greens and moors and was unchanged or decreased in all other habitats. Use by individuals (measured by densities) was increased by 11.2% in hedgerows, with much smaller increases in woodland habitats and burns and decreases in all other habitats. Decreases were greatest on fields and moors (56.9% and 49.2%, respectively). Some species, e.g. Rook and Dunnock, showed some changes in habitat preferences.

Introduction

Sumner (1987) gave details of the year-round numbers and habitat use by birds recorded between October 1981 and September 1984 in a study area in and around Penicuik, Midlothian. Since then bird numbers, nationally, have shown marked changes (Forrester *et al.* 2007, Risely *et al.* 2010).

The aim of the present study (from October 2007 to September 2010) was to repeat the previous study in exactly the same way with the same observer, to find out if there had been any local changes in habitats, usage or users in the 23 years since the end of the first study.

Methods

The total study area (c.750 hectares), habitats and methods employed for the baseline study (1981–84) have been described previously (Sumner 1987) and Figure 1 shows the routes of the four walks. The same study area, habitats, routes and methods were employed in this repeat study by the same observer.

Timing

Fieldwork for the present study was carried out from October 2007 to September 2010, inclusive. As for the previous study the four walks

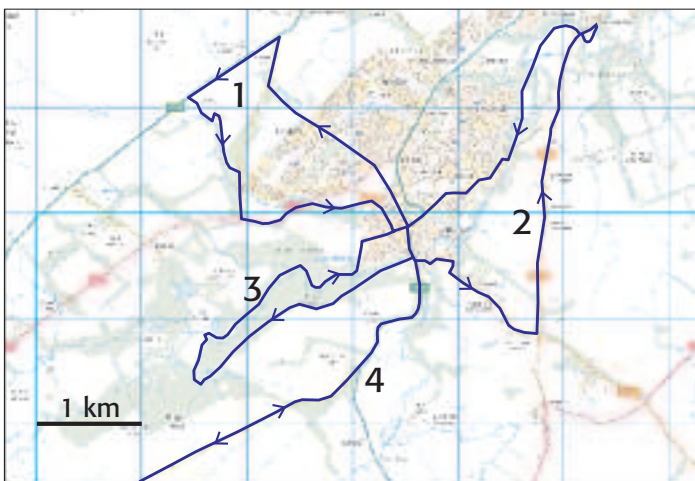


Figure 1. Location of the Penicuik study area, with details of the four walks. Contains Ordnance Survey data. © Crown copyright and database right 2010

were carried out in the same order each month and at the same time of day, i.e. mornings after 08:00 hrs and before 12:00 hrs. The aim was to space the walks evenly through each month, but fickle weather necessitated some irregularity of spacing, as it had done for the previous study. The observer kept a note of the exact time taken by each walk, in case the times turned out to be markedly different from the times taken in 1981–84, which might affect the results. Times and bird counts were tested for correlation by the Spearman Rank test (Fowler *et al.* 1998).

Birds and habitats

All the birds seen or heard using each habitat were counted and identified to species as far as possible. The criteria for habitat use were the same as those used in fieldwork for the Winter Atlas project (Lack 1986), but applied all the year round instead of only during the winter months. Changes in the habitats between this and the previous study were noted and adjustments made to areas or lengths as necessary. As for the baseline study, nine area habitats, measured in hectares (ha) and three linear habitats, measured in kilometres (km), were recognised. The area habitats were broad-leaved and coniferous woods, scrub, fields, moors, town and country buildings, town greens and still water. The linear habitats were hedgerows, the River North Esk and burns.

Comparisons

In order to compare usage between different habitats, the bird counts per habitat were converted to densities, i.e. numbers per hectare (ha) for area habitats and numbers per kilometre (km) for linear habitats, as for the previous study. To detect and measure changes from the previous study (1981–84) to the present study (2007–10), data from the two studies were compared in tables and graphs. For certain data statistical comparisons were made by Student's *t*-test, two-tailed, to assess the significance of differences, having first checked the datasets for similarity of variance using the *F*-test (Fowler *et al.* 1998).

Results

Times

During 2007–10 the total time spent on bird-counting walks in the whole three years was 346 h 15 min, 2.7% more time than in 1981–84 (337 h 7 min). Average monthly times were 9 h 22 min and 9 h 37 min in the first and second studies, respectively. Times and bird counts were found to be significantly correlated in the second study ($r = 0.6$; 2-tailed $p < 0.0001$).

Birds

The total number of bird species identified throughout the study area during the whole of the present study was 77, one more species than for the previous study. However, seven of these species were new in 2007–10. These were Teal *Anas crecca*, Tawny Owl *Strix aluco*, Kingfisher *Alcedo atthis*, Raven *Corvus corax*, Grasshopper Warbler *Locustella naevia*, Stonechat *Saxicola torquatus* and Reed Bunting *Emberiza schoeniclus*. Six different species, which had been recorded in 1981–84, were not recorded during 2007–10. These were Canada Goose *Branta canadensis*, Goosander *Mergus merganser*, Red Grouse *Lagopus lagopus*, Coot *Fulica atra*, Redshank *Tringa totanus*, and Cuckoo *Cuculus canorus*. None of the foregoing species involved many individuals, i.e. fewer than 10 for all except Redshank (50) and Red Grouse (27).

Thirty-nine species showed decreases in the number of records of individuals in the present study compared with the first study (Table 1). Of species which had been abundant in 1981–84 the greatest decreases were shown by Lapwing, House Sparrow, Starling, Willow Warbler and Rook. Considerable decreases were also shown by less abundant, but still common, species, e.g. Yellowhammer, Curlew, Oystercatcher and Meadow Pipit. Uncommon species included Wood Warbler, which was recorded regularly through the summer months of the first study, but only singly in May and June of 2008, in May of 2009 and not at all in 2010. Thirty species listed in Table 1 showed increases in the number of records of individuals in the second study compared with the first and some of these increases

were considerable (over 1000% of the numbers recorded in 1981-84). The largest increases were shown by Buzzard, Chiffchaff, Blackcap, Great Spotted Woodpecker, Collared Dove, Lesser Black-backed Gull and Magpie. Smaller increases (between 100% and 1000%) were shown by Brambling, Mute Swan, Goldfinch, Redwing, Mallard, Long-tailed Tit, Wren, Great Tit, Swallow and Robin. Omitted from Table 1 are the following species, for which there were fewer than 10 records of individuals in each study: Sparrowhawk *Accipiter nisus*, Great Black-backed Gull *Larus marinus*, Green Woodpecker *Picus viridis*, hybrid crow *Corvus cornix x corone*, Spotted Flycatcher *Muscicapa striata*, Grey Wagtail *Motacilla cinerea* and Siskin *Carduelis spinus*.

Table 1 shows differing trend between some closely related species. For instance, records of Lesser Black-backed Gull increased, but records of Herring Gull decreased. Chiffchaffs increased, but Willow Warblers decreased. Overall, the grand total of individual birds of all species recorded in the second study was lower by 18.7% than in the first study (63,241 compared with 77,759).

Table 1. Total numbers of individual birds of each species recorded in both studies, % changes, and total numbers of habitats used by each species, in the whole study area (750 ha). Omitted from this table are species which were only recorded in one of the two studies and species for which there were less than 10 records of individuals in each study (see text for these species).

Species (common name)	Species (scientific name)	Total numbers of birds recorded			Total numbers of habitats used	
		1981-84	2007-10	Change (%)	1981-84	2007-10
Mute Swan	<i>Cygnus olor</i>	2	12	+500	1	1
Greylag Goose (feral)	<i>Anser anser</i>	62	68	+9.7	4	2
Mallard	<i>Anas platyrhynchos</i>	20	51	+155	4	2
Tufted Duck	<i>Aythya fuligula</i>	12	13	+8.3	1	1
Grey Partridge	<i>Perdix perdix</i>	93	27	-71	3	1
Pheasant	<i>Phasianus colchicus</i>	369	231	-37.4	6	8
Grey Heron	<i>Ardea cinerea</i>	32	15	-53.1	5	6
Little Grebe	<i>Tachybaptus ruficollis</i>	15	25	+66.7	1	1
Buzzard	<i>Buteo buteo</i>	2	191	+9450	1	6
Kestrel	<i>Falco tinnunculus</i>	17	9	-47.1	5	4
Moorhen	<i>Gallinula chloropus</i>	36	34	-5.6	1	1
Oystercatcher	<i>Haematopus ostralegus</i>	147	56	-61.9	4	4
Lapwing	<i>Vanellus vanellus</i>	1199	90	-92.5	7	2
Snipe	<i>Gallinago gallinago</i>	12	11	-8.3	3	2
Curlew	<i>Numenius arquata</i>	348	116	-66.7	5	2
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	2243	2318	+3.3	8	7
Common Gull	<i>Larus canus</i>	5440	2609	-52	8	4
Lesser Black-backed Gull	<i>Larus fuscus</i>	35	419	+1097.1	6	4
Herring Gull	<i>Larus argentatus</i>	130	33	-74.6	8	3
Feral Pigeon	<i>Columba livia</i>	2022	3048	+50.7	8	7
Woodpigeon	<i>Columba palumbus</i>	6096	4506	-26.1	9	9
Collared Dove	<i>Streptopelia decaocto</i>	13	162	+1146	4	6
Swift	<i>Apus apus</i>	294	122	-58.5	6	6
Great Spotted Woodpecker	<i>Dendrocopos major</i>	4	73	+1725	1	6
Magpie	<i>Pica pica</i>	1	1096	+1095	1	9
Jackdaw	<i>Corvus monedula</i>	6746	5977	-11.4	9	9
Rook	<i>Corvus frugilegus</i>	6781	3004	-55.7	9	9
Carrion Crow	<i>Corvus corone</i>	3488	4026	+15.4	9	9
Goldcrest	<i>Regulus regulus</i>	713	326	-54.3	6	6
Blue Tit	<i>Cyanistes caeruleus</i>	3996	3942	-1.4	8	8
Great Tit	<i>Parus major</i>	1126	2389	+112.2	8	8
Coal Tit	<i>Pariparus ater</i>	1731	3391	+95.9	8	9
Skylark	<i>Alauda arvensis</i>	549	304	-44.6	4	2
Swallow	<i>Hirundo rustica</i>	532	1110	+108.7	8	9
House Martin	<i>Delichon urbicum</i>	330	227	-31.2	7	4
Long-tailed Tit	<i>Aegithalos caudatus</i>	57	134	+135.1	4	5
Wood Warbler	<i>Phylloscopus sibilatrix</i>	11	3	-72.7	1	1
Chiffchaff	<i>Phylloscopus collybita</i>	5	264	+5180	2	7

Willow Warbler	<i>Phylloscopus trochilus</i>	1659	632	-61.9	8	8
Blackcap	<i>Sylvia atricapilla</i>	3	111	+3600	2	6
Whitethroat	<i>Sylvia communis</i>	96	84	-12.5	6	6
Treecreeper	<i>Certhia familiaris</i>	9	10	+11.1	2	2
Wren	<i>Troglodytes troglodytes</i>	1101	2458	+123.3	8	9
Starling	<i>Sturnus vulgaris</i>	8482	2607	-69.3	10	9
Dipper	<i>Cinclus cinclus</i>	92	78	-15.2	2	2
Blackbird	<i>Turdus merula</i>	2457	1627	-33.8	9	9
Fieldfare	<i>Turdus pilaris</i>	303	583	+92.4	6	7
Song Thrush	<i>Turdus philomelos</i>	432	207	-52.1	9	8
Redwing	<i>Turdus iliacus</i>	17	68	+300	4	2
Mistle Thrush	<i>Turdus viscivorus</i>	47	39	-17	6	7
Robin	<i>Erithacus rubecula</i>	1938	3913	+101.9	9	9
Duncock	<i>Prunella modularis</i>	943	687	-27.2	9	9
House Sparrow	<i>Passer domesticus</i>	3283	978	-70.2	9	5
Tree Sparrow	<i>Passer montanus</i>	42	20	-52.4	3	1
Pied Wagtail	<i>Motacilla alba</i>	184	345	+87.5	8	8
Meadow Pipit	<i>Anthus pratensis</i>	662	263	-60.3	8	3
Chaffinch	<i>Fringilla coelebs</i>	9461	5815	-38.5	9	9
Brambling	<i>Fringilla montifringilla</i>	3	28	+833.3	2	2
Greenfinch	<i>Carduelis chloris</i>	955	1346	+40.9	9	9
Goldfinch	<i>Carduelis carduelis</i>	106	505	+376.4	9	9
Linnet	<i>Carduelis cannabina</i>	147	31	-78.9	5	3
Bullfinch	<i>Pyrrhula pyrrhula</i>	235	292	+24.3	8	8
Yellowhammer	<i>Emberiza citrinella</i>	263	48	-81.8	9	6

In both studies the monthly totals of species and individuals recorded displayed an annual and seasonal pattern (Figure 2). For species the peaks occurred between April and June, but for individuals the peaks recorded were between November and April. For numbers of species the three annual peak values gave the same average (48.7) in the two studies, but for records of

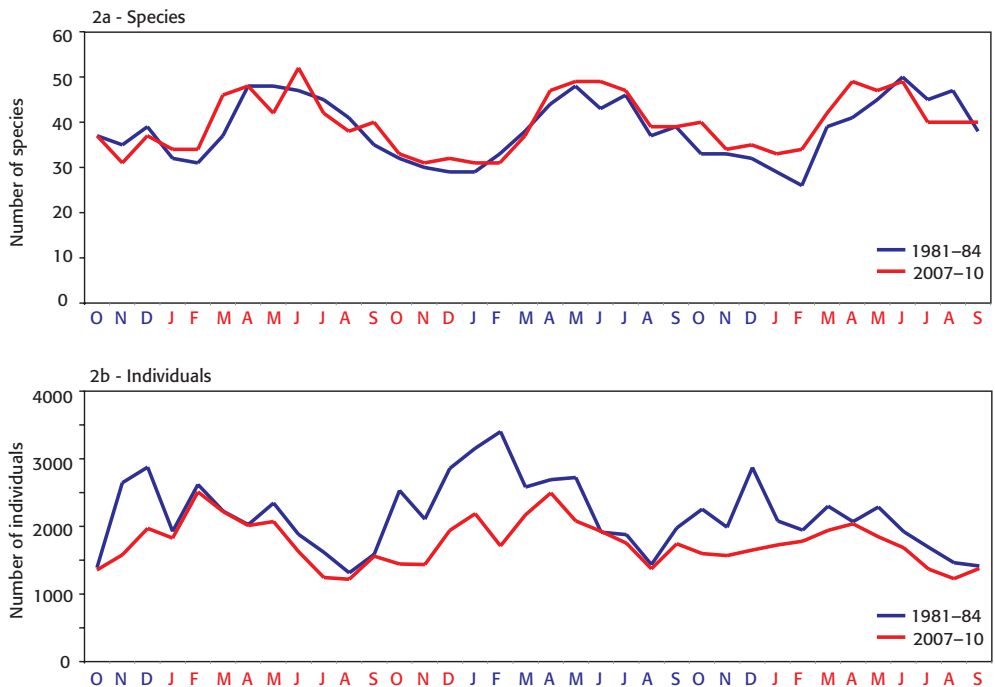


Figure 2. Total numbers of (a) species and (b) individual birds of all species recorded in the Penicuik study area in each month in 1981–84 and 2007–10. Months are indicated by their initial letters.

individual birds the average annual peak values decreased by 23.0% (3049 to 2348) from the first to the second study, which was statistically significant ($t = 2.99$; $p = 0.04$). The three annual lower values showed no significant changes in either numbers of species or records of individuals.

For many largely resident species the monthly totals of individuals recorded showed a pattern which was repeated each year (examples in Figure 3). In the first study there was often a peak of monthly totals in spring and, for some species, e.g. Dunnock and Robin, in autumn too. For many of these species the pattern was retained from the first study to the second, but showed significantly lower peak totals in the second study in species which decreased, e.g. House Sparrow (66.8% decrease; $t = 6.48$, $p < 0.0001$), and significantly higher peak totals in species which increased, e.g. Robin (115.9% increase; $t = -6.70$, $p < 0.0001$). However, for Dunnock, which decreased overall, the spring peaks were not significantly changed, but the autumn peaks were absent. For Great Tit, the spring peaks were significantly higher (by 66.8%; $t = -4.79$; $p = 0.0087$) in the second study and an autumn peak was more apparent.

For seasonal visitors their monthly totals obviously peaked at the time of their visit and were absent at other times of year (examples in Figure 4). Decreases in individual records from the first to the second study were expressed as lower peak totals, e.g. Curlew and Willow Warbler. Conversely, increases in individuals were expressed as higher peak totals, e.g. Chiffchaff and Lesser Black-backed Gull. Some visitor species which increased were not only recorded in higher numbers, but also for more months of the year, e.g. Chiffchaff and Lesser Black-backed Gull.

Habitats

Habitat changes are summarised in Table 2. Since the first study young coniferous plantations had matured and others had been felled. The net result was a 25.2% increase in the area covered by coniferous woods. Some of the area occupied by scrub in the previous study had become mature coniferous wood by 2007, but other, smaller areas, previously covered by conifers or broad-leaved tree species, were now scrub. The net result was an 18% decrease in scrub. Still water decreased by 29.4% from the first to the second study. All other habitats remained relatively unchanged in dimensions. As mentioned in the previous paper the area of fields (354 ha) is mostly pasture for sheep and cattle, with some fields occasionally ploughed to grow root crops or cereals for a season and then returned to pasture. In 1981–84, the maximum extent of fields used for these crops in any one season was 37% of the 354 ha, but in 2007–10 the maximum was much lower (4%). Pasture fields were occasionally left ungrazed and the grass harvested for silage.

Table 2. Changes in habitat dimensions from the first to the second study.

	1981–84	2007–10	
	Total ha for area habitats	Total ha for area habitats	Change (%)
Coniferous woods	40.4	50.6	+25.2
Broad-leaved woods	93.4	91.5	-2.0
Scrub	46.0	37.7	-18.0
Fields	354.0	354.0	0.0
Moors	148.2	148.2	0.0
Country buildings	12.5	13.0	+4.0
Town buildings	38.5	38.5	0.0
Town greens	15.2	15.2	0.0
Still water	1.7	1.2	-29.4
Total area:	749.9	749.9	0.0
	Total km for linear habitats	Total km for linear habitats	Change (%)
Hedgerow	4.5	4.8	+6.7
River	3.7	3.7	0.0
Burns	3.0	3.0	0.0
Total length:	11.2	11.5	+2.7

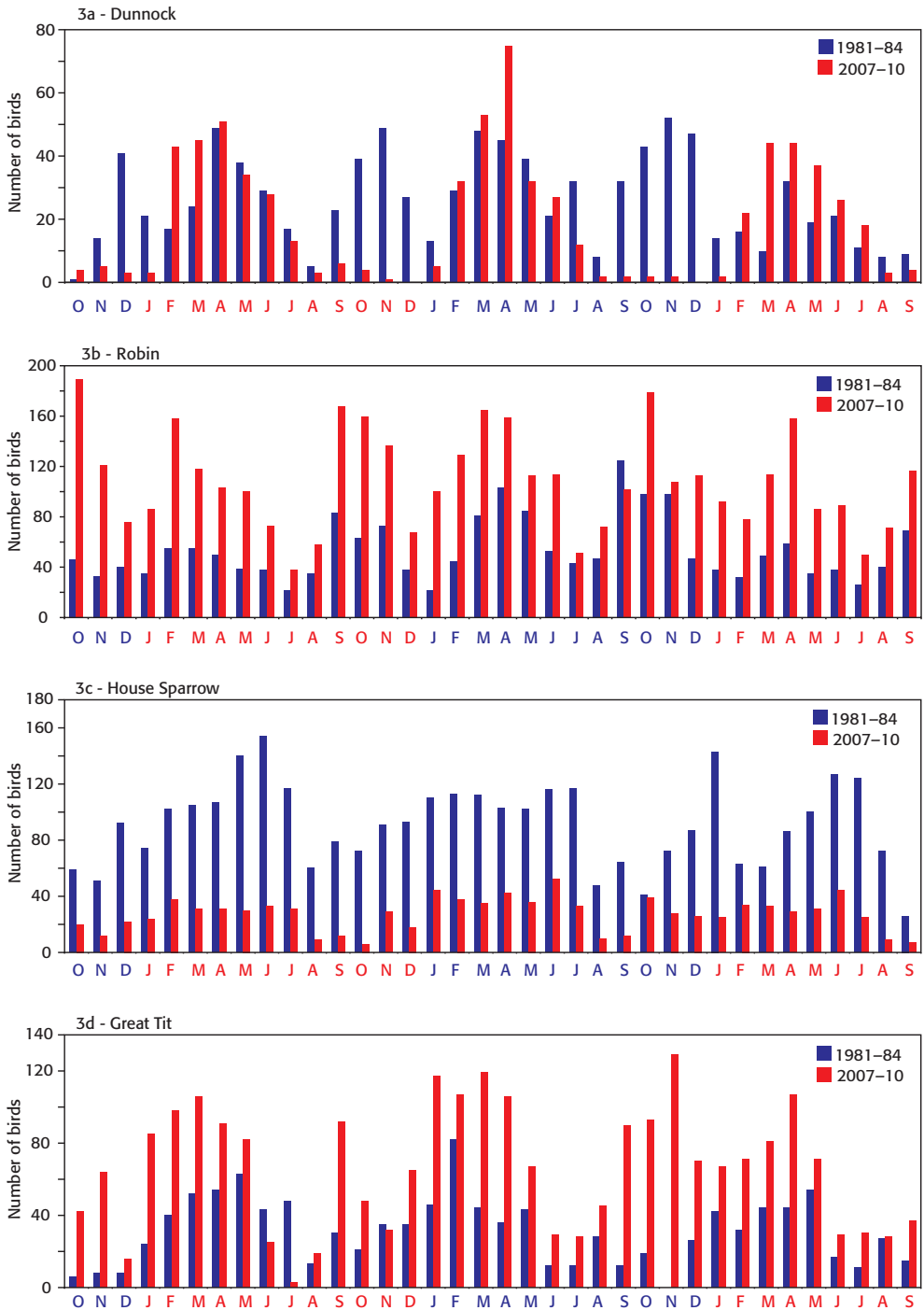


Figure 3. Total numbers of individual birds of (a) Dunnock, (b) Robin, (c) House Sparrow and (d) Great Tit recorded in the Penicuik study area in each month in 1981-84 and 2007-10.

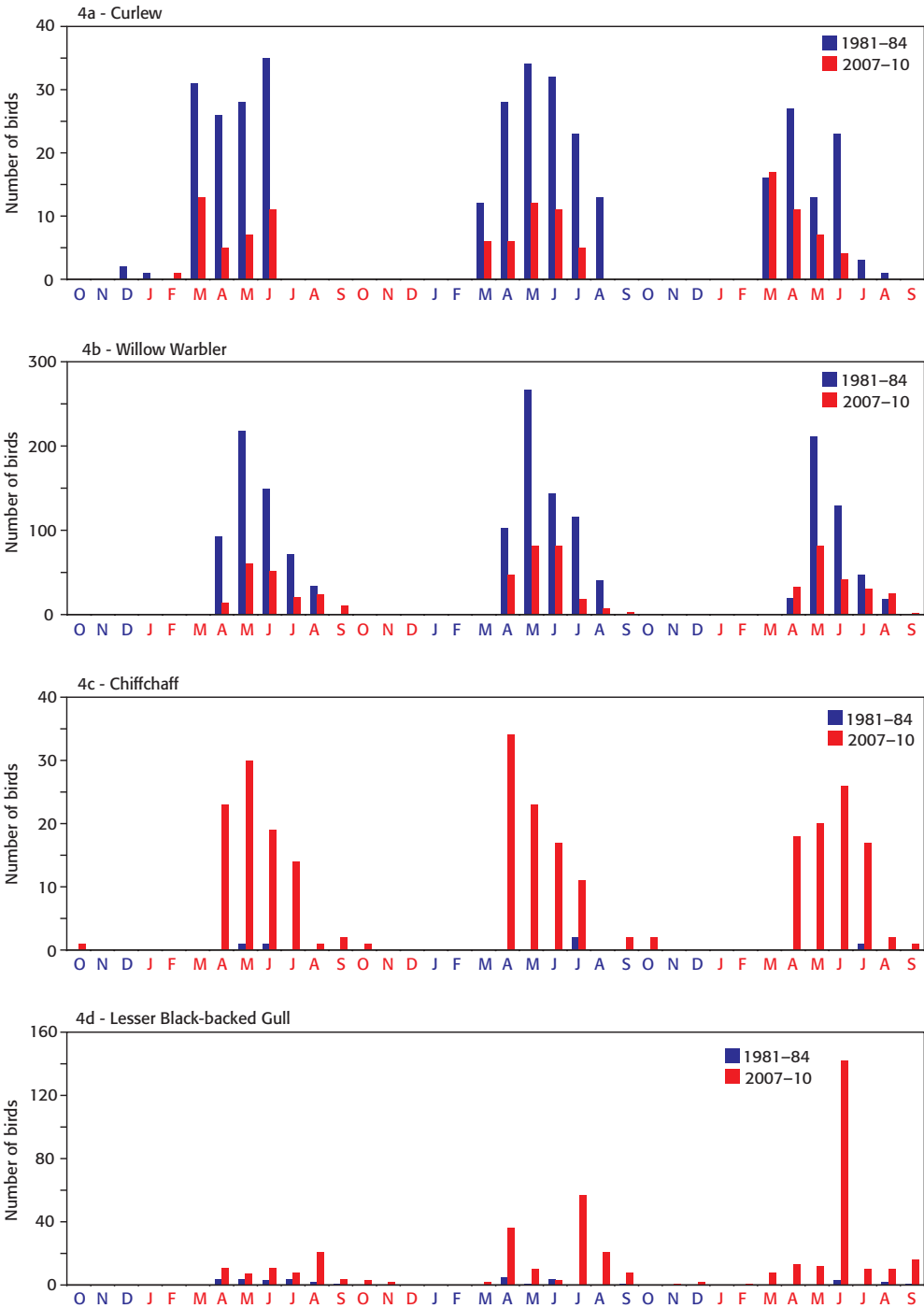


Figure 4. Total numbers of individual birds of (a) Curlew, (b) Willow Warbler, (c) Chiffchaff and (d) Lesser Black-backed Gull recorded in the Penicuik study area in each month in 1981–84 and 2007–10.

Habitat use by birds

The total number of habitats used by each bird species during each of the two studies is listed in Table 1. During the present study the greatest number of habitats used by any one species was nine; 15 species came into this category, including Starling, which had been the only species to use 10 habitats in the first study. In general the more abundant species used more habitats, e.g. Woodpigeon, four corvid species and three finch species, which all used nine habitats. However, this was not always the case because Common Gull which, in spite of a decrease, was still common in 2007–10, and Kestrel, which was rare, both used four habitats. As in the first study, aquatic species used few habitats. Overall, from the first study to the second, there was a 6.4% decrease in the total number of habitats used by the total number of species.

The total number of species and the overall densities of individuals of all species recorded using each habitat throughout both studies are illustrated in Figure 5. Scrub had been used by the highest number of species during the first study (56), but was the habitat showing the greatest change by 2007–10 (28.6% decrease to 40 species). Decreases were also found in species totals using still water (15.4%), country buildings (11.6%), coniferous woods (11.1%), broad-leaved woods (6.5%), fields (5.6%) and the river (2.0%). However, in hedgerows, town greens and moors increases in species totals were recorded (28.0%, 3.2% and 2.9%, respectively). No changes were recorded in species totals using town buildings or burns. Regarding the overall densities of individual birds of all species recorded using each habitat, the greatest changes were found on moors and in fields, where 56.9% and 49.2% decreases, respectively, were recorded from the first to the second study. Smaller decreases were observed on the river

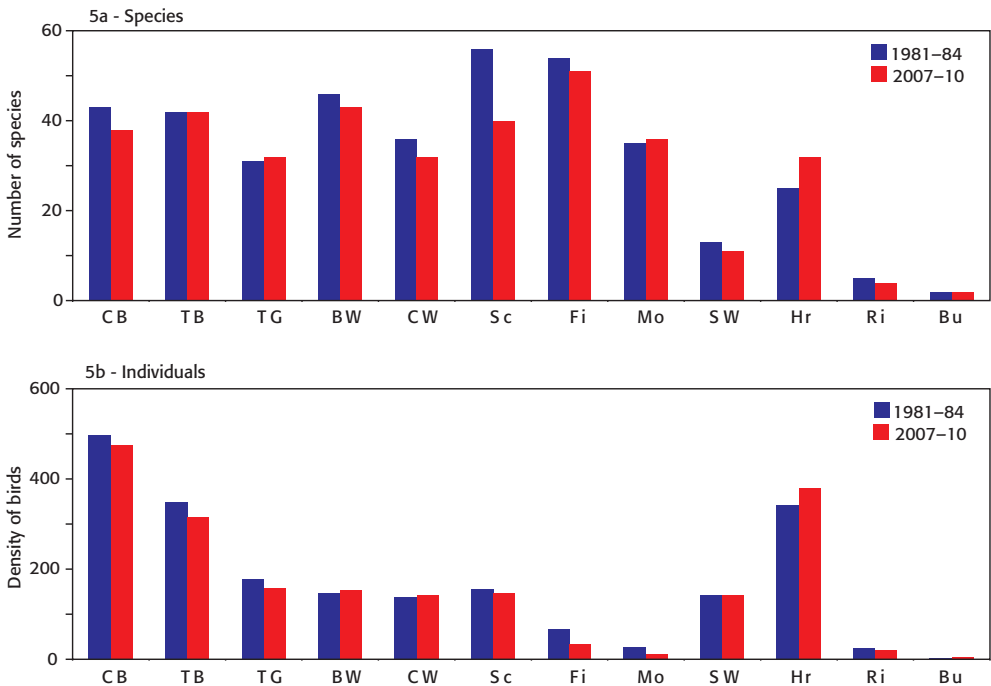


Figure 5. (a) Total numbers of species and (b) overall densities of individual birds of all species recorded using each habitat in the Penicuik study area in 1981–84 and 2007–10. CB, country buildings; TB, town buildings; TG, town greens; BW, broad-leaved woods; CW, coniferous woods; Sc, scrub; Fi, fields; Mo, moors; SW, still water; Hr, hedgerows; Ri, river; Bu, burns. Densities are numbers per hectare (ha) for area habitats and numbers per kilometre (km) for linear habitats.

(23.1%) and in urban habitats (11.9% and 10.0% for town greens and town buildings, respectively). Country buildings, scrub and still water showed the least decrease in densities between the first and second studies (4.5%, 5.8% and 0.9%, respectively). In contrast, in hedgerows the densities increased by 11.2%. Much lower increases were recorded in broad-leaved and coniferous woods and burns (3.4%, 2.7% and 0.9%, respectively).

The most marked seasonal variations in habitat use were found around town buildings, in fields and in broad-leaved and coniferous woods. Around town buildings (Figure 6) winter peak densities alternated with summer troughs and the mean peak densities were significantly reduced by 25.9% from the first to the second study, from 16.1 to 11.9 birds per hectare ($t = 6.9, p = 0.023$). In fields (Figure 6) twin winter peak densities alternated with summer troughs and both mean peak and mean trough densities were significantly reduced in the second study

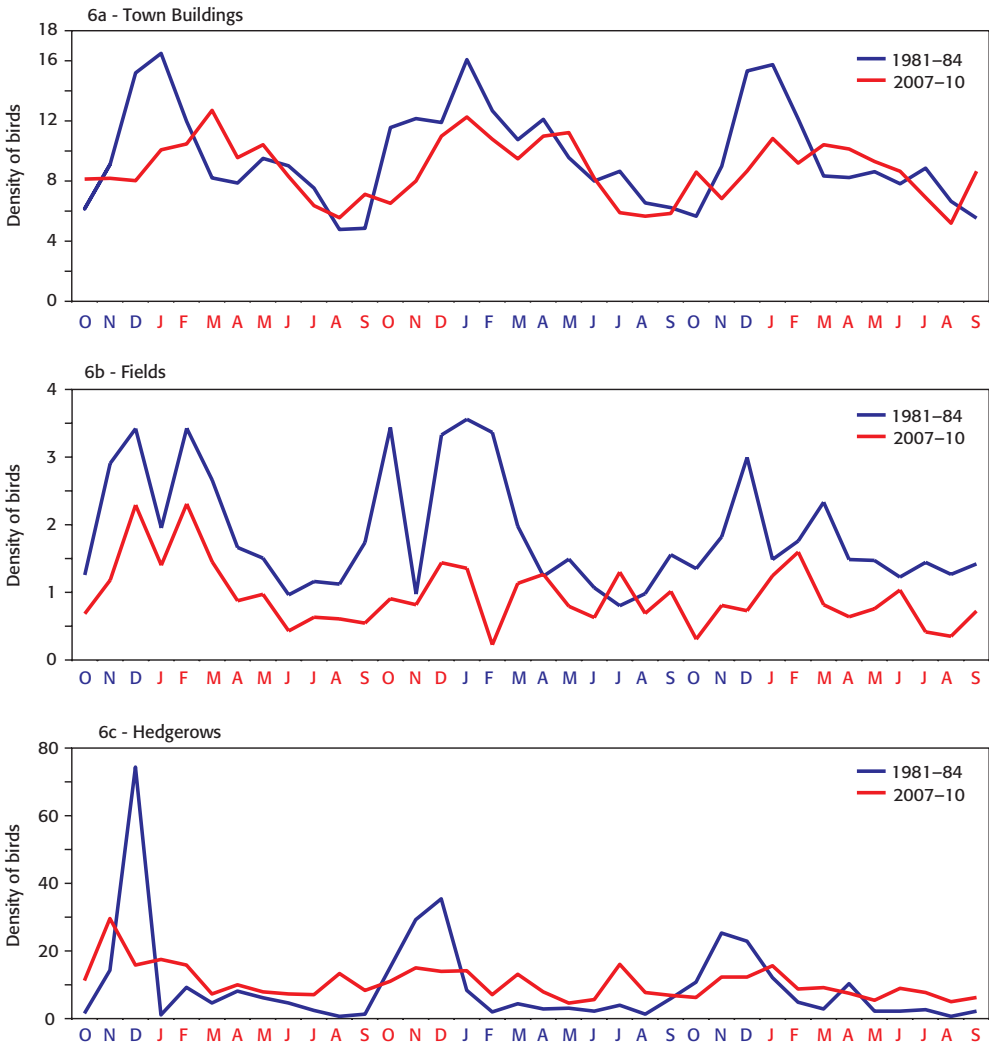


Figure 6. Monthly densities of individual birds of all species recorded using (a) town buildings, (b) fields and (c) hedgerows in the Penicuik study area in 1981-84 and 2007-10. Densities are numbers per hectare (ha) for area habitats and numbers per kilometre (km) for linear habitats.

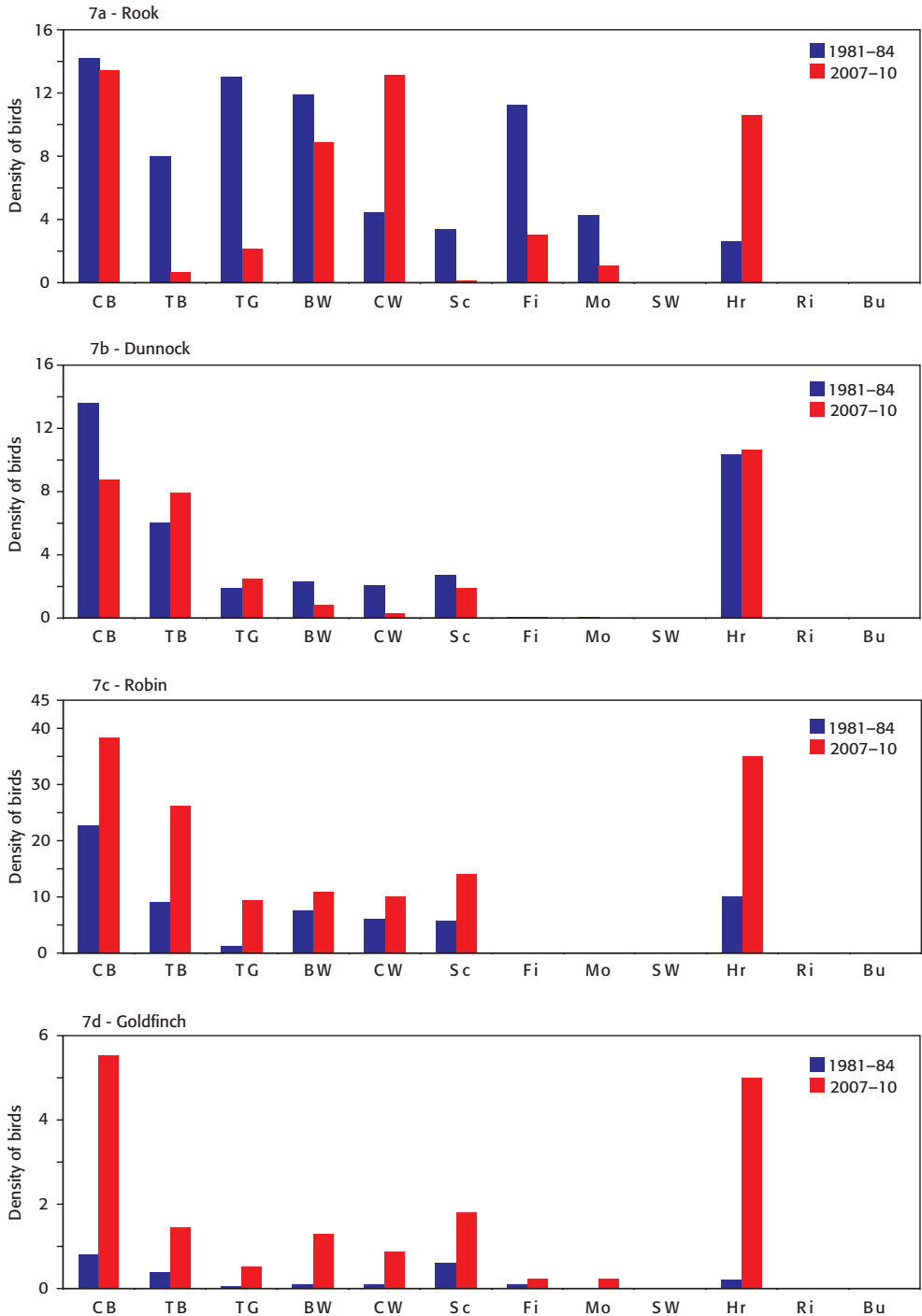


Figure 7. Overall densities of (a) Rook, (b) Dunnock, (c) Robin and (d) Goldfinch recorded using each habitat in the Penicuik study area in 1981–84 and 2007–10. Abbreviations for habitats as for Figure 5. Densities are numbers per hectare (ha) for area habitats and numbers per kilometre (km) for linear habitats.



Plate 179. Coniferous woodland, Penicuik Estate, May 2011. © Barbara Sumner



Plate 180. Broad-leaved woodland, Lowrie's Den, Penicuik, May 2011. © Barbara Sumner



Plate 181. Scrub, Penicuik Estate, May 2011. © Barbara Sumner



Plate 182. Fields between Lawhead and Coates Farms, Penicuik, May 2011. © Barbara Sumner



Plate 183. *Town green and buildings, Penicuik, May 2011. © Barbara Sumner*



Plate 184. *Still water, Low Pond, Penicuik Estate, May 2011. © Barbara Sumner*



Plate 185. *Hedgerow, Pomathorn Road, Penicuik, May 2011. © Barbara Sumner*

(by 46.6% and 56.6%, respectively; $t = 5.49$, $p = 0.0003$; $t = 6.36$, $p < 0.0001$). No significant changes in densities were found in the woodland habitats. In hedgerows there were sharp annual autumn peaks in densities in the first study, separated by low troughs, but in the second study the densities were more uniform all the year round (Figure 6).

In many species for which records of individuals decreased from the first to the second study, the decrease was observed in all or most of the habitats they used. In a few other species which decreased some change in habitat use was noted, e.g. Rook and Dunnock (Figure 7). Rooks showed an increase in densities in coniferous woods and hedgerows (191.1% and 307.6% increases, respectively), but their densities decreased in all the other habitats they used and reached a 91.3% decrease around town buildings. In contrast, Dunnocks became more urban, showing 31.7% and 31.6% increases in densities around town buildings and on town greens, respectively, but decreases in all the other habitats they used except hedgerows, where a very slight increase of 2.9% was noted. Some declining species, e.g. Lapwing, House Sparrow and Starling, used fewer habitats in the second study (Table 1).

In most species for which records of individuals increased from the first to the second study the increase was observed in all the habitats they used, e.g. Robin and Goldfinch (Figure 7). Some of the increasing species also exploited extra habitats, e.g. Blackcap (Table 1).

Discussion

The limitations of the methods were discussed by Sumner (1987). The transect method samples the wider population (Bibby *et al.* 2000). The numbers of bird species and individuals counted were necessarily only those which were visible or audible, and detectability might vary with, for instance, the weather, the season (vegetation cover) or bird behaviour. These limitations apply to both the previous study and the present study, so comparisons are considered valid, even though the relation between the transect counts and the actual population is not known.

One more species was recorded in the second study, but records of individual birds showed an overall decrease. However, this decrease masked considerable variation between species. For many species, the changes in bird numbers between the first and the second study were in line with Scottish national trends (Forrester *et al.* 2007, Risely *et al.* 2010). The difficulty lies in discovering the causes of the trends in this area, which are likely to be different for each species, and may be multifactorial.

Species showing remarkable increases in records of individuals included Buzzard and Magpie. This is probably because their persecution is now illegal, but removal of persecution did not result in an increase in Kestrel records in this area. It has been suggested that Kestrels may now be facing competition from Buzzards for food, since both prey on small mammals and these are said to be in short supply (Holden & Cleaves 2002, Forrester *et al.* 2007).

Predators which have been observed taking birds in the study area include birds of prey, Red Fox *Vulpes vulpes*, American Mink *Neovison vison* and domestic cats. Ground-nesting and water birds are vulnerable to Foxes and Mink (Newton 1998), but the effects of predators on overall numbers of most bird species in this area were not established.

Loss of arable land and increased intensification in farming practice nationally are thought to have contributed to the decline of some species, e.g. Grey Partridge, Lapwing, Linnet and Yellowhammer (Newton 1998, Forrester *et al.* 2007). In this study area the small amount of arable farmland decreased between the first and second studies, which might have contributed to the decrease in numbers of these species. However, the predominant land use in this district is as

pasture for rearing stock. Rooks are users of grassland, yet their numbers declined in the study area while the grassland did not. Their invertebrate food supply is said to have declined nationally in the past owing to the use of pesticides (Parkin & Knox 2010), but recovery may now be taking place. Rooks are known to be weather-sensitive owing to the high and exposed positions of their nests; their nesting success is greater in evergreen trees (Elkins 2004). Their increased use of evergreen coniferous woods in the study area bodes well for the future.

The decrease in overall bird numbers between the first and second studies led to lower monthly densities in many of the habitats studied and a loss of the former pattern of use in some habitats. Patterns were best maintained in woodland habitats and, at reduced density levels, around town buildings, where shelter and food supply may be more obtainable in winter than in some other habitats. Dunnocks, which decreased overall, increased in urban habitats, which suggests that they may have been seeking food and shelter there. They decreased in woodland in this study and have declined in woodland generally in Britain (Fuller *et al.* 2005). Several causes have been suggested, including changes in woodland understorey with grazing pressure from deer (Fuller *et al.* 2005). Roe Deer are quite frequently seen in this district.

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References

- Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. 2000. *Bird Census Techniques*. 2nd edition. Academic Press, London.
- Elkins, N. 2004. *Weather and Bird Behaviour*. 3rd edition. T. & A.D. Poyser, London.
- Forrester, R.W., Andrews, I.J., McInerny, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. & Grundy, D.S. (eds) 2007. *The Birds of Scotland*. The Scottish Ornithologists' Club, Aberlady.
- Fowler, J., Cohen, L. & Jarvis, P. 1998. *Practical Statistics for Field Biology*. 2nd edition. Wiley, Chichester.
- Fuller, R.J., Noble, D.G., Smith, K.W. & Vanhinsbergh, D. 2005. Recent declines in populations of woodland birds in Britain: a review of possible causes. *British Birds* 98: 116–143.
- Holden, P. & Cleeves, T. 2002. *RSPB Handbook of British Birds*. Helm, London.
- Lack, P. 1986. *The Atlas of Wintering Birds in Britain and Ireland*. T. & A.D. Poyser, Calton.
- Newton, I. 1998. *Population Limitation in Birds*. Academic Press, London.
- Parkin, D.T. & Knox, A.G. 2010. *The Status of Birds in Britain and Ireland*. Helm, London.
- Risely, K., Baillie, S.R., Eaton, M.A., Joys, A.C., Musgrove, A.J., Noble, D.G., Renwick, A.R. & Wright, L.J. 2010. The Breeding Bird Survey 2009. *BTO Research Report* 559. BTO, Thetford.
- Sumner, B.E.H. 1987. A comparative study of bird numbers in different habitats at Penicuik, Midlothian. *Scottish Birds* 14: 157–167.

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Plate 186. Gannets, Boreray, St Kilda, July 2010. © Stuart Murray

An aerial survey of the Bass Rock gannetry in 2009

S. Murray

An aerial survey of the Bass Rock gannetry was made using digital photography on 29 May 2009. The mean of two complete counts was 55,482 apparently occupied sites (AOS), an overall increase of 14.3% (average rate of 2.9% pa) since the last count in 2004. If this increase is maintained, the population on the Bass Rock will reach c.60,000 AOS around 2012, which will make it the largest colony of Gannets in the east Atlantic.

Introduction

The Bass Rock in the Firth of Forth is renowned for its spectacular colony of Gannets *Morus bassanus*. The number of apparently occupied sites (AOS) here has been increasing for over 100 years (Nelson 2005) (Plates 187 & 188), and Wanless *et al.* (2005) speculated that if the colony continued to increase at the same rate as between 1994 and 2004, it could potentially overtake St Kilda and become the largest colony of Gannets in the east Atlantic by 2014. However, this prediction was dependent on (a) there being enough suitable nesting habitat on the Bass Rock to accommodate the additional 11,524 AOS required to surpass the 59,622 AOS present on St Kilda in 2004, and (b) numbers on St Kilda continuing to remain more or less stable. An aerial survey of the Bass Rock in 2009 and a short visit to St Kilda in 2010 provided the opportunity to check both of these assumptions.

Methods

The count of the Bass Rock was made entirely from aerial photographs taken between 11:29 and 11:35 hrs BST on 29 May 2009. Flying conditions were excellent, with clear sunny skies and no turbulence, allowing several circuits to be made of the rock. Photographs were taken with a digital camera, a Canon EOS1000D equipped with a 70–300 mm lens. More than 200 images were recorded, of which 21 were selected to give 100% coverage of the colony. These images were made into A3-

sized colour prints and formed the basis of the count. The count unit was the apparently occupied site (AOS), which was defined as a site occupied by one or two Gannets irrespective of whether nest material was present. The status of single birds can be difficult to assess from photographs, particularly those at the edge of dense breeding areas, where many are likely to be 'club' birds, of which some will be immature. Where possible other indicators were used to discount these non-site holders, such as the loose dispersion of birds at the periphery of established breeding areas (Plate 189). Sites meeting these criteria were marked off on a transparent sheet laid over each colour print.

Additional digital images were used to check difficult areas, particularly those in cliff Sections 5 and 6, which were in deep shade at the time of the survey. Such images were viewed on the computer screen and manipulated to clarify the point of interest. Although time consuming, this combination of methods made counting a fairly straightforward exercise and greatly improved the level of individual AOS interpretation that could be achieved, compared to previous counts made with a camera using slide or print film (Murray & Wanless 1986, 1997).

As in counts made since 1985, the colony was counted in sections, the boundaries of which correspond to the natural lines of the cliffs and slopes, or man-made features (Figure 1, Table 1). One of the most obvious of the latter is a ruined wall enclosing a long-defunct garden (Plate 189). In surveys up to 2004 this was included in Section 9. However, since it is the only area yet to be colonised by Gannets and thus of particular interest, it was separated off as a new section designated Section 13.

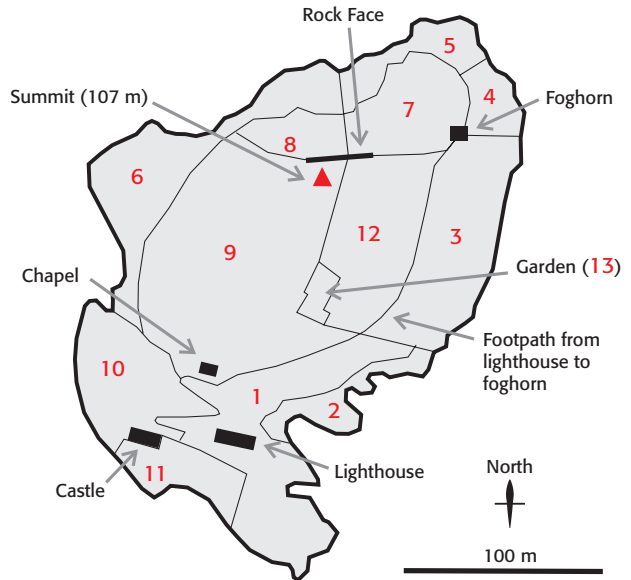


Figure 1. The main features of the Bass Rock and the boundaries of count sections in 2009.



Plate 187. Bass Rock, 5 June 1969. © RAF/Operation Seafarer



Plate 188. Bass Rock, 29 May 2009. © S. Murray

Table 1. Counts of apparently occupied sites of Gannets per section, Bass Rock, 2009.

Section number	Section orientation and type	1st count	2nd count	Mean count	Difference between counts (%)
1	east slope	4648	4578	4613	-1.5
2	east cliff	368	388	378	+5.4
3	east cliff & slope	7014	7006	7010	-0.1
4	north east cliff	376	362	369	-3.7
5	north cliff	464	455	460	-1.9
6	north west to west cliffs	1181	1223	1202	+3.6
7	north slope	7931	8068	7999	+1.7
8	north slope	4164	3781	3973	-9.2
9	north west to south slope	20087	19893	19990	-1.0
10	west cliff & south slope	3079	3022	3050	-1.9
11	south cliff	313	326	320	+4.2
12	east slope	6128	6108	6118	-0.3
13	south summit 'garden'	0	0	0	0.0
Total		55753	55210	55482	-1.0

Table 2. Counts of apparently occupied sites of Gannets on Bass Rock 1985 (Murray & Wanless 1986), 1994 (Murray & Wanless 1997), 2004 (Murray *et al.* 2006) & 2009.

Section number	1985	1994	2004	2009	Change between 2004 and 2009 (%)
1	1227	2737	4087	4613	+12.9
2	320	645	240	378	+57.5
3	3436	6867	7226	7010	-3.0
4	505	613	349	369	+5.7
5	1909	1026	442	460	+4.1
6	1560	2119	1066	1203	+12.9
7	4185	7885	8191	7999	-2.3
8	2707	3630	3530	3973	+12.5
9	5371	12651	18885	19989	+5.8
10	369	1578	2925	3050	+4.3
11	0	0	157	320	+103.8
12	0	0	1000	6118	+511.8
13	0	0	0	0	0.0
Total	21589	39751	48098	55482	+14.3

In July 2010, a ten-day visit was made to Boreray, St Kilda. Although no comprehensive survey of the gannetry was carried out, monitoring plots defined on the island in 1980 (Wanless & Wood 1982) were recounted, for the first time since a previous land visit in 2003 (S. Murray pers. obs.).

Results

Bass Rock

Two complete counts of the Bass Rock gannetry were made, giving totals of 55,753 AOS and 55,210 AOS respectively (mean 55,482 AOS, Table 1). The difference between the two totals was only 1.0%. Counts of the individual sections also showed a consistently low rate of variation with all except one being within 5% or less of each other.

Comparison of the 2009 total with that for 2004 indicated that overall numbers had increased by 14.3% (Table 2), equivalent to an annual rate of increase of 2.9%. A growth rate of between 3% and 5% per annum (pa) was predicted from earlier work by Nelson (1978), based on rates of productivity, pre-breeding mortality and annual adult mortality. Since 1985, the growth rate has fluctuated between 1.9 and 5.3% pa (Murray & Wanless 1986, Wanless *et al.* 2005), which is sufficient to account for the colony increase to be due to intrinsic growth alone, rather than as a result of net immigration.

Comparisons of the sectional totals showed that over the period six were largely unchanged (3, 4, 5, 7, 9 & 10; Figure 1) with differences between counts of 6% or less (Table 2). In accord with this, detailed inspection of images of these sections did not reveal any obvious changes in the area occupied, or the density of AOS, either on cliff face or slope sections. The exception was the upper slopes of Section 9, where a small area of increase shows clearly in comparison with similar photographs taken in 2004, with birds now nesting up to the lower wall of Section 13 (Plate 189). The other six sections (1, 2, 6, 8, 11 & 12; Figure 1) have all increased by more than 10% since 2004. The most spectacular increase being in Section 12 on the summit slope, where numbers of AOS increased by 512%, from 1,000 in 2004 to 6,118 in 2009 and accounted for 69%

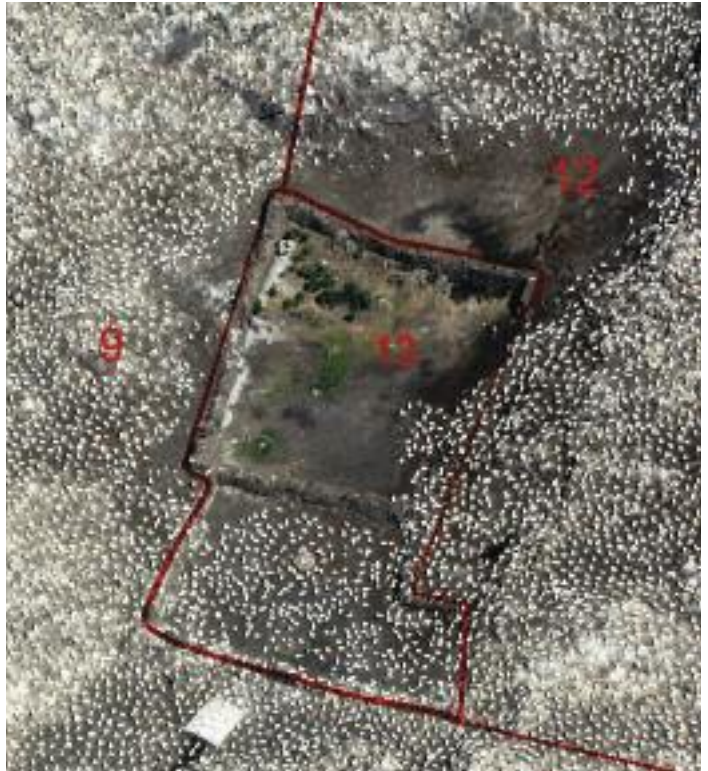


Plate 189. Section 13 is located within the walls of the abandoned garden and is the last uncolonised section on the summit of the Bass Rock, apart from small areas in Section 9 (left) and Section 12 (right), 29 May 2009. © S. Murray

of the overall increase. In 2004, most were single birds without obvious nest material, with pockets of site-holding pairs and birds on nests distributed haphazardly throughout the section. It is possible that the count then, of 1,000 AOS, was slightly too cautious but comparison of images in 2004 and 2009 indicates that a major increase has undoubtedly occurred. In recent years, as opposed to the early 1960s (Nelson 1978), some areas are initially not very dense and later become "filled-in" (i.e. become denser) this seems to be particularly the case with Section 12 (Table 2).

The other large increases were in the cliff Sections 2 and 11. In the former the increases were within compact groups, on small, sea level promontories, rather than on the steep open face that makes up most of the section. In Section 11, where numbers had doubled between 2004 and 2009, the expansion shows clearly in overhead photographs of the wide, flat terraces that comprise this low lying cliff (Plate 190). Section 1 showed a small increase in area, visible in the photographs, on and near the concrete path that forms the boundary with Section 9. Section 6, the largest area of steep cliff on the rock, held considerably higher numbers in 1994 than 2004 (Table 2). AOS here now appear to be edging upwards again, but the definite areas of change are difficult to pinpoint in the photographs.

In 2004, Section 8 was thought to be full, as there was almost no change in numbers since 1994 and the section is completely hemmed in by the equally densely occupied Sections 7 and 9, leaving no obvious unoccupied areas. The 12.5% increase in 2009 was thus unexpected, and can only be attributed to an overall increase in the density of AOS since 2004. It seems unlikely that numbers can increase further.



Plate 190. Bass Rock Sections 1, 9, 10 & 11 showing the uncolonised ground within each, 29 May 2009. © S. Murray

In 2004, a small number of non-breeders were present within the ruined walls in Section 13, but on the approach of the aircraft all flew off and in the subsequent photographs the area was totally bird free. Since then, use of the section has intensified, and the 'garden' has been nearly denuded of remaining vegetation, but in contrast to 2004, none of the birds within the walls left the ground as the aircraft passed overhead. This suggests they are strongly attached to the area, although no obvious signs of nesting were seen.

Clearly, it is being used for prospecting, with some 400 birds present, almost all in full adult plumage (Plate 189). Whether these should be classed as AOS holders or prospectors is debatable, but it seems likely they will soon move into the AOS category. For 2009, however, the section is given as empty.

St Kilda

On St Kilda in 2010, four monitoring plots on Boreray and one on Stac an Armin were counted from the land for the first time since 2003. On Boreray, only one plot showed a small increase, rising from 103 to 116 AOS (Plate 191), the other three were unchanged. The Stac an Armin plot increased slightly, from 1,500 AOS in 2003 to 1,591 AOS in 2010. Additional, subjective, but extensive checks of the colony from both land and sea also indicated that apart from small increases in two of the peripheral sub-colonies on Boreray, there appears to be little change since the last full survey in 2004. Thus it is unlikely that the current rate of increase is substantially higher than the 0.9% pa estimated between 1994 and 2004 (Wanless *et al.* 2005). Therefore the total for St Kilda in 2010 was estimated to be around 59,800 AOS, 4,318 AOS more than on the Bass Rock in 2009.



Plate 191. Gannet monitoring plot on the east face of the Clagan na Rosgachan tower (on the open face above the broad horizontal ledge), Boreray, St Kilda, 12 July 2010. © S. Murray

Discussion

The 2009 aerial survey of the Bass Rock was the first made using digital photography. The quality, speed and flexibility of the method was clearly superior to film photography and further counts using this approach should enable subsequent changes in colony extent and/or site density to be documented in great detail.

Although only a qualitative assessment of the gannetry on St Kilda was possible in 2010, there was no evidence of any substantial changes since 2003/04. The best estimate of the current population is c.59,800 AOS with numbers increasing very slowly, probably at the same rate as 1994–2004. The total for the Bass Rock in 2009 was still 4,318 AOS short of the estimated St Kilda total. However, between 2004 and 2009 numbers on the Bass Rock increased at 2.9% pa, with much of the increase due to colonization of the unoccupied areas around the summit of the island. If this rate of increase is maintained, numbers on the Bass Rock are projected to reach c.62,200 AOS in 2013 and thus could potentially overtake those on St Kilda (projected population of c.61,400 AOS in 2013). However, this is dependent on there being sufficient, suitable uncolonised ground to accommodate an additional 4,000+ AOS. The density of sites in most sections of the colony appears to be at the maximum attainable (Plate 192). Whether the remaining areas of open ground will provide sufficient habitat is hard to judge (Plates 188, 189 & 190) but the next UK-wide census planned for 2015 should clarify whether the Bass Rock has become the largest gannetry in the east Atlantic.



Plate 192. Detail of Section 7 showing the high breeding density typical of open slope sections on the Bass Rock, 29 May 2009. © S. Murray

Acknowledgements

Thanks are due to the Forth Seabird Group, who sponsored an aerial survey of the gull populations of the Forth islands, and especially to John Davies who organised it and invited me to include the Bass and its gannets. Alec Hastings was our pilot who made it possible. Sarah Wanless, Mike Harris and Bryan Nelson made improving comments to the manuscript, and Ian Andrews did likewise by drawing Figure 1.

References

- Murray, S. & Wanless, S. 1986. The status of the Gannet in Scotland 1984–85. *Scottish Birds* 14: 74–85.
- Murray, S. & Wanless, S. 1997. The status of the Gannet in Scotland in 1994–95. *Scottish Birds* 19: 10–27.
- Murray, S. Wanless, S. & Harris, M.P. 2006. The status of the Northern Gannet in Scotland in 2003–04. *Scottish Birds* 26: 17–29.
- Nelson, J.B. 1978. *The Gannet*. T. & A.D. Poyser, Berkhamsted.
- Nelson, J.B. 2005. *Pelicans, Cormorants and their Relatives: Pelecanidae, Sulidae, Phalacrocoracidae, Anhingidae, Fregatidae, Phaethontidae*. Oxford University Press, Oxford.
- Wanless, S. & Wood, V.E. 1982. St Kilda Gannets in 1980. *Scottish Birds* 12: 120–121.
- Wanless, S. Murray, S. & Harris, M.P. 2005. The status of the Northern Gannet in Britain and Ireland in 2003–04. *British Birds* 98: 280–294.

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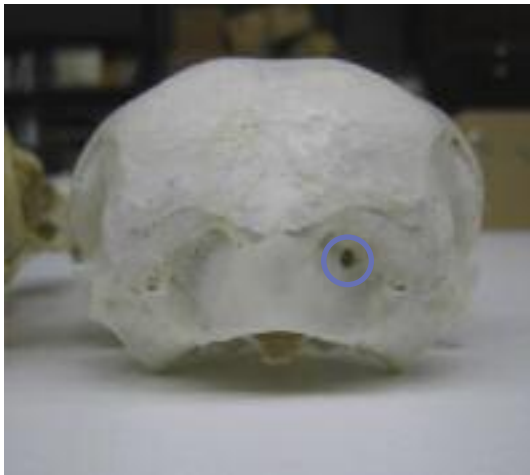
Natural predation of Golden Eagles

On 22 October 2008, an immature Golden Eagle *Aquila chrysaetos* was watched at close range on Oronsay, Argyll, by MAP and CM. When viewed through a telescope, an injury (blood evident) to its head around the right eye was noted. At the time, MAP thought that this bird was the youngster from the adjoining territory on Colonsay, which had been seen regularly on Oronsay since it fledged in 2007. The injured bird was seen again on 27 and 30 October in the company of the two adult Golden Eagles from the adjoining territory and another juvenile bird (presumed to be the 2008 chick from this territory). It was not seen again.



Plate 195. Female Golden Eagle ZZ3496, at ringing on Colonsay, Argyll, 9 June 2007. © David C. Jardine

On 8 May 2009, the decayed remains of an immature Golden Eagle were found on Oronsay by CM. It was ringed ZZ3496. Skeletal and feather remains indicated that it had been long dead, probably from the late autumn or early winter. Examination of the skull showed two small holes, one on the frontal bone above the right orbit (Plate 193, black circle) and the other on the parietal bone (Plate 194, blue circle). The size of the hole in the parietal bone was consistent with the partial insertion of an eagle talon (checked with one of the bird's own talons). The skull has been deposited in National Museums Scotland (NMS) (accession number NMS.Z 2010.89). ZZ3496 was a young female, sexed on DNA from a feather sample (per Ruth Tingay), which was raised (and ringed) on Colonsay in spring 2007 (Plate 195). Recent satellite-tracking studies of the dispersal of immature Golden Eagles from their natal territories suggest that young eagles leave at around 3–10 months and can travel up to 200 km (Watson 2010, and see www.raptortrack.org/golden-eagle). Observations of this young bird suggest that it may not have left the territory of its parents even after 18 months. However, as this bird was not tagged, we cannot be sure of this.



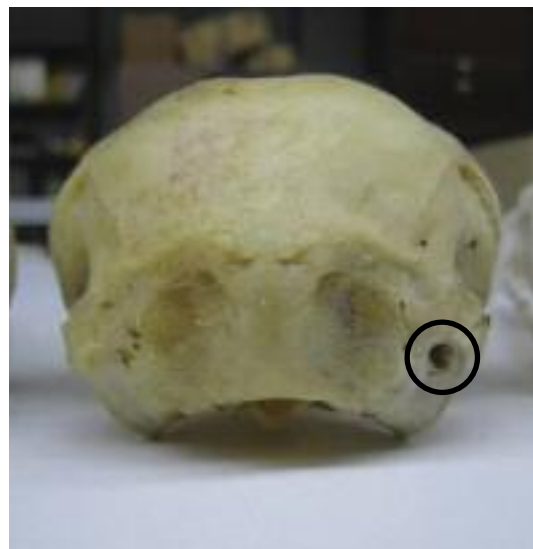
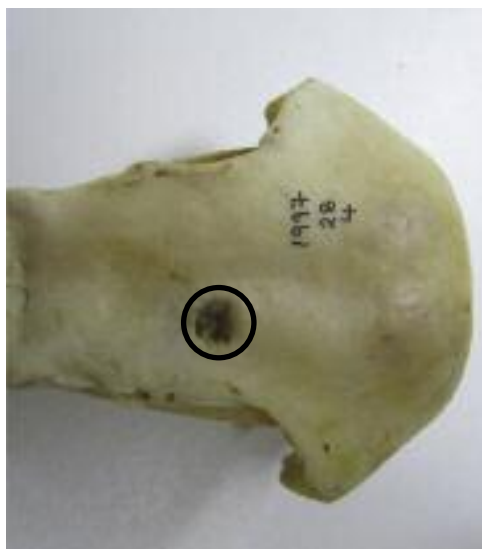
Plates 193–194 (left). Skull of Golden Eagle ZZ3496 (NMS.Z 2010.89), Oronsay, Argyll, May 2009, showing holes above right orbit (black circle) and on parietal bone (blue circle). © Clive McKay

ZZ3496 apparently died as a result of a talon strike by another raptor, most likely another Golden Eagle, but possibly other species such as Peregrine *Falco peregrinus*, which does occur on Colonsay and Oronsay, or White-tailed Eagle *Haliaeetus albicilla*, which is not regular

on these islands, but breeds on adjoining islands. It is interesting to note that the injury might have been caused by one of the parent birds, or the juvenile hatched from its natal territory a year later (and a year younger) although this cannot be stated with certainty.



Plates 196–197. Skull of Golden Eagle NMS.Z 2011.35 showing presumed small natural holes around orbit. © Clive McKay



Plates 198–199. Skull of Golden Eagle, Loch Nant, Argyll, December 1994 (NMSZ.1997.28.4) showing large depression injuries. © Clive McKay

Natural predation of Golden Eagles in Britain is reported as uncommon (Watson 2010), but comparison of the skull of this individual with similar material in NMS helps to put Watson's observation in perspective. We compared the Oronsay eagle's skull with others held by the NMS. In the sample examined, the small supra-orbital holes in the frontal bones appear natural, rather than as a result of trauma. As the skull of one 1-year old bird has no supra-orbital holes, these would seem to be unconnected to any age-related degree of ossification (Plates 196–197); in other words the holes are evident in skulls of juvenile and adult birds. Regarding the parietal bone injury in the Oronsay skull, only two other skulls from a sample of 19 showed a puncture injury or a hole of any sort. One skull was from a bird that had died from shooting and another which also exhibited damage to skeletal elements. The second skull clearly shows a puncture injury in the left frontal bone (Plate 198: red circle) and another large hole in the occipital bone (Plate 199, red circle). This skeleton, found at Loch Nant, Argyll, in December 1994 was donated by Mike McGrady (NMS.Z 1997.28.4). (Plates 198–199, black circles). At the time, the finders of this corpse considered that injuries to the skull and sternum were the result of fights with a sub-adult Golden Eagle, which was entering the local territory.

Mick Marquiss (in litt.) possesses a sternum from a Golden Eagle found dead in Upper Forth in 1992 provided to him by Roger Broad. The sternum has two punctures, consistent with piercing by a single hind claw, which MM thinks resulted from a fight between eagles, though again this cannot be proven. The punctures probably occurred some time prior to the bird's death as there is evidence of recalcification around the wound.

In his long term studies of Golden Eagles in the Swiss Alps, Heinrich Haller (1996) documents frequent fights, some of which led to the death of eagles. The main source of mortality for eagles was human persecution prior to 1950, but aggressive interaction between eagles thereafter. In an analysis of

the post mortem data for 49 eagles in 1970–94, he notes evidence that 39 died as a result of fights, and of these, 19 had talon puncture wounds to the head and neck.

Many people watching eagles closely observe interactions, which may appear playful, passive or aggressive depending on circumstance (Watson 2010). It would be helpful to have these recorded in more detail in order that we can build up a better picture of the nature of interactions; Haller's (1996) work provides an important context for these, and where densities are high and/or territories are constrained one might observe more aggressive interactions between adults, and in particular between adults and juveniles (which may be trying to move into a territory, or are being moved on by one or more parents or natal residents).

In conclusion, the small supra-orbital hole on the skull of the Oronsay bird appears to be a natural artefact unlike the puncture injury to the parietal bone which probably contributed to the bird's death, particularly in light of the observations made in October 2008.

References

- Haller, H. 1996. Der Steinadler in Graubünden. *Der Ornithologische Beobachter*. Supplement 9. 167 pp.
 Watson, J. 2010. *The Golden Eagle*. T. & A.D. Poyser, London.

David C. Jardine, 49 Bellfield Road, North Kessock, Inverness IV1 3XX.
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Robert Y. McGowan, Department of Natural Sciences, National Museums Scotland, Chambers Street, Edinburgh EH1 1JF.
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Revised ms accepted May 2011



Plate 200. *Michael Murphy*, 2011. © J.H. Murphy

Michael Helsdon Murphy (1935–2011)

Michael Murphy died from inoperable lung cancer on 9 April 2011 at Borders General Hospital, Melrose.

Born in England in 1935, but raised in Scotland, Michael was the first former pupil of Dollar Academy to be accepted at Cambridge, receiving a Bursary Scholarship at Downing College, where he read languages and political sciences. Michael could read and/or speak French, Latin, German, Finnish, Norwegian and Arabic and could read foreign newspapers in almost any language. His crossword prowess was such that he could do a *Times* puzzle in his head.

A birder, though not a twitcher, he remembered every bird he ever identified and could describe the exact location of sightings, a trick much admired by colleagues, family and friends at the SOC. In the last week of his illness, while listening to a journal he kept while on a trip more than ten years ago to the Galapagos, he remembered every island and added still more birds to those noted in the journal.

Poor eyesight kept him from becoming a pilot. He was recruited by the Foreign Office to learn Finnish; Finland at the time was an important Cold War listening post. Michael then joined the

British Army Educational Corps, retiring as a Lieutenant Colonel. Posted primarily in the UK and able to settle on Salisbury Plain, he and his first wife Primrose, had two children, Brigid, Seamus, and a grandson, Magnus, who survive him. Michael worked as an administrator for the SOC in Regent Terrace from 1990 to 1994. The annual reports thank him for bringing stability at a difficult time and for his quiet efficiency.

An inveterate walker, in retirement he climbed more than 100 Munros and, more recently, trod more than 1000 miles along the Borders' many by-ways. He celebrated his 65th birthday by cycling the length of the Blue Ridge Parkway in the Shenandoah Mountains. He taught languages occasionally, including a stint in Saudi Arabia and another at an American university where he taught Latin, relying entirely on his recollection of boarding school Latin. During the American phase of his life, with his second wife, Jane, they circled the globe aboard a container ship. They also twice sailed round America's Great Loop, an 8000-mile, year-long passage in a 42-foot trawler around the waterways of the eastern United States.

Michael will be missed and remembered by his friends and family on both sides of the Atlantic. His collection of birding magazines and many books is now at Waterston House.

Jane Hubben Murphy



Plate 201. Gordon Miller measuring Ptarmigan food-plants on the Cairnwell, April 1964. © Adam Watson

Red Grouse and Ptarmigan research in Scotland

A. WATSON

In this, the second of our 75th anniversary reviews, Adam Watson gives a personal perspective on how research on grouse in Scotland over the past few decades has been of importance not only for learning about their ecology but also in investigating wider biological principles.

The north-east of Scotland has been important for a better understanding of Red Grouse and Ptarmigan in these islands, but also Willow Grouse and Ptarmigan globally. This may seem surprising, as our ranges are tiny compared with the ranges of Ptarmigan and Willow Grouse across vast tracts of America and Eurasia. Reasons for the north-east's importance are several. One is our mild oceanic climate. Moors are largely snow-free in winter, and likewise even Ptarmigan ground on many winter days. Red Grouse and Ptarmigan flock when deep snow covers their food-plants, searching for

places where wind has blown snow off vegetation. On mild calm days, however, they often pair, sing, and show territorial behaviour. So, one can study populations and individuals of both species on local study areas in winter, something largely impossible in the snowier winters elsewhere in their world ranges.

Also, eastern moors are a man-induced treeless habitat. Prehistoric farmers destroyed forest, and moorland has been kept open since by burning and grazing of unnaturally many sheep or red deer. Hence it is easier to see the ground and use dogs to count all Red Grouse present, or land-rovers as mobile hides to do likewise. Our Ptarmigan land has shorter vegetation than in the Alps and elsewhere, partly from grazing by unnaturally many sheep and deer. So, one can count all birds in winter by watching territorial behaviour or seeing them in white dress against snow-free ground.

Seton Gordon wrote that Ptarmigan on Lochnagar and the Cairngorms fluctuated, with highs in the early 1920, early 1930s, and early 1940s, scarcity in the mid-1940s and then a rise in the late 1940s. They were scarce in summer 1943 when I saw my first one during a lone climb on Derry Cairngorm aged 13. I decided to note how many Ptarmigan and Red Grouse I saw on walks, and my routes. Years later, I calculated numbers per 10 km.

Lauri Siivonen in Finland used game bags to show a low ebb in the mid-1940s across northern Europe as well as Scotland, affecting many species. A wider influence, probably climatic, over-rode local or national influences. Evidence across northern parts of our hemisphere since then strengthens this conclusion.

In 1952, I studied the winter ecology of Ptarmigan on Derry Cairngorm for the research part of the Honours year in Zoology. My thesis formed a basis for later scientific papers. I followed it with museum studies in North America and fieldwork on Willow Grouse in Newfoundland and Ptarmigan in Baffin Island, then back to study on Derry Cairngorm for a PhD thesis in 1956. Both theses contained much on Red and Willow Grouse as well as Ptarmigan. My fieldwork at Derry Cairngorm showed that Ptarmigan can limit their spring density (number per unit area) and sex ratio by territorial behaviour. Winter loss by emigration accounted for more losses than predation mortality. Birds bred more poorly in population declines than in increases. During a decline in the 1950s, bachelor cocks occupied much ground, an effective population control.

During 1956, the Scottish Landowners' Federation (SLF), concerned about declining grouse and shooting incomes, decided to fund research, and asked the Nature Conservancy (NC) in Edinburgh to do the study. They could not, but suggested Aberdeen University, where V.C. Wynne-Edwards was Professor of Natural History. Had the NC done the work, it would have been outside the north-east and would not have involved Ptarmigan as a closely related species in a more natural environment. The SLF formed a Grouse Liaison Committee of moor-

owners, with NC Chairman Arthur Duncan, NC Scottish Director John Berry and Wynne-Edwards as members.

David Jenkins started in autumn 1956 and I a year later, as Senior Research Fellows in Wynne-Edwards' department, but living in Glen Esk where the Earl of Dalhousie offered his moor for study, just outside the north-east's boundary. David and I were very keen on fieldwork, as well as competitive, and argued about grouse wherever we went. We increased the number of study areas, several in the north-east and others outside. Landowners on the committee suggested various ideas for the decline and hoped we would study these. However, they respected Duncan, Berry and Wynne-Edwards, who said we should pursue our hypotheses sink or swim. The landowners would agree, and in the event, none of their ideas proved to be a cause of general decline. Later the NC decided that the research had become so relevant to wider issues that they would fund it. In April 1960 they formed a Unit of Grouse and Moorland Ecology in Wynne-Edwards' department, and enlarged the field team from two to four.

In 1958, I noticed that Red Grouse became scarcer as I crossed from ground over schist bedrock to acidic granite, though if anything the main food-plant heather abounded more on granite. Later I found that base-rich bedrock supports higher densities and better breeding of Red Grouse and Ptarmigan.

I began to measure heather, and later with botanist Gordon Miller we discovered that average grouse densities were related negatively to heather age and height, e.g. fewer where heather was old and tall. Many moors in the late 1950s had much tall heather from infrequent muirburn, or too little from wide fires leaving inadequate physical cover. This is still so in 2011!

An outbreak of disease from parasitic threadworms in two years at Glen Esk killed many territorial grouse and cut their breeding success, but the survivors reared more than enough young to replace losses. Parasites reduced the number of independent young available for recruitment, but territorial behaviour still limited

subsequent spring numbers because it controlled the number of young successfully recruited into the autumn territorial population.

I kept grouse in captivity to study behaviour. A few clutches taken in the wild were hatched in captivity and the chicks had plenty of food, water, warmth. I was surprised during August counts to find that when my captive chicks had done well, wild chicks had survived well on the moor where clutches had been taken, and vice versa. This pointed to some inherent quality in the eggs.

By spring 1961, I had much evidence that wild Red Grouse could limit their spring density and the spring sex ratio by territorial behaviour in the previous autumn, and that most deaths from predation fell on non-territorial birds. Previously, it was generally believed, for instance by David Lack, that winter food shortage and deaths from predators limited numbers surviving till spring, with territorial behaviour in spring merely determining which of the survivors got the best sites for breeding. After visiting me in the mid-1960s, Lack changed his mind and stated this in a new book.

At Glen Esk, we could observe but not do big experiments. In autumn 1961, we moved to Kerloch near Banchory, where NC had negotiated a lease for the Unit. I did experiments where I removed territorial grouse, showing that territorial behaviour limited spring density and sex ratio. In other experiments, Miller and I burned sections of moor to a new pattern, and treated heather on other parts with fertiliser to boost its nutritive value. Both methods increased grouse density. Fertilising also raised breeding success.

A cock grouse given testosterone became more aggressive and took a bigger territory with an extra hen, while a nearby control cock showed no change. I repeated this on a few occasions, one cock at a time. So, a change in behaviour could alter a cock's use of space and ability to attract hens.

Biochemist Robert Moss had been appointed to the team, and soon opened a fruitful exploration of grouse nutrition. He found that Red Grouse and Ptarmigan selectively chose to eat the small proportion of heather shoot-tips rich in the chemical elements nitrogen and phosphorus,



Plate 202. Prolific heather bloom at Garrol Hill, Kerloch, fertilised on left, control on right, August 1965. © Adam Watson

ignoring most of the large amounts of heather available, a plant with much fibre and little protein. Following my early experiments with captive chicks, we enlarged them. We discovered that chick survival in Red Grouse and Ptarmigan is predetermined by egg quality and maternal nutrition. Robert Moss found that Red Grouse and Ptarmigan increase their gut size and length in autumn, in readiness for a poorer diet of woodier winter plants of heather and other heath species.

Scientific papers and conference talks led to frequent visiting scientists who studied grouse species in many countries. This induced new grouse research abroad, with us cooperating or advising, notably in Iceland, Ireland, Canada, Alaska, Norway, Svalbard, Russia. Scientists studying other birds, insects and mammals came from five continents to see our work.

At Kerloch we began to study population cycles (fluctuations with a more regular period than random). On the basis of grouse bags, Kerloch showed a 7–8-year cycle, Rickarton 10–11, Invercauld 7, Glen Tanar no cycle. During the early 1970s, densities of Red Grouse soared higher than we had ever experienced, at Kerloch and the Cairnwell. This applied to Ptarmigan and Mountain Hares also, suggesting a wider climatic influence.

High peaks in Red Grouse and Ptarmigan were followed by drastic falls to lower troughs than we had ever seen at these study areas. At Kerloch, Red Grouse bred more poorly and cocks were more aggressive in declines than in increases, even at the same population density. During summers of peak and early decline, numerous parents emigrated with chicks when these could fly. In later years of steep decline, many astonished us by walking away on the day that their chicks hatched, and soon out of the study area. They returned in early autumn, in time for the annual contest for territory on their home ground, but without their young. By the time of the peak and early decline, an increasingly small proportion of young cocks were getting territories on our main study area. We think parents were somehow aware of this, and decided to take their young uphill to a less dense population where their young would have a better chance of

getting territories. The parents' time of return to their home ground fitted the time needed to rear young to independence.

By marking chicks and adults at Kerloch we discovered changes in kin selection during the cycle. Young cocks got territories near close relatives during early years of increase. Relatives showed fewer aggressive territorial interactions with one another than with strangers. This family landownership broke down at high density and in the decline, as strangers more often took territories and caused strife.

At Rickarton near Stonehaven, Robert Moss and I found that increases in grouse parasites did not cause a grouse cycle. Also we did a big experiment in the 1980s. By removing small numbers of territorial cocks from part of the moor in later years of increase, we maintained fairly steady high numbers there. On a nearby control area, a cyclic decline cut density to a low trough.

This result supported the shooting management of a few outstanding gamekeepers. Kenny Wilson at Leadhills found that hard shooting when numbers rose towards a peak smoothed out peaks and troughs, producing a bigger average bag. Though missing peak bags, this also missed troughs when shooting is not worthwhile. Wilson did grouse counts in late



Plate 203. Traps baited with oat sheaves to catch Red Grouse for back-tapping at Glen Esk, February 1961. © Adam Watson



Plate 204. A cock Red Grouse fitted with a blue back-tab, about to be released at Glen Esk, February 1961. © Adam Watson

summer to know his population. Then he geared shooting to ensure that he did not leave too many birds, for he knew they would trigger a decline. Already in a 1970 management booklet I wrote that shooting a rising percentage of August numbers towards the peak and a yet higher percentage in decline years should lead to smaller declines and bigger troughs. This rested on my observations with back-tabbed grouse. The percentage of birds failing to get territories in autumn rose as density built to a peak, and rose further in declines. Our Rickarton experiment fine-tuned this.

Since 1943 I had noted how many Ptarmigan I saw per 10 km, and from 1951 began a population study at Derry Cairngorm and from 1963 on the Cairnwell hills, with shorter studies elsewhere. Stuart Rae did a PhD study of Ptarmigan on the Cairnwell in the late 1980s and early 1990s, emphasising foraging behaviour and use of cover by broods and adults, as well as breeding and diet. In 1998, we combined with Robert Moss to document population fluctuations and breeding success over many decades, using my long run of data. Ptarmigan cycles had about a 10-year period in the Cairngorms. In contrast, fluctuations of Ptarmigan and Red Grouse were irregular and shorter on the Cairnwell hills. These hills supported higher average densities and breeding success, in association with richer bedrock and soils, and more nutritious food-plants. In both species, a rise in spring numbers usually followed good breeding, i.e. breeding success in year 1 was related to change in number from spring 1 to spring 2. This was not necessarily so, however. At the Cairnwell, for instance, breeding success in Red Grouse was not related to change in number.

My notes on Red Grouse seen on walks in the Cairngorms led to an analysis showing 10-year cycles. Numbers of Ptarmigan and Red Grouse in the Cairngorms rose a year or two after a high



Plate 205. English setter Ruaraidh rests during a Ptarmigan count on Derry Cairngorm, 14 April 1967. © Adam Watson

June temperature at Braemar, which appeared to induce good breeding by Ptarmigan in the first summer. The relationships with June temperature did not apply to populations on the richer soils at the Cairnwell. These cycles occur for inherent reasons within populations, irrespective of weather, but June temperature appeared to 'entrain' them, i.e. influence their timing. This resembled Yukon Snowshoe Hares, where the 10–11-year sunspot cycle may entrain a 10–11-year hare cycle.

After I retired in 1990, Robert Moss expanded on my preliminary Kerloch experiments with cocks given extra testosterone, by treating a local population at Glen Tanar. Cocks aggressively took bigger territories, which cut the number of territorial cocks and hens. Territory size and numbers did not change on a control area. Hence increased aggressive behaviour limited population density.

On kin selection, a new method using DNA in feathers allowed a better assembly of kin information at Glen Gairn by a team including Xavier Lambin, Steve Redpath, Robert Moss and Stuart Piertney of the Molecular Biology Unit at Aberdeen University. This confirmed the Kerloch work, now on a more robust genetic basis. An interesting extra finding was that although territorial behaviour in autumn limited spring numbers, some territorial birds were killed in winter and replaced, hence more of a turn-over than at Glen Esk and Kerloch.



Plate 206. *English setter Ruaraidh points at a hen Ptarmigan in her nest amongst Crowberry plants on Lochnagar, June 1964. © Adam Watson*



Plate 207. *AW rings a Red Grouse chick that English pointer Solitaire had pointed on Hill of Kirny, Glen Esk, June 1958. © the late Tom Weir*

Peter Hudson of the Game Conservancy, who had studied Red Grouse in England and Badenoch, had claimed that territorial behaviour does not limit spring numbers. For the latest grouse research in the north-east, he received a big grant aimed at a replicated test of the hypothesis on population limitation by territorial behaviour. Francois Mougeot and Steve Redpath led the new team. Although two moors studied lay outside the north-east, two were inside, at Glen Dye and Edinglassie. The results rejected Hudson's claims, and showed conclusively that territorial behaviour limited spring numbers.

The book Grouse (2008) by AW and Robert Moss, published by Collins, summarises modern international understanding of Red and Willow Grouse, Ptarmigan, Black Grouse and Capercaillie, with chapters on their nutrition, management and other aspects across the world.

Adam Watson

Email: adamwatson@uwclub.net

NEWS AND NOTICES

New SOC members

We welcome the following new members to the Club: **Ayrshire:** Mr J. Drummond, **Borders:** Mr & Mrs J. Paxton, **Central Scotland:** Mr & Mrs P. Griffin, Mr G.W. Mitchell, **Clyde:** Mr G. Wilson, **England, Wales & NI:** Mrs A. McCormick, Mr J. Tylor, **Fife:** Mr K R.J. Ballantyne, Dr J.D. Kinloch, **Grampian:** Mr L. Bell, **Highland:** Mr C. Kail, Mr M. Werndly, **Lothian:** Mr G.H. Bettison, Ms J. Burns, Mr & Mrs S. Cunningham, Mr A. Fiddes, Ms L. Mostyn, Mr R. Munro, Ms J. Noble, Mr & Mrs D. Reid, Mr A. Stirrat, **Orkney:** Mr A. Forsyth, **Overseas:** Ms F. Johnstone, **West Galloway:** Mr A. Dinsmore.

200 Club

The latest prizewinners are: **May: 1st** £30 Mrs Crowther, **2nd** £20 W.G. Paterson, **3rd** £10 B. Etheridge. **June: 1st** £30 Tom Brewis, **2nd** £20 M. Nicoll, **3rd** £10 J.H. Ballantyne. **July: 1st** £30 Mr S. Jackson, **2nd** £20 Mrs E. Forrester, **3rd** £10 George Rodger.

New members are always welcome. They must be over 18 and SOC members. Please contact: Daphne Peirse-Duncombe, Rosebank, Gattonside, Melrose TD6 9NH.

AGM and Conferences

SOC Annual Conference: 28–30 October, Carnoustie Golf Hotel. There is still time to book your place at this year's special 75th anniversary conference, with keynote lecture by migration expert, Ian Newton. Full programme details and booking form are available on the SOC website.

SOC 75th AGM: Saturday 29 October 2011, Carnoustie Golf Hotel at 17:00 hrs.

Agenda

- 1) Apologies for absence
- 2) Minutes of the 74th AGM held on 30 October 2010
- 3) Annual Report 2010/11
- 4) Annual Accounts 2010/11
- 5) Election of Honorary President/s & Office Bearers
- 6) Appointment of Honorary Member
- 7) Election of Council Member
- 8) Appointment of Independent Examiner
- 9) AOB

Upcoming Events at Waterston House Art Exhibitions

Keith Brockie, 17 September–16 November
Darren Woodhead, 19 November–January 2012

Aberlady Goose Watch

Tuesday 4 October, 4.30 pm
Thursday 6 October, 4.30 pm
An illustrated talk by a local expert followed by the opportunity to watch the spectacle of thousands of Pink-footed Geese come in to roost on the nearby nature reserve. Price: £4.00 (£6.00 non-members). Places limited. Advance booking essential to book, call the office on 01875 871330.

Optics Demo Day

Sunday 16 October, 10 am–4 pm

Chris Packham talk

Saturday 24 September, 7 pm, Queen's Hall, Edinburgh. See *Scottish Birds* 31: 147 for full details.

Branch Updates

Central Branch, indoor meetings (The Allan Centre, Fountain Road, Bridge of Allan, 7.30 pm)
■ 12 Jan Iain Livingstone 'Ringing abroad'
■ 5 Apr John Calladine 'The Scone Palace Hawfinch Project'

Recorder Update

Fair Isle bird recorder: new email address fibo@btconnect.com (David Parnaby).

Solar panels at Waterston House

In early June 2011, an array of photovoltaic panels was installed on the roof of Waterston House. The 29 panels could generate up to 5,800 kWh of electricity per year and the Club estimates that it will use most of that; what it doesn't consume will be exported to the grid.

"This kind of microgeneration allows the Club to make a long-term contribution to reducing the effects of climate change," said Alan Fox, the Club treasurer and the driving force behind the scheme. "We're obviously concerned about climate change impacts, such as habitat loss, on Scotland's birds. Generating some of our own electricity reduces the Club's carbon footprint and



Plate 208. *Installing the solar panels, Waterston House, June 2011. © Alan Fox*

contributes to Scotland's renewable electricity generation. We want to do what we can. We will spend less on electricity and get some income from the feed-in tariff, so we'll also generate funds to support our continuing work on monitoring Scotland's wild bird populations."

The PV array was installed by Tom Morley of Solar Technology Ltd from Edinburgh, and its installation was made possible in part by an interest-free loan from the Energy Saving Trust Scotland. Visitors to Waterston House can see a state-of-the-art digital display that explains how the panels work and shows exactly how much electricity is being generated.



Plate 209. *The 29 solar panels in place, June 2011. © Alan Fox*

Two unique items donated to the George Waterston Library and Archives

During the past year, Sinclair Manson an SOC member living in Caithness has donated a superb typescript work of his *Birds of Western China*. It consists of three A4-size black binders each running into several hundred pages. Chapters

include an Introduction, a Geographical description of the region, a History of ornithological exploration, Migration, Gazetteer, an extensive Bibliography and the main Species accounts taking up most of the books. It is illustrated with excellent colour photographs and maps. It is a monumental piece of work which must have taken him years to gather and research. It can be consulted in the Library.

The second item is a beautifully produced set of typescript diaries by the late W.J. Leishman, a Stirling lawyer. It consists of five foolscap Twinlock binders and covers bird and animal observations during the period May 1936 to the end of December 1952. His records are noted in chronological order followed by a series of more detailed notes. Most of the records are from central Scotland, particularly his home town of Stirling. Of particular note are detailed annual counts of Rook colonies within Stirling (1947–53). There are also accounts of visits to Aberlady, Linlithgow Loch, Carron Valley Reservoir, Lake of Menteith and one concerning the singing Nightingale which occurred at Stirling Castle in late May 1952. The diaries are illustrated throughout by watercolours of birds and views by both the diarist and M.V.K. Common. In addition, there are dozens of black-and-white photographs, mounted postcards and colour prints. We are grateful to Henry Robb, another long-standing member from Stirling, for passing this collection over to the Club for safe keeping. It can be accessed in our archives by appointment.

David Clugston

SOC Research Grants

The following projects have been awarded a grant from the SOC Endowment Fund (September 2010–April 2011):

- Seabird monitoring on the Forth Islands - Lothian Ringing Group (£232)
- Post-breeding dispersal of Short-eared Owls, Sma Glen-Glen Quaich - Tay Ringing Group (£600)
- Breeding ecology and diet of Great and Arctic Skuas on Handa Island - Handa Island Skua Project (£600)
- Monitoring wader numbers and the ecology of Sanderling on the Sanday - Orkney Ringing Group (£300)



Plate 210. Keith Macgregor and Karen Birdgord having a tea break, Waterston House. © Wendy Hicks

Donations

Local Gullane SOC member, Lillian Dishington, has donated a pack of specially designed Crested Tit cards that she has produced for our 75th anniversary, for us to sell at Waterston House - and she brought in a large tin of homemade shortbread! We would also like to acknowledge several very kind monetary gifts received towards the anniversary. We plan to allocate some of this money to helping towards the costs of subsidising student places at this year's SOC Conference.

SBRC Announcement: Lesser Spotted Woodpecker Upper Forth 1968–70

The Scottish Birds Records Committee (SBRC), as part of its remit to examine older records, has recently reviewed the only accepted record of Lesser Spotted Woodpecker *Dendrocopos minor* on the *Scottish List*. This record described up to three birds seen near Aberfoyle (Upper Forth) in consecutive winters during the period 1968–70, as described in *Scottish Birds* 6: 210–212.

This review resulted in the rejection of this record, and as this was the only accepted record for this species for Scotland, the species is now removed from the *Scottish List*.

Chris McInerny, on behalf of SBRC

Isle of May prints

Two of Scotland's most distinguished bird artists are very kindly offering for sale limited edition prints in aid of the Isle of May Bird Observatory Appeal. Keith Brockie and Derek Robertson both have a long association with the Isle of May and much of their work has been inspired by the island. Keith will shortly be publishing a new book on the May (*Return to One Man's Island*, see page 247) and his print will appear as the frontispiece to this book. Derek will also shortly be publishing a book on Puffins, drawing on the May.

The Isle of May prints offer will allow you to buy first class limited edition prints reflecting the island and its birds and at the same time make a contribution to the Isle of May Development Appeal. Each print will provide you with a vivid reminder of life on the May.

Reproductions of the two prints appear below. Both are printed on A3 (16.5 x 11.7 inch/420 x 297 mm) sheets of conservation quality watercolour paper with fine art, lightfast inks. Each print costs £50 plus £5 postage and packing.

The original watercolour, 32 x 41 cm, for Keith Brockie's print will be for sale with all proceeds going to the IOMBO Appeal. The painting will be on view at his exhibition in Waterston House from 17 September 2011.



Plate 211. Keith Brockie's Isle of May print.



Plate 212. Derek Roberston's *Isle of May* print.

If you would like a print, please write to the Treasurer of the Isle of May Bird Observatory (Niall Campbell, 15 Warriston Crescent, Edinburgh EH3 5LA) with a cheque for the appropriate amount made out to the Isle of May Bird Observatory Development Appeal and saying how many and which prints you would like. If you are buying two or more prints it is only necessary to include £5 to cover the postage and packing for all the prints.

Art on the Wing

RSPB Central Ayrshire Local Group is holding a wildlife art exhibition from 28 August to 25 September at the Maclaurin Galleries in Rozelle Park, Ayr. Thirty-six artists will be participating including many nationally-known figures. The range of work will include paintings, drawings, tapestry, jewellery, ceramics and wood

sculptures and metal work. Proceeds will go towards RSPB Scotland's conservation projects.

Opening times will be 10:00–17:00 hrs Monday to Saturday (gallery closed Tuesdays, but other events will be organised on some Tuesdays), and the gallery is open on Sundays 12:00–6:00 hrs. Admission is free. Throughout the period, the group is presenting a range of talks and events related to the wildlife theme of the displays. Tickets for these events will be available for a small charge at the gallery. See www.ayrshire-birding.org.uk for further information.

Fair Isle Bird Observatory official opening

On 2 July 2011, the new observatory on Fair Isle was official opened by Roy Dennis. An article will be published in the Observatories' Roundup section of the December issue of *Scottish Birds*.

From the last issue

Page 137, Plate 106: John Love has emailed to say that the boy at the door of the Loch Garten hide is Norman MacGeoch, son of Jimmy MacGeoch. Page 153 under the Honorary Treasurers heading 'Tony Fox' should be 'Alan Fox'. Page 163, Plate 135: thanks to Deryk Shaw and Roger Riddington for pointing out that Jimmy is the *second* from the right, with his son to the right of him, and that the boat is the Good Shepherd II.



Plate 213. *Gannet* by Fran Knowles.



Plate 214. Steve Votier and Jon Crane trapping Great Skuas on Foula. © Bob Furness

Bird research at Glasgow University

R.W. FURNESS, M. HANSELL, D. HOUSTON, R. NAGER & S. WHITE

The most famous ornithologist, possibly the only ornithologist at Glasgow University before the 1970s, was the Stevenson Professor of Italian. Professor M.F.M. Meiklejohn held the chair of Italian for 25 years up to his death in 1974. He also served terms as President of the SOC, first editor of *Scottish Birds*, and a stalwart member of the British Birds Rarities Committee. His obituary, written by a somewhat bemused senior academic, said *"he seemed to be always dressed as for birdwatching, and I assumed this to be a harmless affectation. The truth was that, except on very rare ceremonial occasions, he was always dressed for birdwatching"*. As well as being an influential amateur birdwatcher and a precursor of the modern-day "twitcher", Maury Meiklejohn was author of a few scientific papers on birds, including "The breeding of African seabirds" and "Wild birds as human food".

However, his most famous work was probably penned one autumn on his beloved Isle of May during a period of annoyingly persistent westerly winds. "The Isle of May Field Guide to the Birds of the World" was planned to contain a very large number of avian categories enabling the beginner to identify any bird in any part of the world, but sadly never got beyond the drafting of a publicity leaflet. *"Let us suppose that one day you observe a large brown bird doing nothing in particular: it runs towards you, clucking, as if expecting food. At the same time your Aunt Fifi exclaims 'look - a Capercaillie'. With this information to hand you should consult three paragraphs: 1. Birds that do nothing in particular, 2. Birds that are habitually fed by humans (Blue Tit, Grey Parrot, domestic chicken), 3. Birds liable to be confused by amateurs with the Capercaillie. In each of these*

lists you will find the domestic chicken, which is therefore your bird. NB it is important to stop here. On no account should you consult para 508 'Birds likely to be confused with domestic chickens, or you will never stop searching, since para 508 includes Pallas' Sandgrouse, Capercaillie, and Mrs Hamilton Strathbungo MBOU'. Those of us who started birdwatching in the 1960s or 1970s may recognise this as a parody of a then new and ground-breaking book published by Collins which grouped birds into plates based on colour, size and shape rather than taxonomic affinities. That new approach never caught on, perhaps for reasons alluded to in Meiklejohn's musings.

Glasgow University Zoology Department showed little interest in birds or scientific ornithology before the 1970s, but ornithological research was started by David Newth, Regius Professor of Zoology from 1965 to 1981. At that time in the Scottish universities, the Regius Professors had considerable influence over the way in which their academic department would develop, and David Newth was ambitious to develop Glasgow as one of the leading zoology departments in Europe. His policy was to establish new research groupings by appointing three young staff members to each of the new research areas he wished to encourage. He recognised field ornithology as a subject that was of growing academic and applied importance, and he established the first research grouping by initially appointing David Houston, shortly to be joined by Pat Monaghan and Bob Furness. The team formed themselves into an Applied Ornithology Unit, largely because each then had research interests which were mainly concerned with conservation and management of species considered 'pests' by some. But the research interests at Glasgow soon developed to include many more academic lines of research, both with the appointment of new staff including Neil Metcalfe, Ruedi Nager, Graeme Ruxton, and the encouragement of other colleagues to move some of their research interests into 'Ornithology', and so the 'Applied Ornithology' label was rather short-lived, but ornithology continued to form one of the research strengths of the biological sciences at the University of Glasgow.

David Houston, who took early retirement in 2008, had particular interest in the ecology of scavenging birds, such as crows and especially tropical vultures. As well as continuing with his own field work when he moved to Glasgow, field projects were conducted by a number of research students such as David Kirk in South America, Ofer Bahat in Israel and Mohammed Shobrak in Saudi Arabia. But his later work included more experimental studies on the nutritional factors influencing egg quality, some of this done jointly with Pat Monaghan and Ruedi Nager. David had always been mainly interested in conservation projects, and realised that in many endangered species programmes it was poor breeding performance that limited population growth. He established the first captive breeding colony of Zebra Finches in Glasgow, which was soon to develop into rather a growth industry in the Department. The finches proved to be ideal experimental species, and with the help of David Donnan, Richard Selman, Matt Cotham and others the factors which determined egg quality were investigated. These findings were then tested in a series of field studies on gulls and Blue Tits (with Scott Ramsay), and later applied to some endangered species programmes, such as the Kakapo in New Zealand.

By the 1990s, Glasgow University had one of the largest groups of research ornithologists at any university in the world, and staff with very diverse research interests. Birds were then particularly used to study various theories in behavioural ecology. Birds are particularly useful in investigating this area because they are easy to observe and are common and the different parts of the reproductive cycle: egg laying, incubation, and chick rearing can be separated experimentally by swapping eggs or broods between nests. These techniques have been used to good effect for example to look at the costs of reproduction. Studies carried out at Glasgow by Pat Monaghan, David Houston and Ruedi Nager have shown that egg production in birds can be costly; when Lesser Black-backed Gulls were manipulated to lay more eggs than they usually would, they were in poorer body condition, produced poorer quality eggs, had a reduced rearing success in the current breeding attempt and also were less likely to breed in the

following breeding season. The studies on Lesser Black-backed Gulls also showed that egg quality can affect the growth and survival of nestlings, and that poor egg quality was more detrimental for male, the larger sex in this species, than female offspring. Sex allocation theory predicts that when only able to lay poor quality eggs the mother should bias the sex-ratio of her offspring towards the offspring sex that is less affected by poor developmental conditions. In Lesser Black-backed Gulls female offspring were less affected by poor conditions, and under poor conditions mothers biased offspring sex ratio towards females. Rather neatly, Ellen Kalmbach did equivalent manipulations with Great Skuas, a species showing reversed sexual size dimorphism, with the female being the larger sex. With skuas, when the females are in poor body condition they skewed their egg sex ratio towards males, so do the opposite of the gulls, but in their case also favour the gender which is smaller in size when conditions were poor.

A considerable amount of work in the last few years in Glasgow has looked at the long-term effects of early conditions in development on offspring phenotype. Tackling such questions of long-term effects of early condition on individual birds in the wild is very challenging, particularly in long-lived species such as seabirds, and for this reason the Zebra Finch colony at Glasgow that had been established by David Houston had been increasingly be used to answer those questions. At present, Pat Monaghan's group has a particular interest in growth, reproductive performance and senescence, and associated life history trade-offs. These projects involve collaborations with molecular biologists, endocrinologists and physiologists, and study mechanisms such as hormonal factors, telomere loss and oxidative stress. Current work on this topic is carried out both on wild birds (Shags) and captive birds (Zebra Finches). Pat has also been involved in a long term study of the Red-billed Chough, from both fundamental and conservation related perspectives. Ruedi Nager started studies on the Zebra Finch colony and focused on the causes and consequences of variation in incubation behaviour. Studies by Helen Gorman showed that incubation by parents in poor body



Plate 215. Eider duck incubating a clutch with a "smart egg" added to monitor heart rate. © Ruedi Nager

condition can have long-term detrimental effects on the offspring's fecundity. Further studies by Helen Gorman and Davina Hill also found that the body condition of the female, attractiveness of the partner, how certain the father is of his paternity and extra-pair copulation opportunities influenced the division of labour in incubation between the parents. Work in the groups of Pat Monaghan and Ruedi Nager also lead to the development of new equipment to measure heart rate of incubating birds non-invasively and was successfully used in Eiders nesting in Iceland (Plate 215).

Inbreeding in birds is another topic studied in Glasgow by Lukas Keller and Ruedi Nager. Thirty years ago the population of Mauritius Kestrels dropped to between two and four individuals. With the world population now over 600, all derived from this remnant population, the population was expected to suffer the ill effects of inbreeding, known as inbreeding depression. Analysis of the family tree of the kestrels by Steven Ewing showed that this population has one of the highest levels of inbreeding encountered in the wild and yet suffers only

from moderate inbreeding depression. One of the traits showing inbreeding depression is the production of viable embryos by inbred mothers paired to unrelated males. This same effect has been widely documented in a large range of bird and other species, yet we don't yet understand the processes underlying it. Current research in Glasgow by Emma Lowe on the captive Zebra Finch population, where brothers and sister were paired is investigating whether inbred females produce eggs of different composition and/or are less effective incubators compared to outbred females. Either of these effects could explain the low hatching success observed in inbred mothers.

A significant amount of the ornithological research in Glasgow takes advantages of the opportunities offered by the captive Zebra Finch population. In order for such results to be meaningful, one needs to be confident that the birds' behaviour and physiology is not compromised by being in captivity. It is therefore important to strive to optimise husbandry conditions for the study species. Although Zebra Finches are very commonly used laboratory birds around the world, there is very little published material on effective enrichment of their captive environment. Work in Glasgow by Graham Law and Ruedi Nager has shown that enrichment can have a significant effect on the weight and the physical and mental fitness of these birds and work is ongoing to optimise the husbandry regime for this species. In addition to high standards for good husbandry with controlled levels of lighting that ramp up and down rather than switching abruptly on and off, this also includes the colony having a rather fine stereo music system that seems to make them less susceptible to disturbance. And yes, they do seem to prefer classical music!

Glasgow University also has access to a large population of Blue Tits at an extensive nest box site at the University's field station (SCENE) by the banks of Loch Lomond, initiated in the 1990s by David Houston and most recently intensively used by Kate Arnold, who held a Royal Society Fellowship at Glasgow. The study site is in oak woodland, giving a very simple food chain from oak leaves to caterpillars, which are the main prey of breeding Blue Tits. During

the last few years, research has looked at the effects of early nutrition on offspring development and cognitive functions of Blue Tit nestlings. An important focus has been the antioxidants that neutralise the free radicals that are produced by normal metabolic processes. Where a bird does not have enough antioxidants to neutralise the free radicals, this leads to oxidative damage to proteins, lipids and DNA. The ecology of antioxidants is a rapidly growing field of general interest and this is central for understanding the proximate mechanisms underlying the evolution of life-history strategies. A new project on the Blue Tits by Shona Leslie aims to use experimental tests on Blue Tit nestlings to better understand the relationships between environmental quality, oxidative stress and fitness. Ross McLeod has also just started a new project using Blue Tits as well as other insectivorous bird species occurring at SCENE to develop behavioural indicators of impacts of environmental change on bird populations.

In 1998, Mike Hansell and Maggie Reilly set up 'The National Nest Reference Collection' in the Hunterian Museum of Glasgow University. This is a collection of the nests specifically of British breeding birds. It now consists of over 1,500 nests representing more than 90 species, with an additional collection of images of the nests of



Plate 216. Nest of a Garden Warbler. Simple composition and simple technique make a regular structure. The material in this case is grass stems that must be buckled at intervals rather than bent. © Mike Hansell

builders of very large or minimal nests. With the exception of the bird nest collection of the Natural History Museum at Tring, this is probably the largest collection of bird nests in Europe. Its concentration on the nests of native species makes it particularly important and it now represents a significant resource for ornithological research. One project deriving from this has been on the cognitive basis of nest building in two African weaver bird species in collaboration with Sue Healy (University of St Andrews) and Patrick Walsh (University of Edinburgh). The intention of this work has been to challenge the assumption that nest building in birds is inflexible in its execution and unaffected by experience. The study, carried out mostly in Botswana, has shown both variation in building behaviour between individuals and changes in behaviour by individuals with repeated experience of nest building.

Bob Furness followed David Houston into early retirement in 2011. However, in his 33 years at Glasgow University, Bob managed to maintain

an unbroken long-term study of skuas and other seabirds in Foula, Shetland, and supervised 55 PhD students, mostly on projects with birds. Juan Meraz, a Mexican postgraduate student, has been working with Bob and Stefan Garthe to investigate how and why Gannet migrations have changed in recent years. North Sea Gannets now increasingly winter off west Africa rather than in the North Sea. This seems to relate to changes in amounts of fishery discards being generated in these two regions rather than to any effect of climate change. Eliza Leat, a bird ringer before starting her PhD, has been trapping Great Skuas, known locally as Bonxies, to investigate how levels of persistent organic pollutants vary between colonies in Shetland, Iceland and Bear Island, and in relation to where individuals spent the winter and what they eat. This also involves the use of stable isotopes of carbon and nitrogen as dietary markers, a method that is well supported by the facilities provided by the Scottish Universities Environmental Research Centre (SUERC) at East Kilbride. Working with Eliza, Ellen Magnusdottir has been analysing the



Plate 217. Sarah Davis and Jon Crane measuring an adult Arctic Skua. © Bob Furness

migration routes and wintering areas used by our study skuas by attaching geolocation data loggers onto leg rings. These small loggers store data on ambient light intensity onto a memory chip and when the birds are retrapped on the nest a year later the logger is retrieved and the data downloaded. Light intensity data allow the latitude and longitude of the bird's position to be estimated twice each day throughout the period from deployment to recovery of the logger. We now know that while Shetland Bonxies all winter either off southern Europe or West Africa, many Bonxies from Iceland and Bear Island winter near Newfoundland. And birds wintering in a particular area return to the same area in successive winters so seem to have consistent and quite small winter home ranges. We are now working on what this means in terms of their pollutant burdens.

At the Vet School there is also work being done on birds and pollutants, as Professor Neil Evans works on impacts of pollutants on bird physiology and behaviour. Although some aspects of seabird research involve new "high tech" loggers and molecular techniques, there can be novel developments at a more simple level. By adapting the Brazilian local fishermen's cast net, Leandro Bugoni developed a method of catching seabirds from longline fishing boats off Brazil and, also using stable isotopes as dietary markers, showed that almost all of the seabirds wintering off Brazil, from Wilson's Storm-petrels to Wandering Albatrosses, feed very extensively on discards, offal and baits from that fishery. Recently, Liz Masden completed her PhD on ways of assessing the cumulative impact of wind farms on birds, and Liz is now employed at the Environmental Research Institute (ERI) to study marine renewables and seabirds. Bob and Liz are currently working together with the BTO, to deploy GPS loggers on Bonxies to find out whether birds from Special Protection Areas (SPAs) such as Foula and Hoy are using locations for feeding where they might interact with renewables, and how much they follow fishing boats (since fishing boat positions are now monitored using the same GPS technology). Meanwhile, Alex Robbins, who completed an MRes degree with us last year working on the impact of Bald Eagles and other predators on Black-legged Kittiwake breeding success at a

colony in Alaska, is now doing a PhD on seabirds and marine renewables at Glasgow. Her project involves work with SNH and the European Marine Energy Centre (EMEC) in Orkney where a wide range of designs of tidal turbines and wave devices are being tested, and fieldwork assessing how different seabirds use areas of high tidal flow and how they respond to the devices in the water.

Of the many student societies at Glasgow University, the largest and arguably most active is the Exploration Society. The Society helps students to organise research expeditions to various parts of the world and has been active since the 1930s. Over the years it has run one-off ornithological expeditions of staff and students to the Azores, Iceland, Trinidad and elsewhere. The Iceland expeditions have now become a regular event with students working on the eco-tourism potential of a biodiversity hotspot in eastern Iceland. But the Ecuador Expeditions have been especially successful. These started in 2000 with one member of staff and five students visiting a private cloudforest reserve in the Andes and, importantly, a previously un-surveyed area of primary Amazon basin rainforest belonging to the indigenous Payamino community. In collaboration with Aalborg Zoo in Denmark and latterly the University of Manchester, this has grown into the Payamino Project, a thriving community conservation and development project. Groups of up to 20 Glasgow students now visit Payamino every year, giving the students the opportunity to live, work and study in tropical rainforest and to conduct original research. Central to the project has been the accumulation of information on the flora and fauna of the area. The most advanced aspect of this is the bird species list. Since 2000 a combination of mist-netting, visual observation and sound recording have built up a list of 320 species, with the accumulation curve not yet approaching an asymptote. This list includes many rare and very rare species, such as the Gray Tinamou and the Rufous Potoo as well as a large number of charismatic species, including four species of macaw, 15 species of hummingbird and six species of toucans and relatives and some species of particular scientific interest, such as the Oilbird and the Hoatzin.



Plate 218. Studying Sooty Terns on Bird Island in the Seychelles. © Bob Furness



Plate 219. Amazonian Royal Flycatcher. © Stewart White

Our undergraduate degree courses include a research project, and it has become particularly common for students to combine contributing to the Payamino project with collecting data for their honours project, thus killing two birds with one stone, though only in a metaphorical sense. Following this model set by undergraduate students, many members of our growing MRes class also take the opportunity to work on birds, sometimes in exotic locations; recent MRes summer projects have included work on seabirds of Tasmania, Roseate Terns in the Azores, Sooty Terns in the Seychelles, albatross behaviour at sea in the Southern Ocean, Eider breeding in Iceland, the genetics of Eiders in Shetland and the Faeroes, survival rates and colony fidelity of Kittiwakes in Prince William Sound Alaska, the impacts of gulls on Common Tern breeding success in Leith Docks, and the potential impact of a wind farm at Grangemouth on waders wintering in the Firth of Forth SPA. Further information on our work can be found at www.gla.ac.uk/researchinstitutes/bahcm

**Bob Furness, Mike Hansell, David Houston,
Ruedi Nager and Stewart White.**
Email: bob.furness@glasgow.ac.uk



Plate 220. Sketching a Great Grey Shrike. © H. Brockie

Return to One Man's Island

K. BROCKIE

Ever since my first visit to the Isle of May in September 1973, the island has held a special place in my heart. During 1983, I spent most of the year on the May working on my second book, *'One Man's Island'* which was published back in 1984 to great success along with a film on the BBC series *World About Us*. On a visit to the May in June 2009, the highlight of which was my discovery and capture of a White's Thrush, I began to consider doing a new book on the island. Hence, in mid-April 2010, I started fieldwork for *'Return to One Man's Island'*. My accommodation was again mostly the Low Light, little changed since 1983, managed by the Isle of May Bird Observatory Trust - a basic but comfortable base.

The island is paradise for an artist, especially between May and early July when the breeding seabirds are at their most numerous. On leaving the Low Light, Eiders are literally nesting on the doorstep, screaming Herring and Lesser Black-

backed Gulls would dive bomb me as I walk past their nests and young. One of the latter woke me up on many occasions at 04.00 hrs pecking at the newly replaced windows, busily removing the fresh putty (and on one occasion a live Pollack, which I was about to paint from a bucket just outside the door)! A Great Black-backed Gull often stood sentinel on the top of the lighthouse tower, waiting to predate any unwary Rabbit, Puffin or Feral Pigeon passing by. Large numbers of Puffins sit on rocks all around, wheeling adults with beaks full of fish try to avoid gulls attempting to waylay their hard won catch as they return to their burrows.



Plate 221. Juvenile Great Grey Shrike.

Cackling Fulmars display on the grassy ledges facing the Low Light. The incessant, evocative cries of delicate Kittiwakes perched on their guano-encrusted cliff nests below. Bottle-green Shags with gorgeous emerald eyes and yellow gapes, jump around on their large spatulate webbed feet, trying to steal seaweed from their neighbours' nests. The murmuring calls of numerous Guillemots and Razorbills rise up from the narrow ledges below the lighthouse. Quite an assault on the senses, sight, sound and smell, and all within 100 metres of the Low Light, so much choice - where do I start?

Sitting overlooking Bishop's Cove or Cornerstone on the West Cliffs, I scan the serried rows of Guillemots on the ledges and the Razorbills tucked away in more isolated fissures. A special grouping, an unusual pose, a chick peering out from under a wing or strong shadow will suddenly grab my attention and I quickly focus in with my powerful telescope. The play of light particularly fascinates me, shadows giving more form to a two-dimensional painting. Reflected light, even in shadow, helps tie in the bird with its surrounds. Eyes give much life to a painting, not just a white spot of sunlight, but reflections of the sky and landscape even on an eye in shadow. Textures are important to me as well, downy or adult plumage contrasting with the rock and vegetation all around. The high magnification makes me feel like I am sitting beside my subject which remains calm and relaxed some distance away and often quite unaware of my presence. Oblivious to all around, I concentrate on sketching as much information down before the bird moves too much. I am totally imbued in my subject, if the bird stretches or yawns I find myself subconsciously copying their movement. This is what I am striving for, at one with my subject, doing what I love to do - drawing from life.



Plate 222. Razorbill with chick.



Plate 223. Female Lobster.



Plate 224. *Seal swimming at Pilgrim's Haven.*

The spring and autumn migration seasons bring another avian dimension to the island. The exciting expectation of discovering a rarity amongst the commoner migrants keeps one constantly alert. The spring was very poor in 2010, with a female Red-backed Shrike the only semi-rarity recorded. The autumn made up for that in terms of numbers and quality but no real rarities. Sadly, I missed a good week in early September with Greenish and Icterine Warbler, Wryneck and Bluethroat recorded. However I was fortunate to witness two large falls, the first on 27–30 September and the second during 9–13 October. Huge numbers of thrushes (especially Song Thrush), warblers, flycatchers (three species), Robins and Dunnocks formed the bulk of the migrants passing through. Ringing migrants allows me to draw birds such as Great Grey Shrikes in the hand (whilst trying to avoid it taking chunks out of my fingers) - a useful activity aligned with field sketches.

I had great fun painting some of the crustaceans, exploring their complicated structure with little preconception of what they should look like. A female Lobster, heavily berried under her tail, the intricate patterning of a Velvet Crab and the

camouflaged garden on the Dog Whelk home of a Hermit Crab. Other subjects ranged from Minke Whales feeding offshore, including one breaching, to butterflies and moths. I think a childlike enquiring wonder of the natural world is a prerequisite for painting wildlife.

Last, but not least, the seals. The May hosts the largest breeding colony of Grey Seals on the east coast of Britain. Some 2000 pups are born each year, mainly between October and November. They are great fun to sketch whether lying crocodilian mostly submerged, lying partly underwater with flipper in the air or sound asleep amongst the rocks with their pups. I love playing with the textures of their pelage, comparing dry furry coats with the sleek wet look.

All going well, the book *'Return to One Man's Island'* will be published by Edinburgh publishers, Birlinn, in September 2011, with an exhibition of some of the work at Waterston House, 17 September to 16 November 2011. I have a gallery/studio at the Feaman Gallery, by Aberfeldy, Perthshire PH15 2QW, 01887 830609.

Keith Brockie (www.keithbrockie.co.uk)

The South-east Scotland Tetrads Atlas II update

R.D. MURRAY

Summer 2011 marks an important milestone in atlasing activities in south-east Scotland. It is the start of the last breeding season for the BTO UK Breeding Atlas, and the probable halfway point for the local tetrad atlas. While the national atlas requires just a 33% sample of tetrads in any area to fulfil its requirements, the local SOC branches decided on surveying 100% of Lothian & Borders, repeating the survey done between 1988 and 1994.

At the finish of the third breeding season in 2010, we had managed to do visits to more than 1,200 of the 1,779 tetrads, some 68% of the area. Projecting ahead, it seems likely that almost 90% of the area will have been covered by the end of 2011 and that by 2012, at the end of the fifth season, 100% coverage will have been reached, including some remedial work on poorly covered tetrads. During the last tetrad atlas we took seven seasons to complete our survey.

So, despite being just halfway through our project with just two-thirds coverage, some interesting results are already apparent.

The most striking maps are where species have either considerably expanded or contracted their breeding ranges. Some, like Nuthatch, are well known to have colonised fairly recently, however other species have also made inroads into the area. Since 1994, Little Ringed Plover and Osprey have

colonised the area, while others are much more widespread, such as Chiffchaff, Blackcap, Jay, Magpie and Greylag Goose.

The amount of green on the Chiffchaff map (Figure 1) indicates newly colonised areas with apparent spread into the central Tweed basin and in the hill fringes. The infilling of the valley woodlands of the Pentland, Lammermuir, Moorfoot and Cheviot Hills is readily apparent. There are a number of orange dots too, which indicate range contraction, but it seems likely that further work in these tetrads would prove their presence. This change has also had an impact on Chiffchaff numbers.

Every singing Chiffchaff reported is recorded in the Borders Bird Report, and numbers have increased from a mean of 48 birds at 31 sites for the seven years during the 1988–94 atlas to and astounding 518 territories at almost 200

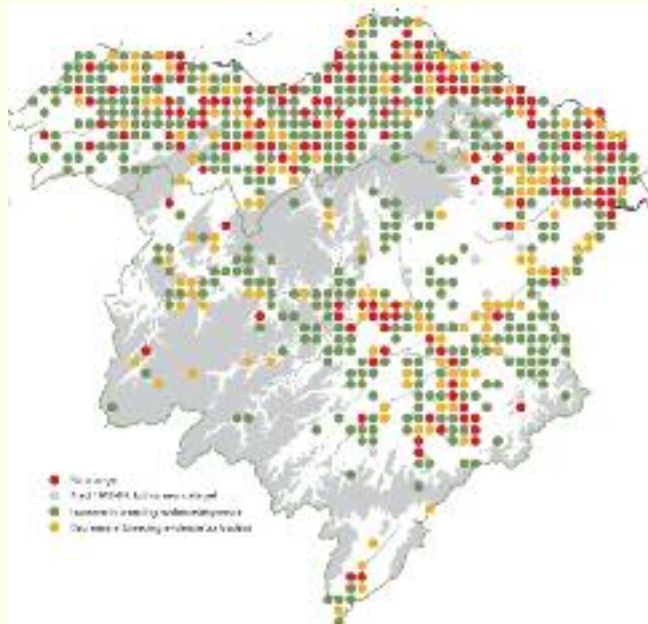


Figure 1. Breeding season change map for Chiffchaff in south-east Scotland between 1988–94 and 2008–10.

sites in 2008 and 289 males at 78 sites in 2009 (Figure 2). So, the two strands of the story tie together, the range expansion matched by a potential 6–7 times increase in the sites where birds have been found. The BTO's Breeding Bird Survey data also document a 289% in Scottish numbers between 1995 and 2008. It seems very likely that the 2,000 pairs estimated to breed in south-east Scotland in the last atlas will be much greater this time round.

Another species that has shown considerable spread since the last atlas is Stonechat. In the 1988–94 atlas Stonechat had just started the recovery from a series of severe winters in the early 1980s that had virtually wiped out the population in south-east Scotland. The increase was slow and by the 1988–94 atlas, it had just about reached the take-off stage. It was not really until 2000 that there was a substantial increase. The dataset from the Borders Bird Report shows the progress of the recovery between 1978 and 2009 (Figure 3).



Plate 225. Stonechat, St Abbs, Borders, 2001. © Ray Murray

The spread in both Lothian and Borders is plainly evident on the map. The few red/orange dots on Figure 4 show the status in 1988–94 with the striking colonisation of the hill areas and along the coast shown in green. So again both map and local data agree on the change that has occurred.

However, as many will be aware the cold winters in 2009/10 and 2010/11 have matched those of the early 1980s in their impact on the population. While we don't yet have the full picture, the number of Stonechat records since autumn 2009 has fallen away dramatically and so the map displayed is effectively the work of just the first two breeding seasons. Clearly, a

map of 'before and after' will be very instructive. One could speculate on the actual distribution in the early years of the project, but now we will never know.

We can also trace the opposite situation, confirming what we think we know about some populations having fallen recently. Species like Marsh Tit seem to be vanishing and this has been seen in the raw atlas data, with birds recorded from just 12 tetrads in both seasons since winter 2007/08. This compares to 65 tetrads in the last atlas (breeding only). Similarly Wood Warblers have only been found in 25 tetrads between 2008 and 2010, compared to 150 between 1988 and 1994.

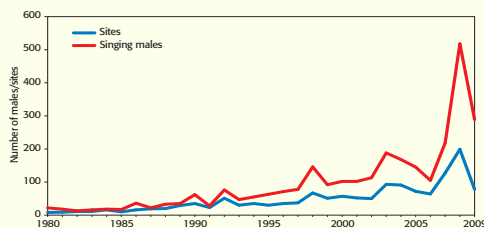


Figure 2. Numbers of singing male Chiffchaffs (red) and sites where they were recorded (blue) in Borders, 1980–2009.

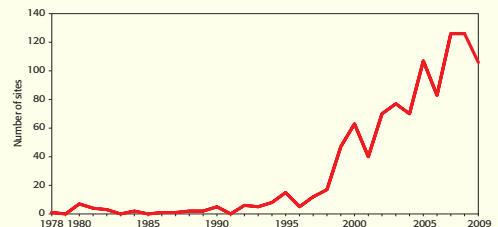


Figure 3. Numbers of sites where Stonechats were recorded in Borders, 1978–2009.

While these were uncommon species, Spotted Flycatcher was common and widespread and has suffered a large drop both nationally and locally, the BTO calculate a 32% drop since the early 1990s. The 'change' map (Figure 5) reflects these

widespread losses, especially at lower altitudes, confirming that the hill country woodlands populations are holding up better than those of the lowlands. For some, Spotted Flycatcher is now a very rarely seen species.

Other patterns will undoubtedly manifest themselves as more data are added. Our main problem is a lack of confirmed breeding records, as many observers have not been attaching breeding status to their records, and even when they do, many have been very conservative. I really do question how someone can get 10 Willow Warblers during a TTV count and just enter S, for song, or H, for habitat. Surely some of the birds were mutually audible, in which case the status should have been T, for territory. Likewise a few minutes extra watching an adult bird between mid-May and late July might have revealed it carrying food for young, which would be breeding confirmation. We will have to work hard to achieve a higher rating of breeding confirmation generally between now and 2013, but one thing is sure, it will be fun!

Ray Murray

www.the-soc.org.uk/se-atlas



Figure 4. Breeding season change map for Stonechat in south-east Scotland between 1988–94 and 2008–10.



Figure 5. Breeding season change map for Spotted Flycatcher in south-east Scotland between 1988–94 and 2008–10.

Scottish Bird Report - a digital archive

R.D. MURRAY

The *Scottish Bird Report* first appeared in the summer 1969 as part of volume 5 of *Scottish Birds*. This was a real breakthrough for bird recording in Britain; a comprehensive annual account of birds across a large part of the British Isles. Prior to that, there was only a single annual bird report in Scotland, that of the Fair Isle Bird Observatory. Bird records did appear in *Scottish Birds*, as quarterly 'Current Notes', supplemented by important records being expanded on in the 'Short Notes' section. These records were *ad hoc* and relied on observers sending reports to the editor, with no comprehensive coverage of either Scotland or the systematic list.

The SOC was groundbreaking in establishing the Local Recorders' network in 1968. Their main task was to prepare an annual account of the most interesting observations from their areas. This would then be sent to the SBR editor, who would collate an account for each species and so, for the first time, provide a national perspective for local records.

The SBR then appeared annually, although sometimes delayed, through to the report covering 2001. The process of Local Recorders having to prepare an annual account of the birds in their areas in many senses sowed the seeds of the demise of the SBR. As the decades passed, the Local Recorders, while still passing on their accounts to the SBR editor, started publishing their own local bird reports. This has real advantages, as the presence of a local bird report provided a focus for observers to contribute records. As local bird reports developed, increasing numbers of records would be submitted and local reports became fuller, more comprehensive and eventually allowed for publication of photographs as well as articles of local interest. This had an effect on the SBR, as some local reports took longer to publish and this caused some delays in receiving the accounts from the whole of Scotland.

Another issue, however, had an impact on the publication of the SBR - money! During the 1980s and 1990s, in particular, the SOC suffered from financial constraints that increasingly restricted the number of pages available for the editor. Thus, while the 1974 SBR ran to 72 pages, most volumes were restricted to c.48–54 pages in the 1980s and early 1990s. This clearly had an impact on what records could appear, and the species accounts became increasingly terse, to the extent that many common species were restricted to just one or two lines. This shortening occurred at a time when local bird reports were providing details on more records than ever. I took over with the 1990 SBR on the understanding that more pages would be available, so to be able to give a more coherent account of each species. Indeed, during the 1990s, the SBR gradually expanded until the final editions in 2000 and 2001 were over 120 pages. I would like to think that the species accounts were more interesting and readable during that period.

However in the early 2000s the SOC once more had financial difficulties and I was asked to reduce the size of the publication and asked to make it more 'readable'. This proved difficult and while a draft 2002 report was written, I was unhappy with the loss of what I considered to be the most important element of the SBR, the actual bird records. My other problem was the sheer number of records to be incorporated. By the 2000s I was being asked to summarise accounts from over 18 local bird reports, many of which ran to more than 50–60 pages. The scale of the editing process was becoming increasingly difficult. I felt another strategy was required and while I had an idea of what was needed, the technical issues proved somewhat beyond me. The arrival of *The Birds of Scotland* project, also

meant that my attention was increasingly focused on that, and as the SOC could save £2,000 annually I was not being pressed to provide more issues and so the SBR as an annual publication came to an end.

It was only in 2009, once *The Birds of Scotland* was completed, that I returned to the SBR project. With the technical assistance of Ian Andrews and Stephen Hunter, a format for a digital SBR was progressed. The basic idea is to enable 'readers' to access all the species accounts for all the recording areas of Scotland, for any year, on the SOC website. Rather than trying to compress a huge number of records into a 100–200 word account for each species, the readers will be able to see all the 'raw' species accounts that were previously edited down for the old-style SBR.

The new website is extremely simple to operate. Go to www.the-soc.org.uk/sbr.php.

On this main page (Figure 1) you can select your species, select your year(s), and then choose whether to look at one or more local recording areas, or all of them at the same time, that is, all of Scotland.

Click 'Display Report' and scroll down to a list of species/year entries (Figure 2).

This website is still 'work in progress' and coverage so far is limited to about 40% of the 600-odd local reports that exist (up to 2008). To the left of the page (Figure 1), the link 'Online Coverage' allows you to see what is already posted on the site. Another 10% of local reports are in some stage of processing, but it will take a year or two to fully populate the website. Some areas are fully, or almost fully, covered already: Borders, Lothian, the Isle of May, Clyde and Argyll, and some others have more than half of their reports added: Orkney, Moray & Nairn, and Dumfries & Galloway.

After that reports will be added annually. We have undertaken not to upload new local reports to the site until we have permission from the local branch/club that publishes the report. In many cases this will be a year or two after the publication date of the local report. This should ensure that the site does not have any impact on report sales. This does mean that there will be a time-lag before reports appear on-line, but there always has been a time-lag for the SBR. Just now we are using a cut-off of 2007, unless permission has already been granted to upload files.



Figure 1. The starting point for any enquiry on www.the-soc.org.uk/sbr.php



Figure 2. The first few entries from an enquiry about Water Rails in Borders.

Beyond that it is my aspiration to provide analyses of species occurrences in Scotland, just as I did when I edited the SBR. Using the on-line accounts on the website, it should be relatively easy to create datasets similar to those that produced the graphical content that was such a success in *The Birds of Scotland*. Subjects may be arrival and departure dates for migrants, influxes of species such as Waxwing or Long-tailed Skuas, or the variable migration of waders, such as Little Stints and Curlew Sandpipers. Datasets that already exist for rare migrants might also become part of the website, updated annually by the SBRC.

While the website is called the Scottish Bird Report, it really is a digital archive that will grow to become a powerful tool for Scottish ornithology. I have already started using it as a tool for species analysis for the Lothian and Borders tetrad atlas for which we are still gathering data. In creating templates for species authors, I found it much simpler to collate data to investigate, in this case, Water Rail records in south-east Scotland (Figure 2).

One very instructive lesson from looking at some of the much older reports is not just how much local reports have changed over the decades, but to what extent birding occurred in what seems another world 30–40 years ago. Some of the old Clyde Area Reports from the early 1970s, which I had to disaggregate to conform with the current bird recording areas, are fascinating reading when it comes to species such as Yellow Wagtail and Corncrake. Similarly what was considered a significant bird then and now (for example Yellow-browed Warbler, Sooty Shearwater or Pomarine Skua), have changed dramatically.

As far as I know, no other comparable resource covering such a large geographical area exists anywhere else and it is my hope that such developments help the SOC to keep at the forefront of innovation in this area of ornithology.

The development of this website would not have been possible without all of the effort that local recorders and bird report editors have made over the years in getting out their bird reports annually. In addition, when requesting permission to use the material in local reports, a number of people have been particularly helpful in negotiating with branch committees and bird club officials. Considerable assistance comes from people actually getting hold of old and well out-of-print reports for scanning and obtaining more modern computer files that do away with the need to scan old reports. An acknowledgments page does appear on the website but my particular thanks to Neil Beilby, David Clugston, Paul Collin, Jon Cook, Martin Cook, Paul Daw, Murray Dickie, David Jardine, Bob McCurley, Al McNee, Mark Oksien, Fraser Simpson, Margaret Thorne, Val Wilson, Ron Youngman and Bernie Zonfrillo. Others will undoubtedly follow as I tackle other parts of Scotland.

Ian Andrews and Stephen Hunter were paramount in the development of the database behind the website and website design, freeing me from all of these technical aspects and letting me get on with the grind of dealing with the actual bird reports excerpts. Finally *The Birds of Scotland Fund* has been of great help in funding this project.

Ray Murray



- bird recording enters the internet age

C.R. McKAY

Since bird watching became popular during the latter half of the 20th century, a key part of the hobby has always been recording what you see in a field notebook and then writing up the records to send off to your Local Recorder for use in the local bird report. In Scotland, we have until recently also been blessed with an annual national bird report - the *Scottish Bird Report* (SBR). For many years this was edited by Ray Murray and it provided an overview of the contents of all the Scottish local bird reports. For someone like me before I moved north of the border, SBR was a mouth-watering bird-fest - from breeding raptors and arctic specialities in the Highlands, to Red-necked, Black-necked and Slavonian Grebes seemingly everywhere and to all the migrants you could ever wish for from Shetland, Fair Isle and Orkney in the north all the way along the east coast to the Isle of May and St Abbs in the south. No wonder then that Aberdeen was my first choice university - a decision made by many others before and since.

But the art and science of bird recording has moved on in ways we could never have imagined when I first arrived in Aberdeen in 1979 (to see my first Isabelline Wheatear at Girdleness, and Capercaillies in Ballochbuie). Thanks to the internet, birdwatchers are now better informed than ever before, and the quality of our optics, the use of tripods, and the magnificent *Collins Bird Guide* have taken our hobby to an altogether different plane. It is now also possible to make digital recordings of calling crossbills, and take digital photographs, which can even reveal such details as the numbers on metal-ringed birds and key identification features for difficult species such as the wing-tip pattern of rare gull species and sub-species.

The basic tools of recording in the field haven't changed much over the years. Second only to your optics on the 'worst thing to forget to take out on a day's birding' list must surely still be your notebook and pencil (though for some, digital voice recorders and new smart phone applications that enable you to record your sightings in the field are starting to challenge even the much-loved notebook). And, whatever the medium, the information recorded remains much the same - Date, Location, Species, Number, Age/sex, Breeding status, Comments. For the last ten years or so, gathering this information has been greatly aided by the use of spreadsheets which can store information in a standard format, greatly easing the task of bird report compilation and data extraction. Spreadsheets are essentially a digital card index system, but with the great advantage that the 'cards' (your records) can be sorted in a multitude of ways with a few simple keystrokes - by date, species, location or any combination of these. The old card index system was based



Plate 226. *Isabelline Wheatear*, Girdleness, North-East Scotland, October 1979. © Sam Alexander

on a card per species, which was fine for writing an annual bird report species by species, but a nightmare if you're trying to retrieve all the information for a particular site threatened by development as the information is potentially scattered across all the species cards. So the spreadsheet was a big leap forward, but little did we know how quickly it would be superseded.

Into the 21st century with BirdTrack

The internet has had a massive impact on the way that most of us conduct our day-to-day communications and how we store and retrieve information. Luckily for bird watchers, it's almost as if it were developed solely to make bird recording easier! Anyone who has entered their Atlas or WeBS counts online will know exactly what I mean. One of the great by-products of the 2007–11 Atlas is the wonderful atlas website designed by the IT team led by Iain Downie at the BTO. This has shown just how easy on-line recording can be. Not only do our records get sent immediately and safely to the atlas database, but the records can then be looked at by the atlas validation teams in each area (on a daily basis if they wish) and up-to-the-minute maps produced showing the state of play for each 10-km square - all at the touch of a few buttons. And when the BTO comes to produce the final maps, thousands of man hours will be saved.

But, by the end of this summer there will be no more atlas recording to be done (except in those areas carrying out local tetrad atlases). Does this mark the end of our on-line Rolls Royce bird recording adventure? Not at all - for waiting in the wings we have a worthy successor in the newly revamped BirdTrack. The IT team at the BTO has been working hard to fine-tune BirdTrack, this time in a joint project with the SOC, funded by Scottish Natural Heritage. The SOC signed up to the BirdTrack partnership early in 2010, and since then the Scottish Bird Recording Network (i.e. your local recorders) has been providing feedback to the BTO on the on-going developments.

The result is a greatly enhanced version of BirdTrack, which we hope will meet the needs of observers, Local Recorders and bird report compilers alike, as well as making your records immediately available to national surveys and projects.

Using BirdTrack www.birdtrack.net

A key aim throughout the design of BirdTrack has been to make it as simple as possible to use. The only thing required is a reasonable internet connection, which may exclude a few folk on the islands; but broadband coverage is improving all the time. If you don't have a good internet connection, you can still enter your records on a spreadsheet and upload them to BirdTrack using the new upload facility. Having all our records in one place in one format greatly enhances their value as it means that a single system such as BirdTrack can be used by all of us to analyse and map our own records, compile bird reports, contribute to national surveys etc. A good example of this is that all the records entered on BirdTrack during the atlas survey periods have been automatically forwarded to the atlas database, avoiding duplication of effort by observers and atlas teams alike.

There are many new features on BirdTrack. Here are a few examples:

- You can enter today's or yesterday's date by simply entering T or Y in the date field - saves typing out the full date
- Once you have defined a 'site' on BirdTrack (i.e. a place where you regularly birdwatch) it is added to your own personal site list, and thereafter can be selected from a simple dropdown list, rather than having to type in the full name. I have found this feature invaluable for some Gaelic place names, such as Lochan na Nigheadaireachd on Islay.
- You can click on the **Remarkable** button to identify a record as particularly noteworthy in some way - e.g. your first Swallow of the spring, a high count of Lesser Redpolls for your garden, or to identify an unusual date or location. This brings the record to the attention of your Local Recorder, for example when compiling the annual bird report.
- And on the right hand side of the screen is a discrete little + button. This is the **Additional details** button, which opens up a treasure trove of options for providing more information about your sighting. These are OPTIONAL details, there's no obligation to fill them in, but there may be occasions when you find them useful, - perhaps for your own

personal records or because you want the local recorder to know more about your sighting for a bird report.

- Options include **Age/sex** details, **Activity**, and **Sensitivity**, but perhaps the most valuable is **Pinpoint sighting**. Clicking on this takes you to a Google map for the site you have selected; if you then point the cursor at the exact location of your sighting and then press **SHIFT-CLICK**, BirdTrack will automatically fill in a six-figure grid reference for you. For many sightings there is no need for such a precise reference - the site name will be sufficient, and this is usually appropriate for migrant birds or birds flying over. But, for breeding records of any species, the more precise the location you provide, the more valuable your record becomes. With increasing development pressure on the environment, there is a great need for precise biodiversity information that can be directly linked to a grid-referenced site, rather than to a general area. In this respect, a 6-figure grid reference is 100x more valuable than a 1-km reference, and a staggering 10,000x more valuable than a 10-km square reference!

On a more personal note, if your records are plotted to a high resolution then the distribution maps that you can produce on BirdTrack of your own sightings become all the more detailed and interesting. Plotting your records couldn't be easier - simply click on the **All my species** option, and select a species. When I did this to produce the Corn Bunting map below, an error was immediately highlighted - the sighting to the west of Kirriemuir is clearly a data entry error on my part. By hovering my mouse over the dot I was given the site name, and was able to quickly locate the record and correct it.

Your records: onwards and upwards

Once you have submitted your BirdTrack records, your Local Recorder can look at them and check them for errors using new validation rules. These pick out unusually high counts, unusual dates and so on. He/she may get in touch with you to query such records - but please bear in mind that most of the time this validation process is aimed at trying to weed out any data input errors - such as the Corn Bunting example above. If you report a local or national rarity, BirdTrack will automatically alert you to



Figure 1. BirdTrack distribution map of all Angus Corn Bunting records, Clive McKay.

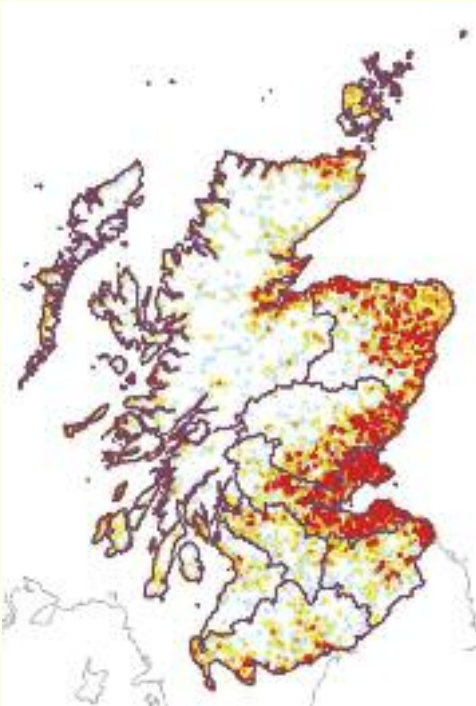


Figure 2. Distribution of a seed-eating bird assemblage (see text for species) in Scotland, 2005–09. Key: red dots = 5–6 species, orange dots = 4 species, yellow dots = 3 species, blue dots = 2 species.

this fact, and provide a description form for you to fill in and forward to the Local Recorder.

As mentioned above, BirdTrack records automatically contribute to the Atlas, but they are also used in other ways. Records from across Scotland and the rest of the UK are currently automatically feeding into the RSPB's Bird Conservation Targeting Project (www.rspb.org.uk/targeting), which is helping the government to target agri-environment funding into the appropriate areas for protected species. One group of species is the arable bird assemblage - Skylark, Tree Sparrow, Linnet, Twite, Reed Bunting and Yellowhammer (Figure 2). Imagine the workload that would have been involved in collating this geographical information for six species in the days before digital recording. Moreover, with the new system, the maps can be easily updated annually to incorporate newly entered information.

Another shop window for your information is the National Biodiversity Network www.nbn.org.uk. This is the first port of call for planning departments when they are looking for biodiversity information. As they are not biodiversity experts, it is crucial that they have a one-stop-shop for all biodiversity information. By the end of this year, BirdTrack records will be fed into the NBN Gateway automatically, to act as a shop window for the data that your Local Recorder holds. The final decision on whether these data can be used will always lie with your Local Recorder, but now the whole task of preparing datasets for loading onto the NBN Gateway will not have to be shouldered by him or her.

And finally

You can submit your records as 'casual records' or as a 'complete list'. The latter represents a record of everything that you have seen on your visit to that site. A 'complete list' is of great value, as it enables inferences to be made about what wasn't there (Swallows in winter) as well as what was there. Prior to 'complete lists', there was no way of knowing whether the absence of Swallows from your records from November to March was because you didn't bother to write them down (unlikely, I know!) rather than the fact that they were genuinely absent. If you haven't already, why not try a bit of 'complete list' birding - it's great fun - similar to atlasing, and of immense value.

If you haven't already registered for BirdTrack, I encourage you to give it a try, to maximise the value of your records and to open up new ways of storing and looking at your own records. All you have to do to get started is to register at www.birdtrack.net, add your first sites, and then start adding your records. Good luck and good birding.

Clive McKay,
SOC Scottish Bird Records Co-ordinator

BOOK REVIEWS

Wildlife Around Glasgow. Richard Sutcliffe, 2010. Culture and Sport Glasgow (Glasgow Museums), ISBN 9 7 8 - 0 - 9 0 2 7 5 2 - 9 6 - 2, paperback, £9.99.



When we think of Glasgow words like industry, ship-building and more recently Commonwealth Games all spring to mind. To the inhabitants of the city "Glesga" is the dear, green place and with one fifth of the total area being classed as greenspace with an incredibly rich biodiversity this is certainly proven to be the case in this new guide to the wildlife of Glasgow.

The introduction covers how the landscape in and around Glasgow was formed, going into enough detail about geology, climate and land-use in an easily understandable and interesting manner. Once past the introduction this book concentrates on 50 sites in and around Glasgow and it is here that we can see that this part of the book has benefited greatly by being written by local experts. Each expert has highlighted for them what makes their particular site special, whether that would be fossil hunting at Blairskaithe Quarry, the discovery of Purple Hairstreak Butterflies at Dawsholm Park or the chance of watching Hen Harriers sky dancing in the Renfrewshire hills. Each description is packed with information on the wildlife in the area as well as advising the best times to visit. Detailed information is provided on various ways to travel and access the sites with information also provided on activities such as guided walks.

All in all this a colourful guide that is fantastic for everyone whether you want to go looking for Toothwort or take the kids to Bingham's Pond to see if they can spot more than 67 Tufted ducklings this year.

Hayley Douglas

Obair gun duais? Alasdair MacGilleMhicheil a' tional ainmean Gàidhlig eun A Thankless Task? Alexander Carmichael as a collector of Gaelic bird names. Tristan ap Rheinallt, 2010. The Islands Book Trust, ISBN 978-1-907443-10-7, paperback, £9.99.

Alasdair Carmichael was born on the island of Lismore in 1832 and as anyone with an interest in Gaelic culture or tradition may know, he was a folklore collector with a passion for natural history. Amongst his various manuscripts, and particularly his greatest folklore collection *Carmina Gadelica*, there are a great number of Gaelic bird names collected from across the Highlands and Islands. In *Obair gun duais*, the author, a bird enthusiast himself, explores the reliability of Carmichael's collection from the perspective of a naturalist. He considers Carmichael as a naturalist and the value of his work before reviewing his working methods. The author concludes by stating that although not all the bird names Carmichael collected are absolutely correct from an ornithological point of view, they are an extremely valuable resource, some of which would certainly have been lost



had Carmichael not recorded them. The book also contains some fascinating references to bird names in Gaelic proverbs, charms, prayers, songs and tales.

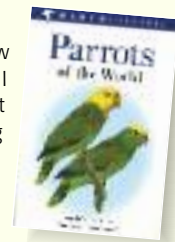
There is an extremely useful appendix of Carmichael's Gaelic bird names with a literal English translation of their meaning, which often tells us something about a bird's appearance or behaviour. For example Dunlin, or *pollaran* in Gaelic, is a particularly appropriate name for a bird that often seeks its food in the mud (*poll* meaning mud in Gaelic). The striking colour photographs and informative descriptions add some colour to the book.

This bi-lingual yet compact book is an excellent and easy read for anyone with an ornithological or Gaelic interest.

Emily Edwards, *Oifigear Gàidhlig/Gaelic Officer, Dualchas Nàdair na h-Alba/Scottish Natural Heritage*

Parrots of the World. Joseph M. Foreshaw, illustrated by Frank Knight, 2010. Helm, ISBN 978-1-4081-3-34-6, paperback, £24.99.

I don't know about you, but I have never got used to seeing parrots in the wild, especially the Macaws! This guide covers all 356 species of parrots. There are 146 plates with all species and well differentiated subspecies illustrated.



As with all Helm guides, the layout is good and the maps are detailed. In fact some of the

maps for species that occur in the Far East are incredibly detailed. The illustrations are also good to very good, although I found the plates with the larger species both more detailed and more pleasing to the eye than the plates of the smaller species.

This book would make a nice addition to any birdwatchers library and a flick through the plates dreamily with a nice glass of red in your hand is more than pleasant. I am not sure, however, if I would ever travel with it. Any guide specific to one family is by definition of limited use and these days as we travel more and more lightly a small regional guide will always win the day.

Having said that I enjoyed it a lot; it is very well researched, very well organised, well illustrated and has an interesting introduction. If there is room in said library, and you see parrots at least once a year - buy it.

Ken Shaw

Barn Owl. David Chandler, 2011. New Holland, ISBN 978 1 84773 524 9, £12.99.



I liked this book a lot. The Barn Owl is a familiar and popular bird with experienced ornithologists and with those with a passing interest in natural history. The 'Barn Owl family' also has an impressive global range and so travelling birdwatchers come across it in some unexpected situations.

The style of the book is interesting; it is not scientific or academic, in fact it is rather matter-of-fact, but it is crammed with interesting information which

is easy to access. What are particularly impressive are the references to studies all over the world. This book is not about the 'English Barn Owl'. It is well illustrated with some superb images; we have all seen the classic Barn Owl at nest site shots - and there are some of these - but there are also some different shots too. I particularly like the Barn Owl and Kestrel competing in flight for prey.

We know a lot about the Barn Owl's prey, of course, but this is changing! Brown Rats are less important than they once were and that gap appears to be filled by Field Voles.

I recommend this book to anyone even with a passing interest in one of our most interesting, familiar and popular birds.

Ken Shaw

Bill Oddie's Birding Map of Britain & Ireland (7th Edition). Bill Oddie, 2011. New Holland, ISBN 978-1-84773-981-0, large, two-sided, fold-out map, £4.99.

A bright, colourful map of Britain and Ireland with 346 numbered sites (89 in Scotland, 41 in Ireland, 35 in Wales, 5 on Isle of Man, 176 in England) keyed to regional tables with brief descriptions of the respective site regarding habitats present, best times to visit, and some entries include specialities. The spread of sites chosen is obviously subjective, but the biggest surprise for me was the inclusion of St Kilda and the Monach Isles (both relatively inaccessible), as two of only three sites in the Outer Hebrides, at the expense of anything on Lewis/Harris or south of Benbecula on North Uist.

The reverse side features 15 sites in greater details, three of these in

Scotland - Hermaness, Sands of Forvie & Ythan Estuary, and Abernethy & Loch Garten. Two others are in Ireland, and the rest in England. In addition, information is given on top locations for watching seabirds and wildfowl, and there is a table listing details of our bird observatories (minus Filey, Flamborough and Hilbre), though some details here are now out of date.

One might dispute some of the sites chosen, including the 15 highlighted locations (great topic for discussion over a pint?), and there is insufficient detail to replace the need for the relevant "Where to Watch Birds in..." volume when on your travels, but this is an inexpensive item for anyone wanting to get a flavour of birding outside their local area and might be a suitable gift for less experienced birders.

Stuart L. Rivers

Bird Songs and Calls. Hannu Jannes & Owen Roberts, 2011. New Holland Publishers, ISBN 978 1 84773779 3, 64 pages, hardback and CD set, £9.99.

The main focus of this book is identification through the sounds the bird makes, not just song and calls but the sounds made when taking flight, etc. These sounds are described in the text and recorded on the CD. The CD has one fault: there is no spoken word, the sounds made by each bird run into the next with little pause. Though CD players usually show the track number it would have helped if each bird also had a short spoken introduction.

The text describes the birds and their food, nests and status.



Photographs aid identification; the photographs are very skilled but not always typical of the bird; that of the Wren doesn't show its typical stance with the cocked tail.

The index gives common and scientific names, page and track number. The contents page says 96 birds 'featured in full colour with text and *distribution maps*'. The copy I was reviewing had no distribution maps. The choice of birds to include must have been difficult, 96 out of so many fairly common in Britain and this choice begs some questions; for example, why Redshank rather than the Greenshank.



I chose to review this book, hoping that I would find identification of birds from their calls easier. But the fault must be in me, as by the end of listening and looking I found it no easier out of context. For anyone with a more musical ear this book should be of help.

Harriet Trevelyan

The Jewel Hunter. Chris Gooddie, 2010. Wildguides Ltd, ISBN 978-1-903657-16-4, paperback, 424 pages, 137 photographs, 19 maps, £17.99.

Bird books fall into two categories - those that inform and those, like this book, that entertain. The jewel(s) in question are pittas, and Chris Gooddie, a self-acknowledged twitcher, throws up his job in High Wycombe and sets out to see all 32 species in a year. Pittas are those impossibly colourful ground-dwelling jungle birds that every birdwatcher drools over in the field guide prior to a trip to some tropical jungle - and usually returns without having

seen any of them. So Mr Gooddie has set himself a task somewhat more difficult than, say, seeing all the world's hoopoes in a year, and thrills and spills are to be expected. These certainly occur - gashing open his arm on a remote Philippines trail, nearly dying of dysentery in Bali, encounters with lethal snakes and dodgy bears, not to mention being constantly eaten alive by leeches and mosquitoes. All this is recounted in an easy-going, highly readable style, enlivened with colour photos of birds, people and places, and a 'treasure chest' of his pictures of (nearly) all the world's pittas. For the benefit of non-twitcher readers, he even provides a handy Twitcheese-English dictionary. He is very observant of his surroundings, and at the end of each chapter one is left knowing at least a little of what these remote countries are like. He is nearly as unpredictable as his avian quarries; when it looks like he's in the Asian jungle for the long haul, we find him back in High Wycombe to get his car MoT'd. And the Twitcheese dictionary suddenly veers off into the niceties of Mancunian football.

Nevertheless, this is a highly entertaining read, and if you are stuck somewhere boring like an airport departure lounge (or High Wycombe), forget Jeffrey Archer and buy this instead.

Jeremy Brock

Reed and Bush Warblers. Peter Kennerley & David Pearson, illustrated by Brian Small, 2010. Helm, ISBN 978-0-7136-6022-7, 712 pages, hardback, £65.00.

This is a volume for the book collector and the warbler buff. It will provide an excellent reference work for the serious birder with information on: Identification, Similar Species, Moults, Voice,

Habitat, Behaviour, Distribution, Description, Geographic Variation, and Systematics. The ringer will appreciate the concise In Hand Character information, with outline sketches of wing, tail and bill detail (for those species for which these are critical identifying features). Not a book for use in the field so much as for reading in the comfort of home.

It covers three families, 13 genera and 112 species, with species accounts each covering two to eight pages. Each is supported by a colour plate illustration, typically with adult and juvenile plumages, with different races and for some seasonal comparisons. The plates follow on from the introductory sections, with the main species accounts typically supported by one or more photographs, many in the hand. Maps of breeding range and non-breeding distribution, with indication of subspecies, are well produced, with the scale varying appropriately to suit the particular species and I particularly appreciate the muted colours used.

This work does seem to have been researched and produced to a very high standard. I have enjoyed dipping in on a periodic basis, and have tested it against species familiar to me and those that have challenged.



A volume worthy of shelf-room for all keen birding folk, and a welcome addition to the range of species group texts.

Mike Martin

RINGERS' ROUND-UP

If you have any interesting ringing recoveries, articles, project updates or requests for information which you would like to be included in the next issue, please email to Raymond Duncan at Raymond@waxwing.fsnet.co.uk Thank you very much to the British Trust for Ornithology (BTO) and the many ringers, ringing groups and birders who provided the information for this latest round-up. Thanks also to the many birdwatchers who take the time and trouble to read rings in the field or find dead ringed birds and report them.

Leg-flagged Sanderling

A recent collaborative study involving the colour-ringing/leg-flagging and resighting of Sanderlings along its African/Eurasian flyways is helping to reveal a lot of fascinating information about this species as it passes through and winters around the coastlines of Scotland.

Tiree - John Bowler

John Bowler has recorded 44 different colour marked Sanderling on the west coast island of Tiree; since 2007. Four had wintered on Tiree. Birds that wintered close by in Ireland and England tended to pass through first in the spring followed by Portuguese, French and Spanish-wintering birds, then Ghanaian birds and finally Mauritanian birds (a pattern seen in previous springs). Birds seems to show high site fidelity, with individuals returning to the same beaches around the same date each spring (and with a similar set of results in the autumn and winter). A Polish-ringed bird in May 2011 was a complete surprise and was the first to be recorded on the west coast flyway of presumed Greenland-breeding birds. The high rate of turnover re-emphasises the international importance of Tiree's beaches for this species.

Orkney - C.J. Corse

Orkney Ringing Group are leg flagging Sanderling on Sanday, Orkney. Sanday is one of the most northerly wintering areas on the East Atlantic Flyway for the species holding a wintering flock of up to 500 birds. The first successful catch was at Hine Greenie, Sanday on 6 November 2010, when 160 birds were fitted with a unique combination of colour rings and leg flags.

In addition, four birds have been marked at Newark Bay, Deerness.

The main aims of the project are to compare survival rates of birds which winter in Africa, where there is a good food supply and much warmer conditions, with those which winter further north where feeding can be interrupted by bad weather. The downside of wintering in Africa is that the birds have to undergo a much longer migration. Another aim of the project is to see if birds which winter on Sanday are site faithful from year to year.

Even at this early stage of the study, we are starting to get interesting results. By early February, we received sightings of four birds from across the North Sea in Norway and Denmark.

W = colour-ring sighting, **3** = juvenile, **4** = adult.

NS99798 3 06/11/10 Hine Greenie, Sanday W
19/02/11 Blavandshuk, Jylland, Denmark, 764km

NS99692 4 06/11/10 Hine Greenie, Sanday W
19/02/11 Retvangen, Klepp, Rogaland, Norway, 481km

NS99715 4 06/11/10 Hine Greenie, Sanday W
04/02/11 Akrehamn, Norway, 432km

NS99751 3 06/11/10 Hine Greenie, Sanday W
01/02/11 Kjul, Hirtshals, Nordjylland, Denmark, 734km

This was unexpected, as we had thought that the birds ringed in November would have been site faithful throughout the winter. The Dutch researcher, Jeroen Reneerkens, who is leading the East Atlantic Flyway Project is unaware of any mid-winter movements such as those above. It will be interesting to see if it is repeated in subsequent years of the study or whether it was a result of the hard winter we experienced. Will any of these birds return to Sanday or have they changed their wintering area?

A first-year bird had moved south to Lothian by March, only to be seen on North Ronaldsay in May, presumably on its northward migration.

NS99704	3	06/11/10	Hine Greenie, Sanday	W
		09/03/11	nr Dirleton, East Lothian	
NS99704	3	06/11/10	Hine Greenie, Sanday	W
		20/03/11	North Berwick, Lothian	
NS99704	3	06/11/10	Hine Greenie, Sanday	W
		14/05/11	North Links, North Ronaldsay	

In May, visits to North Ronaldsay on 14/15 and Sanday on 19th produced seven sightings of our flagged birds and of these, the five that had been sexed by DNA analyses, all were females. The sex ratio of the birds analysed by DNA gave a 50:50 ratio. Although the sample size is small, this would tend to indicate that males had moved by mid-May and only females remained.

In May, birds started to be seen in south-west Iceland by a team led by the above-mentioned Jeroen and an Icelandic cannon netter Gunnar Thor Hallgrímsson and in north-east Iceland by Guðmundur Örn Benediktsson. In total, six birds were seen in south-west Iceland at or near Sangerdi and four were seen at Ásmundarstaðir, Melrakkasletta, north-east Iceland.

NS99673	4M	06/11/10	Hine Greenie, Sanday	W
		17/05/11	Sangerdi, Iceland, 1188km	
NS99756	4M	06/11/10	Hine Greenie, Sanday	W
		20/05/11	Sangerdi, Iceland, 1188km	
		26/05/11	Sangerdi, Iceland, 1188km	
NS99774	3	06/11/10	Hine Greenie, Sanday	W
		21/05/11	Sangerdi, Iceland, 1188km	
		29/05/11	Sangerdi, Iceland, 1188km	
NS99776	4M	06/11/10	Hine Greenie, Sanday	W
		09/05/11	Sangerdi, Iceland, 1188km	
		25/05/11	Sangerdi, Iceland, 1188km	
NS99814	4M	06/11/10	Hine Greenie, Sanday	W
		08/05/11	Sangerdi, Iceland, 1188km	
		16/05/11	Sangerdi, Iceland, 1188km	
NS99835	6	23/01/11	Newark Bay, Orkney	W
		17/05/11	Sangerdi, Iceland, 1207km	
NS99710	4M	06/11/10	Hine Greenie, Sanday	W
		08/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	
		25/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	
NS99724	4	06/11/10	Hine Greenie, Sanday	W
		23/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	
		25/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	
NS99734	4F	06/11/10	Hine Greenie, Sanday	W
		12/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	
NS99817	4F	06/11/10	Hine Greenie, Sanday	W
		12/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	
		25/05/11	Ásmundarstaðir, Melrakkasletta, 1051km	

It is interesting to note that in the birds seen in Iceland, five out of the six birds which had been sexed were male birds. These sightings also gave an indication of the length of time the birds were stopping over in Iceland before moving further north to their breeding grounds.

This project is part funded by a grant from the SOC Endowment Fund, for which we are most grateful. We would also like to thank the Marine Services Department at the Orkney Islands Council for assistance with transport costs to Sanday. Without the above support it would be very difficult to undertake this study.

Blackdog, Aberdeen - Nick Littlewood

Birder Nick Littlewood has a few regular Sanderling visitors to his patch at Blackdog beach near Aberdeen on the north-east coast. Similar to Tiree on the west coast, birds show a high site and date fidelity. One regular wintering bird for the past three years is first seen around late August until early April and is then observed every spring from mid- to late May at a stopover site at Sangerdi in south-west Iceland. Another passage bird is seen briefly in September or late March/early April before also passing through Leven beach in Fife a bit later in autumn and a bit earlier in spring.

Please check all Sanderling flocks you see for colour-marked birds and report any sightings to chief project co-ordinator Jeroen Reneerkens J.W.H.Reneerkens@rug.nl. Jeroen is extremely diligent in responding to resightings with life history details and is doing great pioneering work through this project.



Plate 227. Colour-ringed and flagged Sanderling, Blackdog Beach, North-east Scotland, 29 November 2008. © Nick Littlewood



Plate 228. Colour-ringed and flagged Greenshank ringed on the nest in Sutherland in 2010, wintered on the River Stour in Essex, 31 August 2010. © John Keep

Scottish-breeding Greenshank

A colour-ringing study of Greenshank has been running on the Ythan Estuary and Montrose Basin in north-east Scotland since 2005, revealing onwards wintering sites as far ranging as Ireland, south-west England, Spain, Cape Verde islands and Morocco. The origins of these passage birds still remains largely unknown and very little is known about the movements and wintering areas of our Scottish breeding Greenshank.

In May 2010, Robert and Stuart Rae and Raymond Duncan from the Grampian Ringing Group were joined by Pete Potts and Ruth Croger from Hampshire in a trip to Sutherland in northern Scotland to try to catch and colour-ringing some breeding adult Greenshanks and chicks. Ornithologists Ed Duthie and Nick Christian have been visiting this area for 25 years to study and photograph Greenshanks, whilst Des Thompson and son John still continue their famous family study started nearly 50 years ago by the legendary Desmond Nethersole Thompson. All were very kind and helpful with their hard-earned knowledge, taking us to several Greenshank nests and showing us many breeding territories in wonderful habitat.

During the visit two breeding adults were caught and 18 chicks were ringed. Amazingly one of the two adults already had colour rings as a result of being caught as a juvenile on passage in August 2010 at Montrose Basin, Angus. Even more amazingly, the second adult colour-ringed on the trip was resighted by John Keep at Mistley on the River Stour in Essex on 3 August 2010 and subsequently wintered there, with sightings from many observers until its last reported date of 2 April 2011. Ed Duthie then had the bird back breeding close to its original nest in May 2011 and, to complete the story, at the time of writing, John Keep had just seen it back on the Stour on 19 July 2011.

So, in one short ringing trip, we managed to confirm that at least some of the birds passing through east coast estuaries in autumn are indeed of Scottish origin, whilst at least one Scottish-breeding bird winters in south-east England.

We also controlled a Greenshank at Montrose last autumn which was ringed as a chick in Highland, another significant piece of information showing the origins of these birds. Please do check any Greenshanks you see for colour rings and send details to: greenshankproject@googlegmail.com.

Robert Rae & Raymond Duncan



Plate 229. *Purple Heron, nr Letham, Fife, April 2011.* © Dennis Morrison

Purple Heron, nr Letham, Fife, April 2011 - the first Fife record

N. ELKINS & C. NISBET

On 10 April 2011, at 10:00, I (NE) paid my bi-monthly visit to the flooded gravel pits at Mountcastle Quarry, near Letham, Fife, where I normally census all species for BirdTrack as well as contributing the count of waterfowl to the Wetland Bird Survey (WeBS).

While scanning the shore of the main loch (Edensmuir Loch) for waterbirds, I found a heron fishing that I immediately recognised as a Purple Heron. It was clearly smaller than the Grey Heron (two of which were on site) and with a slimmer neck. As it fished, it walked very slowly with neck stretched at a 45° angle, and crouched before stabbing at prey items. The bill was tilted upwards slightly when not fishing. In flight, when disturbed, the bird was in silhouette, and no colour seen, and the neck was withdrawn. At no time did I observe the characteristic neck kink. The bird was too far away (300 m) to pick out the fine detail of the plumage, despite the bright conditions. I was unable to approach more closely and the bird eventually flew off.

The following details were discernible through my 60x telescope lens at 300m: the throat and chin were white, extending down to the breast, where fine vertical dark streaks were visible on the lower neck and breast. The sides of the long, thin neck were reddish-buff with a fine dark stripe running down to the breast. The crown was grey-black apparently extending on to the nape. A narrow supercilium was present, whitish-buff, with a thin dark line running across from chin to nape below the eye. The mantle and wings were grey, with buff plumes drooping over the wings. The bill was long, thin and yellow. The long legs were yellowish brown.

I am very familiar with the species during 40 years of visiting Mediterranean countries. This bird seemed rather paler than most others I have seen and it could have been a first-summer (second-calendar-year) bird, not fully in adult breeding plumage.

As this was a potential 'first' for Fife, I informed the County Bird Recorder and submitted the

record to BirdGuides, stressing that the bird had departed and that the site was not accessible to the public. I hoped that the bird might be found elsewhere locally so that others could watch it. As the bird had left, I did not inform the quarry staff, but as it transpired it had returned about a week later.

Colin Nisbet takes up the story...

On 18 April 2011, I had decided to take the day off work to enjoy the sunny weather and indulge in a spot of Fife birding.

After visiting Rossie Bog and Angle Park, I moved on to Mountcastle Quarry. Rab Shand stopped in on his way to Fife Ness, and we talked briefly about the Purple Heron that had been found at the quarry a weeks or so earlier by Norman Elkins, but not seen since. After Rab left, I remained for a while, clocking up my first Sedge Warbler of the year, but I had not had much else and not even a further thought of the Purple Heron. I was about to leave when I met Jacqui Herrington, I showed her the lagoon I had been looking at, to the right of the main entrance, and at that point an immature heron took flight from the western bank. It was clearly a Purple Heron, and I kept my binoculars fixed on the bird which duly landed at the southern end of the lagoon. It

showed well from the reeds, affording great views from my scope and the opportunity for Jacqui to take some photographs. This species is generally much more elusive than our native Grey Heron, but fortunately this individual was showing very well.

The bird had chestnut-red colouring on its neck, which was quite sharply striped and it had developed much of the blue-grey tone on its wings. However, in flight the bird still showed some ochre on the edges of the secondary and tertial feathers on its upper wings, indicating it had not yet moulted into adult plumage, rather that it was a first-summer bird, consistent with the age-class of the bird seen by Norman a week or so previously. In any case, given the fact Purple Heron had not been recorded in the county to date, it would have been extremely unlikely that two would have turned up at the same location within 10 days of each other. The bird remained at the site until early evening, allowing a number of birders to see it, after which it took flight and was not recorded again. A few days later a Purple Heron was recorded in Moray; perhaps it was the same individual?

*Norman Elkins, 15 Scotstarvit View,
Cupar, Fife KY15 5DX*
*Colin Nisbet, Doune Cottage, Muckhart,
Dollar, Clacks. FK14 7JN*



Plate 230. Purple Heron, nr Letham, Fife, April 2011. © John Nadin



Plate 231. Purple Heron, nr Letham, Fife, April 2011.
© John Nadin

It should be noted that as Mountcastle is an operational quarry, access is restricted, and, even though there may be no obvious activity at the lagoons adjacent to the entrance, they are still located within the restricted zone of the active quarry.

As Norman pointed out when sending in his account, we are very fortunate in Scotland in having the Scottish Outdoor Access Code (www.outdooraccess-scotland.com) which allows responsible access to most of Scotland's countryside. There are exceptions, however, of which one is access to working quarries (code section 2.11). There were some access issues on 18th, when several birders looking for the heron were spoken to by the site manager. Fortunately, discussions with him following the initial situation led to a better understanding of respective positions and all who saw the bird that day are grateful for his accommodating attitude. Should anyone wish to visit the area in future, would they please ensure they have obtained permission directly from the Mountcastle site manager.

Purple Heron – its status in Scotland

This is a predominantly Palearctic breeding species, with isolated populations as close as Holland, Germany and central France, with the main Western Palearctic range extending

patchily from Iberia and coastal north-west Africa eastwards through the Mediterranean and south central Europe into Turkey, with greater numbers through south-east Europe, the Ukraine and SW Russia. There are also populations in Egypt, South and East Africa, Israel, Iraq and Iran, and from Afghanistan and Pakistan across South Asia to Indonesia, and East Asia to north-east China, Korea and south-east Russia. The European population is almost entirely migratory with the great majority wintering in Africa south of the Sahara.

This species favours wetlands with extensive stands of tall and dense vegetation such as reedbeds, but vagrants have also been found in ditches, drainage channels and more open freshwater habitats.

Purple Heron has always been a rare visitor to Scotland, with just 22 individuals found to the end of 2010 (last accepted record in 2002). Elsewhere in Britain it occurs annually in small numbers, particularly in southern England, and about 950 birds have occurred in Britain to the end of 2010, though exact numbers are unclear due to wandering of individuals. It was removed as a BBRC description species at the end of 1982. Following the Mountcastle bird sightings, a first-summer bird was found dead at Mires of Funzie, Fetlar, Shetland on 20 April, and one was seen at Loch Spynie, Moray & Nairn, on 22–23 April.

Annual numbers in Britain have declined somewhat since the peaks of the 1980s (35 in 1987) and 1990s (28 in 1994, 32 in 1999), but have been fairly consistent at 12–15 birds in the last decade. This downturn in records reflects reduction in numbers and range contraction in north-west Europe, which makes it all the more surprising that Purple Heron successfully bred in Britain for the first time in 2010. A pair at Denge Marsh, Dungeness, Kent, present from late April, managed to raise two young which fledged in late June.

The majority of British records occur in the spring, and Scottish records also mirror this, with two-thirds found between 6 April and 28 June and the remainder from 2 August to 21 October.

The White-winged Scoter in Aberdeenshire - a new Scottish bird

P. BAXTER, H. MAGGS & C. GIBBINS

The weekend of 10–11 June 2011 is one that will live long in our memories. It started uneventfully, with a trip to the Ythan estuary early on the Saturday morning (10 June). The tide was not ideal for checking the estuary, so we decided to travel the short distance down the coast to the Blackdog/Murcar area. The weather and sea conditions were perfect for checking through the scoter flock that spends the summer here, and our hopes were high as we arrived on site. We motivated ourselves by discussing how ideal the viewing conditions were and with the fact that the Black Scoter seen previously in Northumberland had to be somewhere; perhaps it was amongst the scoter at Murcar? We didn't find a Black Scoter (although see the accompanying article), but something altogether more exciting and challenging. By the time Sunday lunchtime came around, we were able sit back and enjoy the feeling that comes with adding a new bird to the British List - White-winged Scoter. But it wasn't quite that simple...

This article tells the story of the find, details the identification and taxonomy of the white-winged scoter taxa and discusses their status and occurrence in British and European waters

Finding the bird

It was mid-morning when we started checking the scoter at Murcar, and the sun was above our heads. The flat sea and neutral light meant that, despite the distances involved, we could see the necessary detail on the birds. After changing our viewing position on the dunes once or twice, we settled down to start a fresh scan. The bird on the very edge of flock was arresting, and suddenly concentrated our minds. Its jizz was distinctive, due to a double-bumped head profile, thick neck and habit of holding its head forward while swimming. All of this was accentuated by the limited extent of the pale area on the bill, relative

to Velvet Scoter. Unlike Velvet Scoter, in which the pale area extends under and behind the nostril as a rounded lobe, it was confined to the middle portion of the bill on this bird and extended along the cutting edge only as far as the nostril. Moreover, rather than being the yellow of Velvet Scoter, the pale on our bird was dirty flesh coloured. In the same few moments that these features were registering themselves in our minds, the solution to the puzzle began to present itself - the bird was one of the two vagrant 'white-winged' scoters (*Melanitta deglandi* or *stejnegeri*), taxa previously considered to be races of Velvet Scoter *M. fusca*. The problem we were presented with was that this bird was an immature male (a first-summer bird in fact) and virtually all of the accessible literature on the identification of these taxa dealt with adults. Thus, over the course of the following hour or so, we watched the bird and discussed the extent to which the features used to separate adult males might be useful for the identification of first-summer birds.

The distinctive bill horns and vibrant bill colours shown by adult males were missing, so we reasoned that head shape most likely provided the best clues. We focused on critical examination of head shape, while also noting other potentially relevant clues, including flank colouration relative to the rest of the body, the pattern of any white around the eye, and the precise extent of the pale area on the bill. We came to the conclusion that it best fitted *deglandi* (White-winged Scoter), but because of the paucity of information in the published literature on immature birds, we decided to leave the site and go to check the internet, specifically to search for photos of first-summer males. The rest of the day was spent on return trips to the bird and various internet searches. Everything we could see matched White-winged Scoter, although because of the viewing distances involved (300–400 metres) it

was not possible to see one or two critical details. That evening we discussed what to do. We were very confident about the bird, but also aware of three things: (i) that we were dealing with a first for Britain in a plumage for which very little was known, (ii) that the distance prevented us from being sure about some fine details, and (iii) that we had no good photographs of the bird. It was a tricky decision. We wanted to identify the bird ourselves beyond doubt and to have some convincing photos before putting out news. News of 'probables' and 'possibles' is always met with unanswerable questions from birders trying to decide whether to make the journey or not: "How sure are you? Is the ID 90%, 95%, 99% certain? Is it worth coming?" Our conclusion was that it would be much better to double-check everything the next morning, get some good photographs and then put the news out once we were 100% sure of the identification.

The next morning it all fell perfectly into place and by lunchtime we had the requisite photos (Plate 232). These were e-mailed to Martin Garner. Martin called us back, with his opinion that he could not see anything wrong with our bird, and that he felt that the identification was solid enough to go public. The news was released. This was the point where we began to relax, and enjoy the moment. It was a beautiful Sunday afternoon and all those who arrived in the coming hours enjoyed good views of the bird in ideal conditions. Conditions over the remaining period of the bird's stay varied considerably, and some poor weather along with the distance of the bird and the subtlety of its features meant that there were fun and games; many visitors saw it and went off happy; others didn't see it (even though the bird was present) and went off disappointed and frustrated; and some didn't see it, but went off happy that they



Plate 232. White-winged Scoter (*Melanitta deglandi*), Blackdog, Aberdeen, June 2011 (upper two Matthew Deans, lower four Nick Littlewood). The bird is a first-summer and so lacks the gaudy bill ornamentation and colours of a full adult drake. Nonetheless, it is readily identifiable using primarily structural traits. Note the double-bumped profile formed by the bulging forehead and step on the bill. Its head is rather square and its neck solid. The pale area on the distal portion of the bill is restricted (critically, it extends only to the nostril) and is fleshy toned. On first-summer Velvet, the pale area on the bill is distinctly yellow toned and extends to the rear of the nostril as a round lobe (see Figure 1).

had. The bird stayed around until 24 June and was enjoyed by several hundred birders over this period. Those who made the journey also enjoyed the Surf Scoters present at the site and some made the return journey the following week to see the Black Scoter that appeared. It was a purple patch for Murcar/Blackdog.

Taxonomic status and identification of the white-winged scoter taxa (*fusca*, *deglandi* and *stejnegeri*)

Based upon Collinson *et al.* (2006), BOURC currently recognises White-winged Scoter *M. deglandi* as one of the five species within the *Melanitta* group (the others being Common Scoter *M. nigra*, Black Scoter *M. americana*, Velvet Scoter *M. fusca*, and Surf Scoter *M. perspicillata*). BOURC currently recognises two races of White-winged Scoter - *deglandi* and *stejnegeri*.

Previously White-winged Scoter had been considered a subspecies of *M. fusca*. However, Collinson *et al.* (2006) argued that sufficient evidence exists for splitting *fusca* from the other two, and also provided convincing arguments for

splitting all three. For males, differences in bill shape, bill colour and facial feathering around the bill are near 100% diagnostic, with nostril shape and eye crescents differing between *fusca* and *deglandi* (but not diagnostically between *deglandi* and *stejnegeri*). With regard to female bill shape, they state that 'there are differences, at the population level, among *fusca*, *deglandi* and *stejnegeri* possibly approaching a stepped discontinuity'. Earlier, Garner (1999) and Garner *et al.* (2004) had established that immatures are also diagnosable. Thus, on the basis of available evidence, Collinson *et al.* (2006) concluded that '*deglandi* and *fusca* should be treated as separate species under criterion 4.1 of Helbig *et al.* (2002), as allopatric taxa that are fully diagnosable in each of several discrete or continuously varying characters, related to different functional contexts'. However, because of the lack of comparable data for *stejnegeri* (including genetics, voice and tracheal structure, traits which may prove diagnostic once examined) they conclude that this taxon is best retained as a subspecies of *M. deglandi* until further research is conducted.

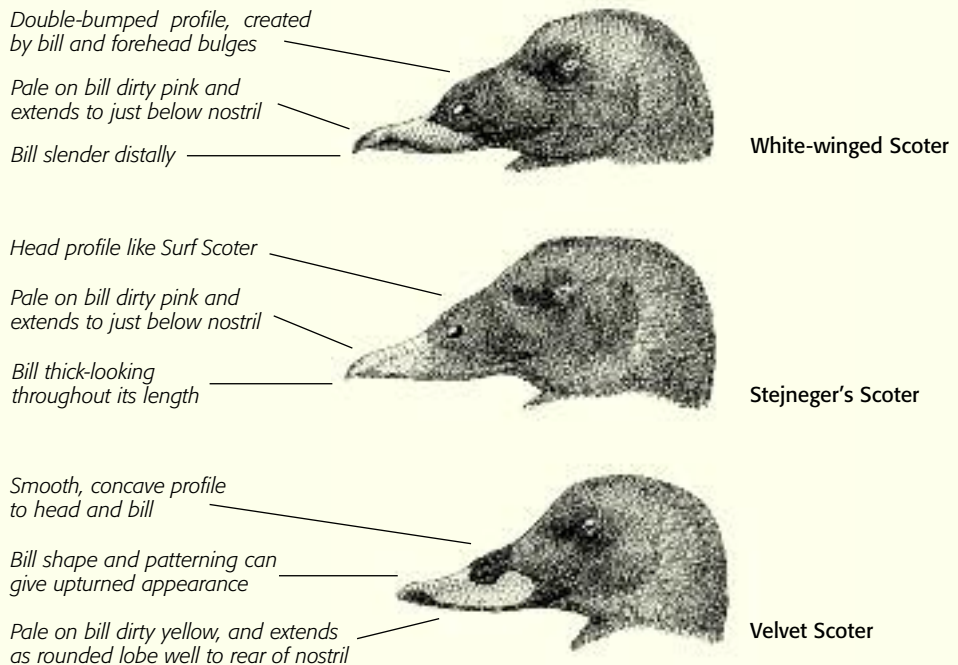


Figure 1. Head profiles of first-summer male White-winged Scoter *M. deglandi*, Stejneger's Scoter *M. stejnegeri* and Velvet Scoter *M. fusca*. © Chris Gibbins

The conclusions of Collinson *et al.* (2006) did not affect the British List since, at the time of writing, neither *deglandi* nor *stejnegeri* had occurred in Britain. However, for the purpose of the current article we follow the approach of others (e.g. Garner *et al.* 2004) and treat *deglandi* and *stejnegeri* as full species - White-winged Scoter and Stejneger's Scoter respectively. This approach is defensible, given that individuals of all ages and sexes are readily identifiable in the field.

The Murcar/Blackdog bird provided the first opportunity for birders anywhere in Europe to appreciate just how distinctive first-summer White-winged Scoters can be. Many first-

summer Velvet Scoter were present in the flock, providing a direct comparison. Key features for the separation of first-summer birds are summarised in Figure 1 and in the captions to Plates 233–235. Structural features are critical, and observers faced with a putative *deglandi* or *stejnegeri* should concentrate on head shape and then the shape and precise coloration of any pale areas present on the bill. The contrasting brown flanks of adult *deglandi* are diagnostic, but immature birds of all three species are extensively brown, rendering this less critical (though of course a bird with black flanks should not prove to be *deglandi*). First-summer birds lack the gaudy bill ornamentation



Plate 233 a–b. First-summer male White-winged Scoter *Melanitta deglandi*, Point Pelee, Ontario, May 2011. © David Cooper. This bird is a very good match for the Blackdog bird, and sports a double-bumped profile and a limited fleshy area on the bill. The head is rather square, very unlike the gently rounded shape shown by Velvet Scoter. Note that the development of white under the eye varies individually - this bird shows rather more than the Blackdog bird. As the bird matures, its bill will develop the strong square nostril bulge shown by adults and the arching eye crescent.



Plate 234. First-summer female White-winged Scoter *Melanitta deglandi*, Point Pelee, Ontario, May 2011 © David Cooper. Adult and immature females are challenging, but identifiable. Identification of adult females was covered by Garner (1999) and Garner *et al.* (2004). This bird can be aged as a first-summer due to the retained worn brown and pale-fringed juvenile scapulars. If it wing flapped, worn brown first-generation primaries would also be visible. Adult females also tend to have a more distinct pale lower, rear ear covert spot than this first-summer bird, similar in tone (and hence distinctiveness) to the pale area at the base of the bill. First-summer females share the same structural traits as the adults and so can be separated from Velvet and Stejneger's based on the head and bill profile.



Plate 235. *White-winged Scoters* *Melanitta deglandi*, Washington State, August 2010. © Micky Maher. A range of ages and plumages are present in this flock. Unlike the close-up images in Plates 233 and 234, these birds are at the distance more akin to Blackdog and so arguably the photograph is a more useful learning tool. The bill pattern, head shape and eye crescent of the adult male is striking, as is its rather long and slender looking bill. The first-summer drake to the right is a very good match for the Blackdog bird, in terms of the overall impression when seen at this distance; note however that this bird is facing away and so its true head shape is rather masked.

and colouration of adults, but second-summer birds are much more adult-like (with some best being aged as such; Pyle 2008, Dwight 1914).

Status and distribution of Velvet, White-winged and Stejneger's Scoter

The breeding distributions of the three white-winged scoter taxa, along with extralimital European records, are shown in Figure 2. Velvet Scoter breeds in Northern Europe and Asia, from Scandinavia to the River Yenisey (at least). It is common in the extreme northern taiga zone and it, along with Common Scoter *M. nigra* make up the bulk of duck populations inhabiting the lakes of Central Siberian open woodlands. It winters from the neck of the Baltic Sea, into the North Sea and Atlantic Ocean, with smaller numbers wintering in the Black, Mediterranean and Caspian Seas. White-winged Scoter breeds in North America, from North-West Alaska to Hudson Bay, south to Southern Manitoba. It winters on both coasts of North America as far south as California in the west and South Carolina on the east. Stejneger's Scoter breeds in East Asia, Altai to Kamchatka, with the western

limit lying to the east of the River Yenisey. It winters on the coasts of the West Pacific south to China (Collinson *et al.* 2006).



Fig 2. Distribution of the white-winged scoter taxa, based on Collinson *et al.*, 2006. Breeding ranges of Velvet Scoter *M. fusca* (blue), Stejneger's Scoter *M. stejnegeri* (green) and White-winged Scoter *M. deglandi* (purple) are shown, along with Western Palearctic records of vagrant *deglandi* and *stejnegeri*.

Table 1 gives the individual sightings of vagrant *deglandi* and *stejnegeri* in the Western Palearctic. Prior to 2011, only Iceland had hosted *deglandi*. However, their monopoly on records was finally broken with the discovery of the Aberdeen bird, a bird which was quickly followed by another first-summer male on the Faeroe Islands. These were clearly different individuals, evident from bill colours and structure. Stejneger's Scoter has occurred in the Western Palearctic on seven occasions, with the most recent record being in Ireland in 2011. All have been adults. A Scottish Stejneger's would be widely appreciated, whether it is an eye-catching adult male or a more challenging female or immature.

Table 1. Vagrant *deglandi* and *stejnegeri* in the Western Palearctic.

Stejneger's Scoter *M. stejnegeri*

Denmark; one record of returning individual

Blavandshuk, adult male, 12–18 October 2009, (with returning bird seen again at this location on 19 March 2010 and 5 March 2011).

Finland; one record

Kemio, southwest Finland, adult male, May to June 1996 (Lindroos 1997).

France; one record

Baie de Somme, northern France, adult male, 4 December 1886 (recently re-identified specimen; Jiquet 2007).

Iceland; one record

Valþjófsstaðir, Núpasveit (N-Pingeyjarsýsla county), adult male, 6 April–2 May 2003.

Ireland; one record of returning individual

Rossbeigh Strand, Co. Kerry, adult male, 7 March 2011 (first seen in November 2009, and again in January 2010, December 2010 and January to March 2011, but not positively identified until 7 March 2011).

Poland; one record

Ptasi Raj, Bay of Gdansk, adult male, 10 March 2007.

Norway; one record

Persfjordena, Varanger, first-summer female, 21–22 June 2011.

White-winged Scoter *M. deglandi*

Faeroe Islands; one record.

Vestmanna/Strey moy, first-summer male, 1 July 2011.

Iceland; up to eight individuals.

Foss, Fossfjörður (V-Barðastrandasýsla county), adult male, in eider colony, 3 June 1993.

Pvottáskriður (S-Múlasýsla county), two adult males on 4 June 1998, one adult male 6 June 1998, two adult males on 2 July 1998.

Reykjarfjörður, Suðurfirðir (V-Barðastrandasýsla county), adult male, 23 June 2000.

Pvottáskriður (S-Múlasýsla county), adult male, 12–17 July 2001, then presumed same at Reykjarfjörður, Suðurfirði (V-Barðastrandasýsla county) on 17–27 June 2003, Foss, Fossfjörður (V-Barðastrandasýsla county) on 27 May–30 June 2005, Reykjarfjörður, Suðurfirðir (V-Barðastrandasýsla county) on 17 July 2005, Hvalnesskriður (S-Múlasýsla county) on 23–24 April 2005.

Kirkjuból, Skutulsfjörður (N-Ísafjarðarsýsla county), adult male 20 May 2006, presumed same Pvottáskriður (S-Múlasýsla) 30 April–9 May 2007 and 2–7 July 2007.

Bakkatjörn, Seltjarnarnes (Gullbringusýsla county), adult male, 26 May–12 June 2008.

Pvottáskriður (S-Múlasýsla county), adult male, 5–10 May 2008.*

Njarðvík (Gullbringusýsla county), adult male, 20–25 February and 27–29 March 2010.*

*records not yet reviewed by the Icelandic Rarities Committee.

Scotland; one record.

Murcar/Blackdog, Aberdeen, first-summer male, 16–24 June 2011

Concluding remarks

The Aberdeen bird was noteworthy not just for being a British and Scottish first, but for going a long way to demystifying the identification of immature white-winged scoters. As is often the case with supposedly 'tricky' birds, much of the difficulty with identification was actually bound up in the species' rarity, and the fact that no immatures had previously been identified in Europe; leave aside the rarity and all the baggage that goes with identifying a first in a previously unrecorded plumage, and what you are left with left with was, in truth, a rather distinctive bird.

The White-winged Scoter, and the Black Scoter which arrived shortly afterwards, illustrate perfectly the hitherto untapped potential of Blackdog. There is no reason why we can't look forward with optimism to more records of vagrant scoter at this clearly superb site. Perhaps 'our' *deglandi* will return in future years to give us the pleasure of enjoying him in adult plumage (as in Plate 236), or maybe the next vagrant will be a Stejneger's? Which of these comes to pass is uncertain of course, but what is certain is that birders in future will be looking for more than 'merely' Surf Scoters when they visit Blackdog.



Plate 236. Male White-winged Scoter *M. deglandi*, Bakkatjörn, Seltjarnarnes, Iceland, May 2008. © Yann Kolbeinnsson. Prior to the Murcur bird, Iceland was the only country in the Western Palearctic to have hosted *deglandi* - on at least eight occasions. It is difficult to assess exactly how many individuals are involved in the Icelandic records, due to several annual returning individuals being involved. With returning individuals also featuring in the records from Denmark and Ireland, it does add hope that the Scottish individual might return next summer.

Acknowledgements

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References

- Collinson, M., Parkin, D.T., Knox, A.G., Sangster, G. & Helbig, A. J. 2006. Species limits within the genus *Melanitta*, the scoters. *British Birds* 99: 183–201.
- Dwight, J. 1914. The moults and plumages of the scoters: Genus *Oidemia*. *Auk* 3: 293–308.
- Farrar, D. & Jones, J. 2011. The Stejneger's Scoter in County Kerry. *Birding World* 24: 105–112.
- Garner, M. 1999. Identification of White-winged and Velvet Scoters - males, females and immatures. *Birding World* 12: 319–324.
- Garner, M, Lewington, I., & Rosenberg, G. 2004. Stejneger's Scoter in the Western Palearctic and North America. *Birding World* 17: 337–347.
- Gibbins, C., Baxter, P. & Maggs, H. 2011. The White-winged Scoter in Aberdeenshire - a new British bird. *Birding World* 24: 239–245.
- Helbig, A. J., Knox, A. G., Parkin, D.T., Sangster, G., & Collinson, M. 2002. Guidelines for assigning species rank. *Ibis* 144: 518–525.
- Jiquet, F. 2007. Siberian White-winged Scoter, new to France. *Ornithos* 14: 38–42
- Lindroos, T. 1997. Rare birds in Finland 1996. *Alula* 3: 160–169.
- Malczyk, P & Lukasik, D. 2008. The fourth Western Palearctic record of the Stejneger's Scoter *Melanitta deglandi stejneri*. *Notatki ornitologiczne* 49: 245–257
- Proctor, R., & Pullan, D. 1997. Identification of Velvet and White-winged Scoters. *Birding World* 10: 56–61.
- Pyle, P. 2008. *Identification Guide to North American Birds*. Part 2. Point Reyes, California.
- Paul Baxter, Loch-head Croft, Raemoir Road, Banchory, Aberdeenshire AB31 4ET.
- Hywel Maggs, Merlin Terrace, Newburgh, Aberdeenshire.
- Chris Gibbins, The Steadings, Drums, Newburgh, Aberdeenshire.



Black Scoter at Murcar and Blackdog, June–August 2011 - a first for North-east Scotland

N. LITTLEWOOD

Following the rather unexpected disappearance of the White-winged Scoter, things started to return to normal along the Blackdog/Murcar coastline. There were a few frustrated twitchers over the weekend of 25/26 June, but when I visited Blackdog after work on Monday 27th there were no other birders to be seen. The White-winged Scoter had really opened our eyes to the possibilities of what we should be looking for (Gibbins *et al.* 2011 and see preceding article) and, the previous evening, I had carefully read a *Birding World* article about a Black Scoter off Northumberland some two months earlier (Bradbury 2011). I already knew the basics of bill differences between Black and Common Scoter, but the article also drew my attention to subtle structural differences as well as the existence of birds showing apparently intermediate characteristics between the two taxa. Little did I realise that the newly-learnt features would be put to such immediate use.

The day had been wet but with the end of the rain coinciding with my arrival, I first went down

to look out to sea from the dunes. A few hundred scoter here held a couple of Surf Scoters (up to five had been present through June) but no reappearance of the White-winged. Distantly to the south, off Murcar Golf Course, I could just make out another raft of Scoters, at around the same place where the White-winged had been for much of its stay. I decided to go round and check these "one last time". On my arrival, a small flock of 20 or so scoter were very close in, just beyond the surf line, and it was these that I 'scoped first. Most were Common Scoters, but one bird immediately stood out on account of extensive yellow-orange across the bill. Instantly, I suspected it to be a drake Black Scoter and, as the birds were so close in, I

Plate 237 (above). *Black Scoter (drake, third from left) and Common Scoters, Murcar, North-east Scotland, July 2011. © Nick Littlewood. The bird was always detected initially on bill colour which, as seen here, extended right back to the bill base and down the sides to a thin black line along the lower edge. The profile of the coloured area was difficult to judge though did show a slightly convex shape along the culmen.*

reached straight for the compact camera and tried digiscoping. The flock was active, diving repeatedly, and after about a minute they took off and moved out to join a larger group of scoter a few hundred metres offshore.

Although the bird was arresting in appearance, I was well aware of possible pitfalls in Black Scoter identification, thanks to that *Birding World* paper. I knew that some Common Scoters could show more extensive than usual yellow on the bill (e.g. Garner 1989). I had indeed seen one or two such birds previously at Blackdog, where closer inspection had revealed a typical Common Scoter in all other respects. More critically, *Birding World* had described and illustrated a bird in Sweden that showed a much closer resemblance to Black Scoter, except that the yellow along the top of the bill extended to the tip and there was a small upward extension of black into the yellow from the lower border.

Over the following hour and 20 minutes I periodically detected the bird within the main flock. Based on these and the initial views I was satisfied that the colour on the bill covered the entire basal two-thirds except for a black border along the lower edge and that this continued over the distal third of the bill. Within the coloured area, the yellow was confined to the top of the bill whilst the sides were a rich fiery orange. Furthermore I noted some of the structural features that I had read about the previous day, in particular the rather stockier appearance around the head (though I wonder if this is at least partly accentuated by the bill colouration reaching back to the bill base). Whilst watching the flock, I spoke on the phone to the finders of the White-winged Scoter and confirmed that they had not seen any Black Scoter lookalikes during their scanning at the site. My main lingering concern was that I wondered if the yellow/orange across the bill should bulge more than I had noted on this bird.

On arriving home, I reached straight for the *Birding World* article and was fairly satisfied that the bill shape fell within the range of those illustrated. After double-checking a few more references I put the news out late that evening as a presumed Black Scoter along with the single, fuzzy digi-scoped image that I had

obtained when I first clocked the bird. Paul Baxter and Ian Broadbent were first on site early the next morning and confirmed the identification. The bird was then seen periodically off Blackdog and Murcar over following weeks and although often rather distant it remained satisfyingly distinctive even at range.

Black Scoter is the North American and east Asian counterpart of Common Scoter. It was formerly considered as a race of that species, but is now generally regarded as a full species (Sangster *et al.* 2005, Collinson *et al.* 2006). Prior to 2011 there were seven accepted records in Britain. Two of these were in Wales, including a returning bird that visited Llanfairfechan from 1999 to 2007 (with perhaps the same bird picked up exhausted and released in north Lancashire shortly after the final sighting in Wales). The remainder have been in Scotland with long-staying birds seen intermittently in



Plate 238. Black Scoter (drake, lower left) with Common Scoters, Murcar, North-east Scotland, July 2011. © Nick Littlewood. Although drake Common Scoters can show a significant area of yellow or orange across the top of the bill, the extent of this area rarely approaches that shown by Black Scoter. The thicker head and neck is also apparent in this picture.



Plate 239. Black Scoter (drake), Choshi, Honshu, Japan, January 2010. © Chris Gibbins

Lothian from 1987 to 1989 and at various sites around the Moray Firth from 1989 to 1993 and further birds in Dumfries & Galloway in 1989, and in Moray in 2001 and 2005 (Forrester *et al.* 2007). The Northumberland bird in spring 2011 was seen from 14 to 27 April and again on 12–16 June and could well be the same bird as at Blackdog/Murcar.



Plate 240. Black Scoter (pair), Vancouver, Canada, December 2009. © Steve Gantlett/www.birdingworld.co.uk

June 2011 proved what rich rewards there are among our seaduck flocks for those with patience and persistence. I wonder if recording five of the world's six scoter taxa at Blackdog and Murcar during a single month can be matched by any other site in the world. And how long will it be until a Stejneger's completes the set?

References

- Bradbury, G. 2011. The Black Scoter in Northumberland. *Birding World* 24: 154–159.
- Collinson, M., Parkin, D.T., Knox, A.G., Sangster, G. & Helbig, A.J. 2006. Species limits within the genus *Melanitta*, the scoters. *British Birds* 99: 183–201.
- Forrester, R.W., Andrews, I.J., McInerney, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. & Grundy, D.S. (eds) 2007. *The Birds of Scotland*. The Scottish Ornithologists' Club, Aberlady.
- Gibbins, C., Baxter, P. & Maggs, H. 2011. The White-winged Scoter in Aberdeenshire - a new British bird. *Birding World* 24: 239–245.
- Garner, M. 1989. Common Scoter of the nominate race with extensive yellow on bill. *British Birds* 82: 616–618.
- Sangster, G., Collinson, J.M., Helbig, A.J., Knox, A.G. & Parkin, D.T. 2005. Taxonomic recommendations for British birds: third report. *Ibis* 147: 821–826.

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Plates 241–242. Hermit Thrush, Barra, Outer Hebrides, October 2010. © Stuart Rivers

Hermit Thrushes on Barra and South Uist in October 2010 – the first and second records for the Outer Hebrides

S. DUFFIELD & S.L. RIVERS

Bird 1: near Breibhig, Barra, 9–11 October

In 2010, 25 September saw several of our usual Barra crew heading out of Oban on the ferry to Castlebay. One of our number, Mark Oksien, had already been on the island for a week, and had gripped us off by finding a Little Gull - a bird new for our overall 'Barra List'. He had also seen enough scarce migrants to make us feel our timing was good and that the weather was favourable. About an hour-and-a-half into the sailing the last member of the regular team, Stuart Green, who was unable to join us until later in the trip, texted the devastating news - "Parula on Tiree". A Scottish first we had hoped to find on Barra snatched from us, and to deliver another swift kick to the delicacies we could actually see Coll and Tiree on the horizon! Though, as one of us remarked: "If there is one Yank, there could be others", but it was still a bitter pill to swallow, and put a cloud over proceedings. Little did we know then that it would be Stuart who would also deliver the

necessary late appearance of the cavalry to come to our rescue and sweep away that cloud.

As with previous years there was little similarity between the birds we saw on our visit compared to previous trips. Stuart arrived to join us about 10 days later, by which time we had added several other new birds to our cumulative 'Barra List': Firecrest, Wood Warbler, Mediterranean Gull and Hobby - all brought in on southerly winds. Good as this was, it had been the usual hard slog and we were still lacking the hoped for 'biggie'. Back in the cottage on the evening of 8 October we knew we had just one day left before the Lothian lads (Keith Gillon, Tony O'Connor, Calum Scott) and new recruit, Iain English, would be heading back to the mainland. We had struggled in recent years to produce a top-drawer rarity and not even the most half-full of us believed we could dig out another last minute reprieve to match Keith's Rose-breasted Grosbeak of 2005.

Early on the Saturday morning Iain headed south to climb Heaval - the highest peak on Barra - to take photos and enjoy the sunrise. Stuart was next away and also headed south, checking various patches of cover along the way. Shortly after 08:00 a small group of birds flew past his car into a patch of cover beside the road near Breibhig. This isolated fenced-in patch of willows, brambles and thick ground cover had been looked at occasionally in previous visits, but was generally passed-by in favour of the nearby gardens at Breibhig or plantation at Creachan. Fortunately, Stuart had the good sense to stop and check this patch and almost immediately was looking at a small well-marked thrush. It was clearly one of the North American species, and the features pointed to Hermit Thrush!

Finding a Nearctic passerine in Scotland fulfilled a long-held ambition, but after a few minutes trying to get further views to confirm the identification, and enjoy the moment, it was crucial to get the news out to the rest of the crew. Unfortunately, this part of Barra is one of many mobile phone blackspots on the island, so it was necessary to leave the bird to find a reception area. Luckily, Iain had come back down from his climb and was just round the corner at Creachan when Stuart drove along. A rapid conversation later and both were back at the bird, and Stuart headed north to gather the troops. By 09:30 all seven of the team had enjoyed good views of the thrush - temporarily

elevated to best bird on the planet by the elated, if somewhat stunned group. Having phoned the news out to *Birdline Scotland* and friends on the Hebrides and mainland, we continued to study and enjoy the bird over the next couple of hours. Keith, Calum and Tony then went off to check the gardens at Breibhig and promptly turned up an Olive-backed Pipit - only the second record for the Outer Hebrides, and while we were searching for the pipit the second Firecrest of the trip was found. The day certainly exceeded all hopes and expectations, and all before lunchtime!

The bird remained faithful to its small patch of cover for the next two days, during which it was twitched by well over a dozen birders from the mainland, but was not present on 12 October.

Bird 2: Druidibeg, South Uist, 10 October

Living in South Uist has allowed me (SD) to enjoy some excellent birds in the Outer Hebrides over the last few years although I must say I don't have the best track record of catching up with things on Barra. So when news broke on 9 October of a Hermit Thrush at Breibhig, during one of our regular family crises I knew some serious questions needed asking; and quickly. What was I going to do, the car was required for a trip to the parents-in-law, two kids needed looking after and a mega was on Barra? Well, I took the only acceptable course of action: I got my bike and was on the next available ferry from Eriskay. I'm glad to say the ferry was on time which would allow me around four hours to get to the site, find the thrush and get back for the last boat home. We began our stately chug across the Sound of Barra and were not far out from the island of Eriskay when for the first time, after many trips across this stretch of water for me, a small pod of Bottle-nosed Dolphins decided to pick this very day to bow-ride. The skipper, obviously thinking of his delighted passengers, slowed right down almost to a stand-still and pulled the ferry along-side so that we could all get excellent views. This would have been fantastic any normal day and I did manage to reel off a couple of shots although with every minute crucial I must admit I didn't enjoy the show quite as much as I should. Once on Barra not much went through my mind during the furious



Plate 243. Hermit Thrush, Castlebay, Barra, October 2010.
© Mark Oksien



Plates 244–245. Hermit Thrush, South Uist, October 2010. © Steve Duffield

pedal around the east side of the island apart from “Oww, my legs are stiff” That feels sore” “Am I nearly there yet?” Luckily Stuart Rivers had returned to the site to give pointers as to where the bird was, although it hadn’t been spotted for over an hour, and the sweating from the exercise now turned into the cold sweat of fear as I contemplated whether this had been such a good idea after all. Thankfully after sitting silently under a bush for around 40 minutes I got great views of this superb American thrush and even managed to pop across to see the bonus Olive-backed Pipit before heading back to the ferry after a happy, if somewhat leg-pumping, twitch.

The following day the weather was still settled and calm so I headed for Druidibeg Plantation in South Uist to enjoy some more-relaxed birding. The plantation was quiet as usual with the odd Willow Warbler and finch flock, whilst a few parties of geese passed over along with the odd Lapland Bunting. I had more or less finished at the site when out of the corner of my eye I saw a bird fly up from the ground under a tight canopy of young birch trees. As it vanished through the trees I thought I caught a glimpse of a rufous tail and a quick surge of excitement was shortly followed by more sobering thoughts that

it probably wasn’t much and perhaps I should head off somewhere else; but then again maybe I had better check around the other side first. As I moved into the open behind the trees a small thrush flew up from the ground and perched not more than 30 feet away in the open, on the lower branches of a willow tree.

It’s quite difficult to portray the mix of emotions as I realised that the bird in front of me was a Hermit Thrush! It perched in full view for around 40 seconds before flying back through the thick mass of birch saplings leaving me bewildered. Could I really have seen a Hermit Thrush? It certainly looked just like the bird I’d seen the day before on Barra but surely there couldn’t be two! Over the next couple of minutes I checked through all the features so fresh in my mind after the Breibhig bird: small, compact thrush with heavy markings on the breast; prominent white eye-ring and rusty tail. Everything fitted yet I still questioned (as others have occasionally) my sanity and whether I had actually imagined it. I flushed the bird from the ground once more and it flew up giving a low “*tuc, tuc*” call similar to a Blackbird. That was it, how could there be any doubt, it even sounded different to the other *Catharus* thrushes.

I made a number of phone calls and before long a small crowd had gathered in search of the Hermit. It was seen well by a tour group that later went on to locate a Red-eyed Vireo a few miles south (but that's another story), but remained elusive for many. I returned to the plantation in the evening with Brian Rabbits and Terry Fountain where we discovered Ian Thompson and Yvonne Benting had set up a number of mist nets. We told them of all the excitement, and how elusive the Hermit Thrush had been, when from out of the blue, as the sun started to fall it showed: silhouetted, but actually on the road that splits the plantation in two. It hopped along the tarmac with its tail cocked like a Nightingale, and in a similar fashion to the latter species suddenly vanished into cover before revealing any fine detail. There was a frantic search, brief glimpses of fleeting birds and as the last rays of sunshine sent their warming glow over the island there came the shout that it was in the net and now in the bag!

Interestingly the fat score was apparently very good and not that of a bird that had just crossed the Atlantic.

From willow patch to football pitch

In the days following the departure of the four other lads, Mark concentrated on ringing activities, while Stuart Green and I had 'buddied-up' to do a lot of our birding together. We had adopted a routine of visiting the new Co-op supermarket at Castlebay at lunchtime, coupling this with a check of the trees and cover around the football pitch, immediately adjacent to the Co-op car park. As luck had it, Stuart would typically start by checking the trees on the west side, while I would head for the two small clumps of trees on the east side. On Thursday 14 October I was just approaching the end of the small tarmac path which splits the two clumps when a small well-marked thrush popped-up on to a nearby fence post.

Recognition was instant, after all I had been watching one at length only a few days earlier, but it was still a total surprise to find myself looking at a Hermit Thrush. I called out to Stuart, which promptly led to a close-by couple with a buggy and young child to change direction and give the area a wide berth - the locals on Barra are quite familiar with our strange behaviour and are very accommodating! Stuart queried why I couldn't have found one of the other Nearctic thrushes, but was soon enjoying exceptional views of the bird, and Mark joined us a short while later. It was unringed, which ruled out the possibility of it being the Druidibeg individual, but was it a third one or the Breibhig bird?

For the rest of the day, and the next, the bird showed regularly on the small tarmac path and the edges of the two clumps of trees. We were able to get some good photographs, some of which revealed that the bird had a missing tip to the central tertial on its left side (see plate 246). Comparison with images obtained of the bird at Breibhig showed this same damage to be present, and so it was possible to unequivocally determine that the same bird was involved. On the third day of its stay at the football pitch area the bird roamed much more widely, and spent a lot of its time in the trees and cover on the west side of the pitch. It was not seen the next day or subsequently, but about 20 persons had managed to twitch it the second time around.



Plate 246. Hermit Thrush, Barra, October 2010. © Stuart Rivers. The second innermost left tertial has a missing section which showed the same individual was involved in the sightings at Breibhig and Castlebay. Eastern subspecies of Hermit Thrush exhibit pale tips to the greater coverts in first-winter and adult plumages, but differences in wear to the tips of outermost and innermost coverts on this bird indicate it is a first-winter.



Plate 247. Hermit Thrush, Castlebay, Barra, October 2010. © Mark Oksien

It is interesting to speculate why the bird chose to move to its new location rather than fly further on its journey, or choose somewhere different. Though the willow patch and the football pitch are only a straight-line distance of just over two miles apart, Heaval sits in the middle, and the bird presumably would have taken a lower route around the side. This would have taken it over the plantation at Creachan and the cover of the gardens at Gleann, both affording thicker and more extensive cover than the clumps of trees at the football pitch. Maybe it had touched down in one or both of these areas - we had checked the football pitch area on the 12th and there was no sign of the thrush then. Either way, had it not been refound we would certainly have assumed the bird had left Barra on the night of 11th/12th and flown on considerably further on the next stage of its journey.

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Hermit Thrush - its status in Scotland

This species breeds in the sub-Arctic taiga zone from Alaska to SE Labrador and Newfoundland and south along the Pacific Coast and Rocky

Mountains to the SW states of the USA, across central Canada and eastwards through the Great Lakes to the Appalachian Mountains. Apart from some Pacific Coast and SW populations all are migratory, though this species winters further north than other Nearctic Catharus thrushes, from central and southern USA south to Mexico, Guatemala and El Salvador and the Bahamas.

There have been six accepted records in Britain prior to October 2010, with three of these in Scotland. The first British record was one near Field on Fair Isle on 2 June 1975, followed by three birds on the Isles of Scilly: St. Mary's on 28 October 1984, St. Agnes on 15–16 October 1987 and Tresco on 11th and 15–18 October 1993, and then one near the observatory on Fair Isle on 19 October 1995 and one at the Teal Burn on Fetlar, Shetland, from 30 April to 1 May 1998 [A previously accepted record of one at Chipping Ongar, Essex in October/November 1994 was revealed as a hoax and withdrawn].

The double occurrence on the Outer Hebrides mirrors the arrival of two Veeries on Shetland in 2009 (one Foula 1–8 October; one Whalsay 2–5 October). The vast majority of Catharus thrush (Swainson's, Grey-cheeked and Hermit Thrushes plus Veery) records in Britain relate to birds found in the last week of September through to end of October, with a peak in mid-October. These birds are brought to our shores by fast-moving trans-Atlantic weather systems generated on the east coast of the USA/Canada. Hermit Thrush and Veery (Lundy, Devon, 14 May 1997) are the only Catharus thrush species to have occurred in Britain in spring, while there is a single spring record of Swainson's Thrush in Ireland (Co. Mayo on 26 May 1956). These are presumably overshooting birds moving north along the eastern seaboard of the USA as seen with certain Nearctic sparrows.

There have been two Hermit Thrushes found in Ireland, both in County Cork - one at Galley Head on 25–26 October 1998 and one on Cape Clear on 19–20 October 2006. Elsewhere in Europe there are also four historical records from Germany (1825, c1828, 1836 and 1851), one from Sweden (27 April 1978) and 10 from Iceland (all autumn/early winter).

BIRDCUIDES REVIEW

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S. MENZIE

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The following abbreviations for the respective recording areas are used within the text: Ang - Angus & Dundee; Arg - Argyll; Ayr - Ayrshire; Bord - Borders; Caith - Caithness; D&G - Dumfries & Galloway; High - Highland; Loth - Lothian; M&N - Moray & Nairn; NES - North-east Scotland; Ork - Orkney; OH - Outer Hebrides; P&K - Perth & Kinross; Shet - Shetland; UF - Upper Forth.

Rarities

March's Ross's Goose at Dowlaw (Bord) lingered until 16 April. At least one bird toured several sites in Highland, including Eathie

Mains, Udale Bay, and Loch Fleet, from 20th to 26 April. An unseasonable adult was at Loch Leven (P&K) from 15 May to 8 June. A Red-breasted Goose was at Vane Farm RSPB (P&K) from mid-March to 16 April

A drake White-winged Scoter (ssp. *deglandi*) was off Blackdog/Murcar (NES) from 12th to 24 June. At the same location, a drake Black Scoter was offshore from 27 June onwards, possibly present since 13th. A Black Scoter was also off Burghead (M&N) on 2–3 June. A drake Black Duck was at Garbh Eilean (High) from 12th to 26 June. The drake King Eider on the Ythan Estuary (NES) remained until 26 June. A drake was off Rattray Head (NES) from 10th to 21 April.

White-billed Divers included birds off Kirkabister (Shet), Evie (Ork), Naast (High) and up to two off Burghead (M&N). Birds seen from Lewis (OH) including four birds off Cellar Head on 9 April; the highest count came from Portsoy (NES) with five birds offshore on 25 April.

Purple Herons were at Mountcastle Quarry (Fife) on 10th & 18 April and at Loch Spynie (M&N) on 22–23 April. One was picked up dead on Fetlar (Shet) on 20 April. A Great White Egret was at Loch of Kinnordy RSPB (Ang) on 5–8 June, one was at Inveraray (Arg) on 21 May, and another at Tain/Loch Eye (High) from 21st to 25 May. A Night Heron was on Hirta, St Kilda (OH) on 4 May.

A Pied-billed Grebe was at Salen, Mull (Arg) on 3–6 April. A Black-

browed Albatross was reported flying south past Saltcoats harbour on 21 May. Shetland's first Squacco Heron was present at Urafirth, Mainland (Shet) on 6–7 June, with what could have been the same bird reported flying over Girsta, Mainland (Shet) on 17th.

A Black Kite was on North Ronaldsay (Ork) on 2 May with perhaps the same bird at Outertown, Mainland (Ork) on 4 May. What could also have been the same bird was then seen at several sites on Shetland between 7th and 10 May at least. Single birds were also seen at Loch Avich (Arg) on 7 May and at Loch of Strathbeg RSPB (NES) on 8th & 9 May.

A possible Montagu's Harrier was at Tingwall (Ork) on 10 June, and a small ringtail harrier sp., thought most likely to be a Montagu's, was near Wormiston (Fife) on 20 May. A Rough-legged Buzzard at Toft, Mainland (Shet) remained until 27 April; others were reported from Stronsay (Ork) on 18 April and Loch of Strathbeg RSPB (NES) on 27 April & 2 May. There was a single report of a possible male Red-footed Falcon at Loch Shin (High) on 8 April. A Short-toed Eagle was reported from Rousay (Ork) on 14 May. A white-morph Gyr Falcon toured several locations on Lewis and North Uist (OH) between 12 April and 8 May. A possible white-morph bird was reported from Muirshield Country Park (Clyde).

A female Kentish Plover was at Tynningame Bay from 18th to 19 April. A summer-plumaged Greater Sand Plover was on Dornoch

beach from 15th to 24 June. A **White-rumped Sandpiper** was on Fetlar on 31 May. A possible **Marsh Sandpiper** was at Loch Stiapavat, Lewis (OH) on 3 May. A **Lesser Yellowlegs** was at Baile Gharbhaidh, South Uist (OH) on 19–20 May. A **Great Snipe** was on Fair Isle (Shet) on 2 May, with another flushed from Pool of Virkie, Mainland (Shet) on 3 May.

A possible juvenile **Thayer's Gull** was on Fair Isle (Shet) on 22nd & 25 April. Less of an identification problem, an adult **Laughing Gull** was at Garrabost, Lewish (OH) on 1 June; another adult was reported from Loanhead (Loth) on 28 May. A first-summer **Franklin's Gull** was at Clashnessie (High) on 18 May.

Bonaparte's Gulls were reported from several localities with an adult at Castletown (High) remaining on site until 6 April, a first-winter on Tiree (Arg) from 4th to 21 April, a first-winter on the Ythan Estuary (NES) from 8 April to 20 May, a first-winter at Borve, Lewis (OH) from 20 April to 8 June, and a first-summer on Berneray (OH) on 9 June. A **Kumlien's Gull** was at Balranald RSPB (OH) on 11 April. **Yellow-legged Gulls** were seen on Harris (OH), and at two sites in Clyde.

An adult **Whiskered Tern** was at Loch Fada, Benbecula (OH) from 5th to 8 April - the first record for the islands.



Plate 248. First-winter Bonaparte's Gull, Tiree, Argyll, April 2011. © Jim Dickson

A male **Snowy Owl** remained on North Uist (OH) until at least 12 May, with what was likely the same bird at Uig, Lewis (OH) on 24 May. A female was at Mull Head (Ork) on 17 May. A **Roller** was at Glen Aros, Mull (Arg) on 16 June.

Woodchat Shrikes were recorded at Port Nis, Lewis (OH) from 6 May to 7 May, on North Uist (OH) from 10 June to 11 June and again on 28 June, and on Fair Isle (Shet) on 15th & 16 June.

A **Short-toed Lark** was on Unst (Shet) from 22nd to 26 June. A possible **Crested Lark** was seen briefly in flight at Grindigar, Mainland (Ork) on 21 May. A **Woodlark** was on Whalsay (Shet) on 26 April with perhaps the same bird seen on 28 April at Wester Quarff (Shet). A **Red-rumped Swallow** was on Fair Isle on 3 May, another on Lewis (OH) from 9th to 14 May and one was on Skye (High) on 29 June.

A **Greenish Warbler** was on Fair Isle on 10 June. A possible **Iberian Chiffchaff** was reported singing at Haddington (Loth) on 8 April. Records of **Subalpine Warbler** came from Loch of Swannay (Ork), North Ronaldsay (Ork), Foula (Shet). Four were on Fair Isle (Shet): a female, a Western male (ssp. *cantillans*), and two Eastern males (ssp. *albistriata*), one from end of April to 3 June and another on 6 June. Other male *albistriata*

birds included a male at Kergord (Shet), Papa Stour (Shet) and one found dead on Unst on 17 May.

A **Savi's Warbler** was on Out Skerries (Shet) on 27 May. Two **Blyth's Reed Warblers** were ringed on North Ronaldsay (Ork) with one on 7 June and a second on 23 June; another was seen on Fair Isle (Shet) on 7 June. **Marsh Warblers** included one on the Isle of May on 7 June, with others on Unst (Shet) and North Ronaldsay (Ork), and two birds on Fair Isle (Shet) in the latter half of June. A **Great Reed Warbler** was singing at Vidlin, Mainland (Shet) on 7 June with another singing at Maywick, Mainland (Shet) on 12 June.

A **Thrush Nightingale** was on Fair Isle on 28 May. **Common Nightingales** were seen on Foula (Shet), North Ronaldsay (Ork) and South Uist (OH). A male **Collared Flycatcher** was on Fair Isle (Shet) from 30 April to 5 May; a second male was on Foula (Shet) from 14 May. A probable female was seen in fading light on North Ronaldsay (Ork) on 20 June, but there was no further sign of the bird the following day.

There were two sightings of **Tawny Pipits** from Shetland with birds at Sumburgh and at Gungstie, Noss. Additionally, a probably flew over Fair Isle. **Water Pipits** included two at Ardmore Point (Clyde) until 3 April and one at Barns Ness until 5 April.

All **Rustic Bunting** sightings were confined to Shetland with a female on Unst, a male at Esha Ness, Mainland, and a bird on Fair Isle from 21st to 26 May. A **Little Bunting** was on Whalsay (Shet) on 7 May. A male **Black-headed Bunting** visited feeders at Mallaig (High) from 31 May to 3 June.

A possible male **Baltimore Oriole** was reported at Gairloch (High) on 27 June.

Scarce

An adult **Bewick's Swan** was with Whooper Swans at Tynninghame Bay (Loth) until 3 April.

An adult **Taiga Bean Goose** was on North Ronaldsay (Ork) from 2nd to 11 June. Twenty-nine **Greenland White-fronted Geese** were at Loch Ken (D&G) on 1 April; singletons were at Angle Park GP (Fife) with Pink-footed Geese on 30 April and another at Vane Farm RSPB (P&K) on 9 April. A **Dark-bellied Brent Goose** was at Ardsrossan (Ayr) on 12 June.

A white-morph **Snow Goose** lingered at Laxfirth, Mainland (Shet) from March to 16 April; others were seen at Dowlaw (Bord) on 6 April, Craobh Haven (Arg) on 8th to 11 April, and Golspie (High) on 19 April. A bird flying south over Quendale, Mainland (Shet) on 27 May was presumably the same bird that was later seen arriving in off the sea at North Ronaldsay on the same day. A blue-morph Snow Goose of unknown origin was at Fountainhall (Bord) on 30 June.

A drake **Mandarin** was on the River Eden at Cupar from 24 April to 25 May, a pair were on Foula (Shet) on 21 April, and a drake was at Burrafirth, Unst (Shet) on 8 April. A drake **American Wigeon** was at Loch of Strathbeg RSPB (NES) from 2nd to 18 June. Other drakes seen included one at St John's Loch (High) on 15 April, one on the Steinis Estuary, Lewis (OH) on 14–16 May, and one on Foula on 28–31 May.

North-bound **Garganey** included four at Lochwinnoch RSPB (Clyde), four off Ruddon's Point (Fife), three on North Ronaldsay (Ork), with four more drakes at other sites across Orkney, two drakes at Loch of Strathbeg RSPB (NES) and a pair at Caerlaverock WWT (D&G). One seen from the Isle of May on 23 May was only the second island record - the last was in 1953. Drake **Green-winged Teals** were on the Eden Estuary (Fife) from 11 April to 23 May, Loch of Trondavoe (Shet) on 20 April, Kildrochat (D&G) from March to 12 April, North Ronaldsay (Ork) from 23 April to 6 May, and Newshot Island (Clyde) on 27 April.

There were two drake **Ring-necked Ducks** at Loch of Bosquoy, Mainland (Ork) from 15th to 28 June, with a single drake at Vane Farm RSPB (P&K) from 1st to 25 June. Another drake was reported from Islay on 23 June.

Northern Eiders (ssp. *borealis*) included birds at Garths Ness and Sumburgh (Shet), Golspie and Loch Fleet (High), and Benbecula (OH). A high-count of **Long-tailed Ducks** came from Laird Water (Ork) where 1,030 were present on 25 April, with a further 100 more on the sea nearby.

Surf Scoters were seen off Blackdog/Murcar from 30 April to at least the end of June with a count of five recorded on 26 June. Others seen included a drake off Musselburgh (Loth) with presumably the same bird also seen off nearby Portobello, a drake in Gruinard Bay (High), a first-summer drake off Drumbeg (High), a drake off Ruddon's Point (Fife), and two drakes off Renwick Head, Mainland (Ork). **Smew** included a first-winter drake at Lochwinnoch RSPB (Clyde) until 13 April and a female on Lindores Loch (Fife) until 16 April.

Quails were widespread; a report of 10 singing males around Reston (Bord) on 8 June was the highest number reported from one site.

Away from regular sites in SW Scotland, **Little Egret** sightings included two at Aberlady Bay (Loth) and one on the Ythan Estuary (NES) on 17 April. **White Storks** included birds at Loch Ken (D&G) on 23rd & 24 April and one flying south-west over Dallegles (Ayr) on 30 May; presumed escaped birds were at Banchory (NES) in April and around Edinburgh (Loth) in May. Reports of unidentified storks came from Livingston (Lothian) on 4 April and Aberdeen (NES) on 12 May. **Spoonbills** reports consisted of



Plate 249. White Stork, Banchory, North-East Scotland, April 2011. © Harry Scott

one at Loch of Strathbeg RSPB (NES) from 2nd to 12 April, two adults at Dunbar (Loth) on 31 May, one to three birds at Montrose Basin (Ang) from 26 June onwards, and a first-summer on Kinneil Lagoon (Forth) on 4 June.

A **Honey-buzzard** flew over Fara (Ork) on 9 June. Out-of-range **Red Kites** were seen at Outertown, Mainland (Ork) on 10 June and at Bigton, Mainland (Shet) on 12 May. A **White-tailed Eagle** was on North Ronaldsay (Ork) on 24–25 April, with presumably the same bird then seen at Outertown on 30th, Birsay on 2 May, and Stenness and Stromness on 3 May. Notable **Goshawk** sightings included one on North Ronaldsay (Ork) on 28 April and one at Baltasound, Unst (Shet) from 1st to 2 May. A **Hobby** flew over the M90 near Halbeath (Fife) on 29 May, with another reported near Leuchars (Fife) on 4 June, one at Rackwick (Ork) on 14th and 17 June, and singles at Baltasound (Shet) on 9 June and Lund (Shet) on 27 June.

Up to three **Common Cranes** were at Loch of Strathbeg RSPB (NES) from 30 April to 3 May; three flew over Strichen (NES) on 23 June; two were at Loch of Kinnordy (Ang) on 3 May. Two were on at Scalloway, Mainland (Shet) on 24 April with perhaps the same two seen at Boddam, Mainland, on the same day. A single bird was at Redcastle (High) on 3 April.

A **Corncrake** was on Fair Isle (Shet) on 14 May. A **Spotted Crake** was on Tiree (Arg) on 25 April with another bird reported from Islay (Arg) on 3 June.

Avocet sightings included a bird at Rigifa Pool (NES) from 26 May to 2 June, two at Loch of Strathbeg RSPB (NES) on 21st May, two birds at Skinflats Lagoon (UF) on 24 April with one bird remaining until 9 June, and six birds in Invergowrie



Plate 250. Wood Sandpiper, Rossie Bog, Fife, May 2011. © John Nadin

Bay (P&K) on 21st May. Two which flew past Kirkhaven on the Isle of May on 2 June were the first records for the island. Passage **Dotterels** included counts of 16 at Sandwick, Lewis (OH), 14 on Tiree (Arg), 12 at Balranald RSPB, North Uist (OH), seven at Collieston (NES), six on North Ronaldsay (Ork) and five at Broad Law (Bord).

Single **Little Stints** were seen at a number of locations with two birds together at both Musselburgh (Loth) and North Ronaldsay (Ork). A **Temminck's Stint** was at Loch of Strathbeg RSPB (NES) on 15th & 16 May, with further singletons at Murton GPs (Ang) on 18 May, at Scatness (Shet) on 2 June, at The Shunan, Mainland (Ork) on 26th & 27 June, in Spey Bay (M&N) on 15 June, and at Musselburgh Lagoons on 3 June. **Pectoral Sandpipers** were seen on Unst (Shet), Lewis (OH), at Loch of Tankerness, Mainland (Ork), and at Loch of Strathbeg RSPB and Rigifa Pool (NES) on 30 May. A count of 100 **Purple Sandpipers** was recorded from Fleet Bay (D&G) on 6 April. There were a dozen reports of **Curlew Sandpipers** including birds at Boddam (Shet), South Uist (OH) and Musselburgh Lagoons (Loth). A **Buff-breasted Sandpiper** was at Berneray (OH) on 7–10 May, with another at Butt of Lewis (OH) on 14 June. One was at Fionnphort, Mull (Arg) on 27 May.

Spotted Redshanks were at Blackness (Forth), Loch of Strathbeg RSPB (NES), Belhaven Bay (Loth), Auchinleck (Ayr), and Pool of Virkie and Scatness (Shet). **Wood Sandpipers** included eight birds at Rossie Bog (Fife), three at Murton GPs (Ang), two birds at Meikle Loch (NES) and two birds at Loch Gruinart RSPB (Arg). A summer-plumaged **Grey Phalarope** was on the Ythan Estuary from 17th to 20 June, and the first **Red-necked Phalarope** for Mull on 23 May.

Skua passage included counts of 238 **Pomarine Skuas** past Tarbat Ness (High) on 18 May, with 152 past Aird an Rùnair, North Uist (OH) on 12 May and 102 past Aird Mor Mangurtadh, Lewis (OH) on 14 May. Smaller counts were recorded at many coastal locations including seven past Saltcoats harbour on 22 May. Peak counts of **Long-tailed Skua** came from Saltcoats harbour (Ayr) on 23 May when 398 birds passed by in the space of eight hours, and from Aird an Rùnair, North Uist (OH) where at least 296 passed on 24 May.

There were four **Ring-billed Gull** reported, with an adult at Dingwall (High) on 5 April and first-summer on North Uist (OH) on 29 May, on Unst (Shet) from 21 May to 1st June, and at Achmelvich (High) on 7 June. The latest reports of

Glaucous Gull were at Forfar Loch (Ang) on 7 June and South Uist (OH) on 4 June. **Iceland Gulls** were seen on the Ythan Estuary (NES), Islay (Arg), Bishopburn (D&G), Barns Ness (Loth) and Fair Isle in April, with up to seven on Orkney. Several were still around in May and early June, with late birds on 22 June at both Aberdeen (NES) and Easter Quarff (Shet).

Two adult **Mediterranean Gulls** were at Belhaven Bay (Loth) on 17 April, with an adult and second-summer at Blackdog (NES) on 3 April, a first-winter at Bishopburn (D&G) from 5th–22 April, a first-winter at Carron Bridge (UF) on 22 May and a first-summer at Toab, Mainland (Shet) on 22 April. **Sabine's Gulls** were reported from several sites along the west coast.

Two **Roseate Terns** were at Musselburgh on 18 June, with a single bird there on 23rd, and one on the Isle of May on 19th. The only report of **Little Auk** was of a single bird in the Moray Firth on 24 April.



Plate 251. *Turtle Dove, Kilrenny, Fife, May 2011.* © John Nadin

Turtle Doves were seen at Reston (Bord), Gullane (Loth) on 20 May, Kilrenny (Fife) on 23–28 May, Loch of Strathbeg RPSB (NES), and Yell (Shet). Two **Bee-eaters** were at Cults (NES) on 4 June, with singles

at Breascleit, Lewis (second record for OH), Skye (High), South Ronaldsay (Ork) and over Loanhead (Loth) on 4 May. **Hoopoes** included birds at Balranald RSPB, North Uist (OH), Reay (High), Wester Quarff (Shet) and Papa Westray (Ork). **Wryneck** sightings were largely confined to Shetland, with the exception of one on North Ronaldsay on 12 May and one in Upper Forth on 6 June. **Golden Orioles** were seen on North Uist, South Uist and Lewis (OH) and Foula, Unst and Mainland (Shet). A male was at Loch Spynie (M&N) on 19 May.

Red-backed Shrikes were largely confined to Shetland and Orkney, with two on Fair Isle on 27 May and a male and female on North Ronaldsay on 17 June, though one was at Fife Ness (Fife) on 28 May, and a fine male on the Isle of May on 8 June. **Great Grey Shrikes** were recorded from Drumguish (High), Montreathmont Forest (Ang), Forest of Ae (Ayr), and Grutness (Shet). The latest bird was one reported from Stromness (Ork) on 26 April.

Shore Larks included five at John Muir Country Park lingering from the winter to 2 April. Singles were at Barns Ness (Loth) on 30 April and North Ronaldsay (Ork) on 17 June.

Icterine Warblers were seen on North Ronaldsay (Ork) between 26 May and 11 June, on Isle of May (trapped) on 26 May, and on Fair Isle (Shet) where three were seen on 27 May.

Waxwings were still evident from Borders to Moray in April, with a notable count of 37 from Blairdrummond (UF) on 21st,

Rose-coloured Starlings were recorded from Hunterston Sands (Ayr) on 5 June, Locheamhead (Forth) on 9 June, Jura (Arg) on 10 June, and Noss (Shet) on 18 June. A **Black-bellied Dipper** was on Fair

Isle (Shet) on 26 April. At least two **Bluethroats** were reported from Fair Isle (Shet), including a bird of the 'White-spotted' race trapped on 17 April, with single birds on North Ronaldsay and Papa Westray (Ork). A **Red-breasted Flycatcher** was on Whalsay on 7 May.

Single male **Grey-headed Wagtails** were at Barns Ness (Lothian), Fetlar (Shet) and two on Fair Isle (Shet).

At least 25 **Common Rosefinches** were recorded during May and June, with four on Fair Isle (Shet) on 29–31 May, singles on the Isle of May on 29 May and 22 June, a first-summer male at Ledcharrie (UF), and two males in Argyll - one on Mull and one at Balephuill, Tiree on 8–9 May. Migrant **Hawfinches** included birds in Shetland, Orkney, and on North & South Uist (OH).

Numbers of **Lapland Buntings** remained into early May with the highest count being 60 on North Ronaldsay (Ork) on 10th and 11 April, with an impressive 200 **Wheatears** also present on the latter date. Up to 54 Lapland Buntings were present at Balranald RSPB, North Uist (OH); the latest reports consisted of singles at Siadar, Lewis (OH) on 4 May, on Fair Isle on 8 May, and on Unst (Shet) on 9 May.

Common migrants in notable locations included two **Pied Flycatchers** on Foula (Shet), and **Wood Warblers** on South Uist (OH) and at Cunningsburgh (Shet), while other unusual sightings included a **Crested Tit** on bird feeders at Ord, Skye (High) on 16 April, and a **Kingfisher** at Toft (Shet) on 9 April. **Nuthatches** continue their northward exploration with singles seen at Finavon and Marywell (both Ang) in April, one at Portsoy (NES) on 13 April, and Dollar Glen (UF) on 2 May and Doune Ponds (UF) on 8 May.

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Plate 252. I was surprised to see a Pomarine Skua flying west along Loch Ness in the Great Glen, Highland, on 20 May 2007; it did not stop and later on 23 & 24 May I saw several, together with Arctic Skuas, further west around the salmon cages at Ardgour in Loch Linnhe. I had no such sightings on a trip at the same time of year in 2009, and noted that the cages were then so covered in netting they were inaccessible to skuas and gulls.

On 24 May 2011, after exceptionally stormy weather with severe south-westerly gales the previous day, the Pomarine Skua shown here appeared from the east and followed the barge westwards for a couple of hours along Loch Lochy, another of the chain of lochs which form part of the Caledonian Canal along the Great Glen. It frequently circled and occasionally landed and

rested on the barge before continuing westwards. It is well known that in late summer and autumn, skuas pass Chanonry Point on the Black Isle and continue westwards presumably down the Great Glen, but a spring passage in this direction seems less usual. I assume that most or all the skuas seen at Ardgour in 2007 had also flown down the Glen rather than turned eastwards a considerable distance from their more usual spring passage north up the west coast. A small passage of skuas along the Glen itself would be difficult to observe from the shore, so could easily be overlooked, especially in spring when few birds are likely to take this route.

Camera: Nikon D90, shutter priority 1/1250 sec, Nikon 70/300mm at 135mm f4.8.

Nick Picozzi



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