# APEP 4

Population estimates of birds in Great Britain and the United Kingdom



### INTRODUCTION & APPROACH

Population estimates of birds have many applications in conservation and ecological research, as well as being of significant public interest. This is a summary of the fourth report by the Avian Population Estimates Panel, following those in 1997, 2006 and 2013, presenting population estimates of birds in Great Britain and the United Kingdom.

### INTRODUCTION

Knowing the absolute number of birds in a population is of particular importance to those who make decisions about conservation policy and engage in site management. It can be difficult to produce robust estimates of population size; firstly because numbers fluctuate from year to year – or even from month to month – as individuals breed, die and migrate; and secondly, because for all but the scarcest species it is usually impossible to carry out a full census (i.e. count every individual) and we have to rely on surveys from which estimates of population size can be derived.

Estimates of population size are a key conservation tool, used alongside population trend information and that on other aspects of bird ecology (such as survival and productivity rates). Although trends over time are particularly valuable for assessing the status of species and biodiversity for many conservation purposes, knowledge of the absolute size of an animal population is also needed to fully understand threats to that species, to evaluate the risk of extinction and to make decisions about how to protect it.

The European Union (EU) Directive on the conservation of wild birds requires Member States to report on the status of native bird species every six years. This report includes an assessment of species population status (population sizes and distributions, and changes in these parameters over time).

The Avian Population Estimates Panel (APEP) is a collaboration between the UK statutory conservation agencies and relevant non-governmental organisations. Three previous APEP assessments have been published APEP 1 (Stone *et al.* 1997), APEP 2 (Baker *et al.* 2006) and APEP 3 (Musgrove *et al.* 2013).

This report (APEP 4) presents the most recent estimates for both Great Britain and the United Kingdom. Most of these estimates were submitted, together with other data and information, as part of the UK's Article 12 report to the EU in September 2019 (JNCC 2019).

### **APPROACH**

The role of APEP is to collate the best estimates of breeding and non-breeding bird population size and present a consensus view on the most appropriate estimates for relevant conservation applications, such as defining thresholds for statutory site designations. Most estimates are for the breeding season. Breeding estimates are presented for all species included in APEP 3 and for additional species (including non-natives) with at least one case of proven breeding from 2011 onwards.

Non-breeding season estimates for winter visitors are included only for waterbirds and a small number of other species included in APEP 3. In general, non-breeding estimates have been omitted for largely resident species, even where resident populations are supplemented in winter by large-scale arrivals, except for waterbirds where statutory site protection and reporting is based around non-breeding estimates. Estimates of passage numbers have been excluded, with the exception of the globally threatened Aquatic Warbler.

The table that makes up the bulk of this summary reports the population estimates of full species listed in categories A–C of the British List. Each estimate is accompanied by the following information:

- **Season**: B = Breeding; P = Passage; W = Wintering.
- Unit (of measurement): AOS = Apparently Occupied Sites;
   F = females; I = individuals; M = males; N = nests; P = pairs;
   T = territories.
- The **estimate** may be presented as a single figure or a range is given; in some cases a mean with 95% confidence intervals in parentheses is shown. Estimates tagged '+' or '-' are known to be larger (+) or smaller (-) than the estimate listed, but no better estimate is available.
- **Date** is the date/period to which the UK estimate relates.



Dipper, by Edmund Fellowes / BTO. Dipper population size was based on the 1988–91 Bird Atlas estimate, extrapolated using the Waterways Breeding Bird Surveys.

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Capercaillie	W	ı	1,100	1,100	2015/16
Black Grouse	В	М	4,850	4,850	2016
Ptarmigan	В	Р	(2,000-15,000)	(2000-15,000)	2007
Red Grouse	В	Р	265,000	265,000	2016
Red-legged Partridge	В	Т	72,500	72,500	2016
Grey Partridge	В	Т	37,000	37,000	2016
Quail	В	М	350	355	2013–17
Pheasant	В	F	2,300,000	2,350,000	2016
Golden Pheasant	В	M	15	15	2010–14
Lady Amherst's Pheasant	В	M	0	0	2016
Brent Goose	W	1	105,000	135,000	2012/13-2016/17
Canada Goose	В	P	54,000	54,500	2013–17
Cariada Goosc	W	1	160,000	165,000	2012/13-2016/17
Barnacle Goose	B	P	· · · · · · · · · · · · · · · · · · ·	1,550	<u> </u>
Dalilacie Goose	W	ı	1,450		2012–15
C C		<u> </u>	105,000	105,000	- 2010 14
Snow Goose	В	Р	2+	2+	2010-14
C 1 C	W	I	75	75	2011/12-2015/16
Greylag Goose	В	P .	47,000	47,000	2013–17
	W	1	230,000	230,000	2012/13-2016/17
Taiga Bean Goose	W	I	230	230	2016/17-2017/18
Pink-footed Goose	W	I	510,000 <sup>-</sup>	510,000 <sup>-</sup>	2015–16
Tundra Bean Goose	W	I	300	300	2011/12-2014/15
White-fronted Goose	В	Р	(0-1)	(0-1)	2013-17
	W	1	13500	14,000	_
Mute Swan	В	Р	6,500 (5,850-7,100)	7,000 (6,300–7,600)	2016
	W	1	50,500	52,500	2012/13-2016/17
Bewick's Swan	W	1	4,350	4350	2015
Whooper Swan	В	Р	24	28	2013-17
	W	I	16,000	19,500	2015
Egyptian Goose	В	Р	1,850	1,850	2013-17
	W	1	5,600	5,600	2012/13-2016/17
Shelduck	В	Р	7,600+	7,850 <sup>+</sup>	2016
	W	1	47,000	51,000	2012/13-2016/17
Mandarin Duck	В	Р	4,400 <sup>+</sup>	4,400 <sup>+</sup>	2007–11
	W	ı	13,500	13,500	2007-11
Garganey	В	Р	105	105	2013–17
Shoveler	В	Р	1,100	1,100	2013–17
	W	1	19,000	19,500	2012/13-2016/17
Gadwall	В	Р	(1,250–3,150)+	(1,250-3,200)+	2016
	W	1	31,000	31,000	2012/13-2016/17
Wigeon	В	Р	200+	200+	2013–17
0	W	1	445,000	450,000	2012/13-2016/17
American Wigeon	W	i	17	18	2012/13-2016/17
Mallard	B	P	(59,000-140,000)+	(61,000–145,000)+	2012/13–2010/17
ividiidiU	W	'	(39,000=140,000)	675,000	2012/13-2016/17
Pintail	B	P	27	27	2012/13-2016/17
i midli	W			+	
Tool		l D	19,500	20,000	2012/13-2016/17
Teal	В	Р	(2,700–4,750)	(2,700–4,750)	2016
	W	1	430,000	435,000	2012/13-2016/17
Green-winged Teal	W	-	32	34	2012/13-2016/17
Red-crested Pochard	В	Р	39 (20–47)+	39 (20–47)+	2010–14
	W	I	570	570	2012/13-2016/17

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Pochard	В	Р	695	720	2013-17
	W	I	23,000	29,000	2012/13-2016/17
Ferruginous Duck	W	I	8	9	2012/13-2016/17
Ring-necked Duck	W	I	16	18	2012/13-2016/17
Tufted Duck	В	Р	(16,000–18,000)	(16,500-19,000)	2016
	W	ı	130,000	140,000	2012/13-2016/17
Scaup	В	Р	(0-1)	(0-1)	2013–17
	W	I	3,900 <sup>+</sup>	6,400 <sup>+</sup>	2011/12-2014/15
Eider	В	Р	36,000	37,000	2012–15
	W	I	81,500	86,000	2011/12-2014/15
Surf Scoter	W	I	23	24	2012/13–2016/17
Velvet Scoter	W	I	3,350⁺	3,350 <sup>+</sup>	2011/12-2014/15
Common Scoter	В	Р	52	52	2007
	W	1	135,000 <sup>+</sup>	135,000+	2011/12-2014/15
Long-tailed Duck	W	ı	13,500+	13,500+	2011/12–2014/15
Goldeneye	В	F	200	200	2006 – 2010
	W	1	18,500	21,000	2012/13-2016/17
Smew	W	1	125	125	2012/13–2016/17
Goosander	В	P	4,800 (4,250–5,250)+	4,800 (4,250–5,250)+	2016
	W	<u> </u>	14,500	14,500	2012/13–2016/17
Red-breasted Merganser	В	Р	1,550 (1,350–1,750)+	1,650+	2008–11
New predated merganise.	W	<u> </u>	10,500	11,000	2012/13–2016/17
Ruddy Duck	В	Р	(2-3)	(2-3)	2017
Raday Back	W	<u> </u>	23	23	2016
Nightjar	В	<u>.</u> М	4,600 (3,700–5,500)	4,600 (3,700–5,500)	2004
Swift	В	P	59,000 (43,000–75,000)+	59,000 (43,000–75,000)+	2016
Great Bustard	В	P	4	35,000 (+5,000-75,000)	2013–17
Cuckoo	В	P	17,000 (8,950–24,500)+	18,000 (9,800–26,000)+	2016
Rock Dove	В	P	460,000 (375,000–545,000)	465,000 (380,000–550,000)	2016
Stock Dove	В	T	320,000	320,000	2016
Woodpigeon	В	P	5,050,000 (4,750,000–5,350,000)	5,150,000 (4,850,000–5,450,000)	2016
Turtle Dove	В	T	3,600	3,600	2016
Collared Dove	В	P	795,000 (715,000–875,000)	810,000 (730,000–890,000)	2016
Water Rail	В	T	3,900 <sup>+</sup>	3,900+	2016-17
Corncrake	В	M	1,100	1,100	2010-17
Baillon's Crake	В	M	(0-6)	(0-6)	2013-17
Spotted Crake	В	M	27	27	2012
Moorhen Spotted Crake	В	T	200,000	210,000	2015–17
Woothen	W	<u>'</u>			2016/17
Cook	-	P	300,000	305,000	
Coot	В	I I	25,500+	26,000 <sup>+</sup>	2016
Crane	W		200,000	205,000	2012/13-2016/17
	В	Р	31	31	2013–17
Little Grebe	W	I	(7.700, 6.650)	175 (7.650, 7.700)	2017/18
	В	P	(3,300–6,650)	(3,650-7,300)	2016
	W	<u> </u>	15,000	15,500	2012/13-2016/17
Red-necked Grebe	В	P	(0-1)	(0-1)	2013-17
	W	-	59	60	2011/12-2014/15
Great Crested Grebe	В	Р	4,300 <sup>+</sup>	4,900 <sup>+</sup>	2016
	W	I	16,500	18,000	2012/13-2016/17
Slavonian Grebe	В	Р	28	28	2013–17
	W	1	920	995	2011/12-2014/15

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Black-necked Grebe	В	Р	55	55	2013–17
black recirca Grebe	W	·	115	115	2012/13-2016/17
Stone-curlew	В	P	365+	365+	2013–17
Oystercatcher	В	Р	92,500	95,500	2016
o your catarrer	W	i	285,000	305,000	2012/13-2016/17
Black-winged Stilt	В	P	3 (0-6)	3 (0-6)	2013–17
Avocet	В	Р	1,950	1,950	2013-17
Wocci	W		8,700	8,700	2012/13-2016/17
Lapwing	В	P	96,500	97,500	2016
Lupwing	W	'	620,000	635,000	2006/07
Golden Plover	В	P	(32,500–50,500)	(32,500–50,500)	2016
dolucii i lovel	W	·	400,000	410,000	2006/07
Grey Plover	W	· ·	33,500	33,500	2012/13-2016/17
Ringed Plover	В	P	5,300 (5,100–5,500)	5,450 (5,250–5,600)	2007
dilged i lovei	W	<u>'</u>	41,500	42,500	2012/13-2016/17
Little Ringed Plover	В	P	1,250 (1,200–1,300)	1,250 (1,200–1,300)	2007
Dotterel	В	M	425 (280–645)	425 (280–645)	2007
Whimbrel	В	P	310	310	2009
VVIIIIIIUICI	W	ı	38	41	2009
 Curlew	B	P			2012/13-2016/17
Curiew	W	ı	58,000	58,500	_
Partailed Coduit			120,000	125,000	2012/13-2016/17
Bar-tailed Godwit	W	P	50,500	53,500	2012/13-2016/17
Black-tailed Godwit	В	-	53	53	2013-17
<del>-</del>	W	I .	39,000	41,000	2012/13-2016/17
Turnstone	W	1	40,000	43,000	2012/13-2016/17
Knot	W	I	265,000	265,000	2012/13-2016/17
Ruff	В	F	13	13	2013-17
Tiii	W	I	895	920	2012/13-2016/17
Temminck's Stint	В	P	0	0	2013-17
Sanderling	W	1	20,000	20,500	2012/13-2016/17
Dunlin	В	P	(8,600–10,500)	(8,600–10,500)	2005-07
D 1 C 1 '	W	I	345,000	350,000	2012/13-2016/17
Purple Sandpiper	В	P .	1	1	2013–17
L'ul c'	W	I .	9,700	9,900	2012/13-2016/17
Little Stint	W	I	8	8	2012/13-2016/17
Woodcock	В	M	55,000 (42,000–69,000)	57,000 (43,000–71,000)	2016
	W	I	1,400,000	1,400,000	2003/04
Jack Snipe	W	I	100,000	110,000	2004/5
Snipe	В	Р	64,500	66,500	2016
	W	- 1	1,000,000	1,100,000	2004/5
Red-necked Phalarope	В	М	64	64	2013–17
Common Sandpiper	В	P .	13,000	13,000	2016
Green Sandpiper	W	I	52	52	2012/13-2016/17
	В	Р	2	2	2013–17
	W	I	290	290	2011/12-2014/15
Redshank	В	Р	22,000	22,000	2016
	W	I	94,500	100,000	2012/13-2016/17
Wood Sandpiper	В	Р	30	30	2013–17
Spotted Redshank	W	I	67	68	2012/13-2016/17
Greenshank	В	Р	1,100+	1,100 <sup>+</sup>	1995
	W	ı	810	920	2012/13-2016/17
Kittiwake	В	Р	195,000 (170,000-250,000)	205,000 (175,000–255,000)	2015

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Black-headed Gull	В	Р	130,000+	140,000+	1998–2002
	W	ı	2,200,000 (2,100,000–2,200,000)+	2,200,000 (2,100,000–2,300,000)+	2003/04-2005/06
Mediterranean Gull	В	Р	1200 <sup>+</sup>	1,200+	2013–17
	W	I	4,000	4,000	2011/12-2014/15
Common Gull	В	Р	48,000	48,500	1998–2002
	W	1	700,000 (670,000–720,000)+	710,000 (680,000–730,000)+	2003/04-2005/06
Ring-billed Gull	W	1	17	21	2012/13-2016/17
Great Black-backed Gull	В	Р	15,000 (7,200–19,000) <sup>-</sup>	15,000 (7,200–19,000) <sup>-</sup>	2015
	W	ı	76,000 (71,000–81,000)+	77,000 (72,000–82,000)+	2003/04-2005/06
Glaucous Gull	W	1	155 <sup>+</sup>	165 <sup>+</sup>	2011/12-2015/16
Iceland Gull	W	1	330 <sup>+</sup>	355 <sup>+</sup>	2011/12-2015/16
Herring Gull	В	Р	130,000 <sup>-</sup>	130,000 <sup>-</sup>	1998–2002
	W	1	730,000 (700,000–760,000)+	740,000 (710,000–780,000)+	2003/04-2005/06
Caspian Gull	W	-	125	125	2011/12-2014/15
Yellow-legged Gull	В	P	2	2	2013–17
	W	ı	840	840	2011/12-2014/15
Lesser Black-backed Gull	В	P	110,000°	110,000°	1998–2002
	W	ı .	120,000 (120,000–130,000)+	130,000 (120,000–130,000)+	2003/04-2005/06
Sandwich Tern	В	P	12,500 (11,500–14,000)	14,000 (13,000–15,000)	2015
ound new rem	W	i	53	65	2011/12-2014/15
Little Tern	В	P	1,450	14,50	2013–17
Roseate Tern	В	<u>.</u> Р	100	100	2013–17
Common Tern	В	P	9,600 (7,550–11,500)	11,000 (8,900–13,500)	2015
Arctic Tern	В	' 	52,500	53,500	2000
Great Skua	В	P P	9,650 <sup>+</sup>	9,650 <sup>+</sup>	1998–2002
Arctic Skua	В	P P	785 (535–1550)	785 (535–1550)	2015
Common Guillemot	В	P P	885,000	950,000	1998–2002
Razorbill	В	<u>Р</u>			
			140,000 (93,000–215,000)	165,000 (100,000–250,000)	2015
Black Guillemot	В	P	19,000	19,500	1998–2003
Puffin	В	P	580,000	580,000	1998-2002
Red-throated Diver	В	P .	1,250 (1,000–1,550)	1,250 (1,000–1,550)	2006
	W	<u> </u>	21,500+	21,500+	2011/12-2014/15
Black-throated Diver	В	Р	215 (190–250)	215 (190–250)	2006
	W	<u> </u>	560 <sup>+</sup>	560 <sup>+</sup>	2004/05 – 2008/09
Great Northern Diver	W		4,350+	4,400+	2015/16
White-billed Diver	W	I	80 <sup>+</sup>	80+	2010-12
Storm Petrel	В	AOS	25,500 (21,000–33,500)	25,500 (21,000–33,500)	1998–2002
Leach's Petrel	В	Р	48,000 (36,500–65,000)	48,000 (36,500–65,000)	1998–2002
Fulmar	В	Р	350,000 (195,000–680,000)	350,000 (195,000–680,000)	2015
Manx Shearwater	В	Р	295,000 (280,000–315,000)	300,000 (280,000–320,000)	1998–2002
Gannet	В	N	295,000	295,000	2013–14
Shag	В	Р	17,500 (13,500–20,500)	17,500 (13,500–20,500)	2015
	W	Ι	110,000+	110,000+	1998–2002
Cormorant	В	Р	8,200	8,900	1998–2002
	W	ı	62,000 <sup>+</sup>	64,500⁺	2012/13-2016/17
Glossy Ibis	W	I	27	27	2011/12-2014/15
Spoonbill	В	Р	29	29	2017
	W	I	105	105	2011/12-2014/15
Bittern	В	М	191+	191+	2017
	W	I	795	795	2017/18
Little Bittern	В	М	5	5	2013–17
Night-heron	В	P	(0-1)	(0-1)	2013–17

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Cattle Egret	В	Р	(10–15)	(10–15)	2017
	W		65	66	2011/12-2014/15
Grey Heron	В	Р	9,950	10,500 (10,000–11,000)	2013–17
	W	ı	45,000	45,500	2012/13-2016/17
Purple Heron	В	Р	0	0	2013-17
Great White Egret	В	Р	(8–12)	(8–12)	2017
	W	ı	72	72	2011/12-2014/15
Little Egret	В	Р	1,100+	1,100 <sup>+</sup>	2013–17
<u> </u>	W		11,500	11,500	2012/13-2016/17
Osprey	В	Р	240 <sup>+</sup>	240 <sup>+</sup>	2013–17
Honey-buzzard	В	Р	(33–69)	(33-69)	2000
Golden Eagle	В	Р	510	510	2015
Sparrowhawk	В	P	28,500	30,500	2016
Goshawk	В	Р	620 <sup>+</sup>	620 <sup>+</sup>	2013–17
Marsh Harrier	В	Р	(590–695)	(590–695)	2016
Hen Harrier	В	P	500	545	2016
Montagu's Harrier	В	P	8	8	2013–17
Red Kite	В	P	4,350	4,400	2015–17
	В	P			
White-tailed Eagle	_	P	122+	123+	2017
Rough-legged Buzzard	W	l l	29	29	2012/13-2016/17
Buzzard	В	Р	(61,500–85,000)	(63,000–87,500)	2016
Barn Owl	В	P	(4,000-14,000)	(4,000-14,000)	2016
Tawny Owl	В	Р	50,000	50,000	2005
Little Owl	В	Р	3,600 (2,350–4,900)	3,600 (2,350–4,900)	2016
Long-eared Owl	В	Р	(1,600-5,300)	(1,800-6,000)	2007–11
Short-eared Owl	В	Р	(610–2,150)	(620–2,200)	2007–11
Kingfisher	В	Р	(3,650–6,100)	(3,850-6,400)	2016
Bee-eater	В	Р	1 (0-3)	1 (0-3)	2013–17
Wryneck	В	Р	0	0	2013-17
Lesser Spotted Woodpecker	В	Р	(600–1,000)	(600-1,000)	2015
Great Spotted Woodpecker	В	Р	130,000 (120,000–145,000)	130,000 (120,000–145,000)	2016
Green Woodpecker	В	Р	45,500 (40,500–50,500)	45,500 (40,500–50,500)	2016
Kestrel	В	Р	30,000	31,000	2016
Merlin	В	Р	1,150 (850–1,450)	1,150 (890–1,450)	2008
Hobby	В	Р	2,050	2,050	2016
Peregrine	В	Р	1,650 (1,500–1,800)	1,750 (1,600–1,900)	2014
Rose-ringed Parakeet	В	Р	12,000	12,000	2016
Red-backed Shrike	В	Р	3	3	2013-17
Great Grey Shrike	W	ı	98	98	2012/13-2016/17
Golden Oriole	В	М	0 (0-2)	0 (0-2)	2013–17
Jay	В	T	16,5000	170,000	2016
Magpie	В	T	550,000	610,000	2016
Chough	В	Р	330	335	2014–15
Č	W		1,250	1250	2014/15
Jackdaw	В	P	1,450,000 (1,300,000–1,650,000)	1,550,000 (1,350,000–1,750,000)	2016
Rook	В	Р	885,000 (775,000–1,000,000)	980,000 (865,000–1,100,000)	2016
Carrion Crow	В	T	1,050,000	1,050,000	2016
Hooded Crow	В	T	185,000	285,000	2016
Raven	В	P	9,500+	10,000+	2016
	W	I I			
	ı VV		9,750	10,000	2012/13-2016/17
Waxwing Coal Tit	В	T	590,000	660,000	2016

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Marsh Tit	В	T	28,500	28,500	2016
Willow Tit	В	Р	2,750 <sup>-</sup>	2,750 <sup>-</sup>	2016
Blue Tit	В	Т	3,250,000	3,400,000	2016
Great Tit	В	T	2,200,000	2,350,000	2016
Bearded Tit	В	Р	695	695	2013-17
Woodlark	В	Р	2,300 (1,850–2,750)	2,300 (1,850–2,750)	2016
Skylark	В	T	1,500,000	1,550,000	2016
Shore Lark	W	ı	110	110	2012/13-2016/17
Sand Martin	В	N	(64,500–210,000)	(70,500-225,000)	2016
Swallow	В	T	625,000	705,000	2016
House Martin	В	Р	470,000 (330,000–610,000)	480,000 (335,000–620,000)	2016
Cetti's Warbler	В	М	3,450+	3,450+	2016
Long-tailed Tit	В	T	370,000	380,000	2016
Wood Warbler	В	M	6,500 (6,000–7,050)	6,500 (6,000–7,050)	2016
/ellow-browed Warbler	W	1	25	25	2012/13-2016/17
Willow Warbler	В	T	2,050,000	2,300,000	2016
Chiffchaff	В	T	1,650,000	1,750,000	2016
berian Chiffchaff	В	P	(0-1)	(0-1)	2013–17
Aquatic Warbler	A	i	3+	3 <sup>+</sup>	2013-17
Sedge Warbler	В	T	220,000	240,000	2016
Reed Warbler	В	P	130,000 (100,000–155,000)+	130,000 (100,000–155,000)+	2016
Marsh Warbler	В	P	8	8	2013–17
cterine Warbler	В	P	(0-2)	(0-2)	2013-17
Grasshopper Warbler	В	T	9,750	12,000	2015–17
Gavi's Warbler		P	9,750 5	12,000	
	В	T	-	-	2013-17
Blackcap Garden Warbler		T	1,600,000	1,650,000	2016
Lesser Whitethroat	В		145,000	145,000	2016
	В	T	79,000	79,000	2016
Whitethroat	В	T	1,100,000	1,100,000	2016
Dartford Warbler 	В	P	2,200	2,200	2017
recrest	В	T	2,000+	2,000+	2017
Goldcrest	В		675,000	790,000	2016
Wren	В	T	9,750,000	11,000,000	2016
Nuthatch	В	T	250,000	250,000	2016
Treecreeper	В	T	210,000	225,000	2016
Starling	В	Р	1,650,000 (1,450,000–1,800,000)	1,750,000 (1,550,000–1,950,000)	2016
Ring Ouzel	В	Р	7,300 (5,550–9,400)	7,300 (5,550–9,400)	2016
Blackbird	В	Р	4,850,000 (4,600,000–5,050,000)	5,050,000 (4,800,000–5,250,000)	2016
Fieldfare	В	Р	(0-1)	(0-1)	2013–17
	W	I	680,000	720,000	1981–84
Redwing	В	Р	24	24	2013–17
	W	I	650,000	690,000	1981–84
Song Thrush	В	T	1,200,000	1,300,000	2016
Mistle Thrush	В	T	150,000	165,000	2016
Spotted Flycatcher	В	T	38,500	41,500	2016
Robin	В	T	6,650,000	7,350,000	2016
Bluethroat	В	Р	(0-1)	(0-1)	2013–17
Nightingale	В	М	5,550 (5,100–6,000)	5,550 (5,100-6,000)	2012
Pied Flycatcher	В	Р	(22,000–25,000)	(22,000–25,000)	2016
Black Redstart	В	Р	58	58	2013-17
	W	I	400	400	1981-84
Redstart	В	Р	135,000 (97,000–170,000)	135,000 (97,000–170,000)	2016

Species name	Season	Unit	GB Estimate	UK Estimate	UK Date
Whinchat	В	Р	49,500 (19,500–79,000)	49,500 (19,500–79,000)	2016
Stonechat	В	Р	61,000 (39,500–83,000)	65,000 (43,000–87,000)	2016
Wheatear	В	Р	165,000 (115,000–220,000)	170,000 (120,000–220,000)	2016
Dipper	В	Р	(6,350-19,000)	(6,900-20,500)	2016
House Sparrow	В	Р	5,150,000 (4,650,000–5,650,000)	5,300,000 (4,800,000–5,750,000)	2016
Tree Sparrow	В	Т	225,000	245,000	2016
Dunnock	В	Т	2,350,000	2,500,000	2016
Yellow Wagtail	В	Т	19,500	19,500	2016
Grey Wagtail	В	Р	33,500	37,000	2016
Pied Wagtail	В	Р	495,000 (435,000–560,000)	505,000 (445,000–570,000)	2016
Meadow Pipit	В	Р	2,250,000 (1,950,000–2,550,000)	2,450,000 (2,100,000–2,750,000)	2016
Tree Pipit	В	Р	105,000 (66,000–145,000)	105,000 (66,000–145,000)	2016
Water Pipit	W	I	205	205	2012/13-2016/17
Rock Pipit	В	Р	34,000	36,000	1988–1991
Chaffinch	В	T	4,800,000	5,050,000	2016
Brambling	В	Р	(0-1)	(0-1)	2013–17
	W	I	(45,000-1,800,000)	(45,000-1,800,000)	1981–84
Hawfinch	В	Р	(500–1000)	(500-1,000)	2011
Bullfinch	В	T	225,000	265,000	2016
Greenfinch	В	Р	760,000 (710,000–810,000)	785,000 (735,000–835,000)	2016
Twite	В	Р	7,800 (5,800–10,000)	7,850 (5,850–10,000)	2013
Linnet	В	T	530,000	560,000	2016
Common Redpoll	В	Р	12	12	2013-17
	W	I	335	335	2012/13-2016/17
Lesser Redpoll	В	Р	220,000	260,000	2016
Arctic Redpoll	W	I	9	11	2012/13-2016/17
Parrot Crossbill	В	Р	65	65	2008
Scottish Crossbill	В	Р	6,800 (4,050–11,500)	6,800 (4,050–11,500)	2008
Crossbill	В	Р	25,000 (19,000–33,000)	26,000 (19,500–34,000)	2016
Goldfinch	В	Р	1,600,000 (1,400,000–1,750,000)	1,650,000 (1,450,000–1,800,000)	2016
Serin	В	Р	0	0	2013-17
Siskin	В	Р	430,000	445,000	2016
Lapland Bunting	В	Р	(0-1)	(0-1)	2013–17
	W	I	310	310	2012/13-2016/17
Snow Bunting	В	Т	60 (48–83)	60 (48–83)	2011
	W	I	(9,000-13,500)	(10,000-15,000)	1981–84
Corn Bunting	В	T	11,000 (9,050–13,000)	1,1000 (9,050–13,000)	2016
Yellowhammer	В	T	685,000	700,000	2016
Cirl Bunting	В	T	1,100	1,100	2016
Reed Bunting	В	Т	255,000	275,000	2016

### **CONCLUSIONS**

APEP 4 has a range of important uses, and it is essential to understand the detail of the information presented in the full paper, published in *British Birds*, in order to interpret these data correctly. The function of APEP needs to continue after the UK has left the EU, enabling the status of our bird populations to be viewed in a wider context.

### **KEY FINDINGS**

The population estimates presented here indicate that there are now thought to be about 85 million breeding pairs of birds in the UK, similar to the number estimated by APEP 3. The Wren continues to be the most common species and has increased slightly since APEP 3, with the current estimate of 11 million pairs making up about one in eight of our breeding birds.

Out of a total of 249 breeding species, 21 species have estimates exceeding one million pairs (compared with 23 species in APEP 3) and these 21 contribute almost 80% of the total, with 58% provided by the 10 commonest species alone.

Although the total number of breeding pairs is similar to that reported by APEP 3, the changes for individual species have been mixed: slightly more species increased than decreased. The vast majority of these increases and decreases relate to genuine population changes measured by long-term monitoring schemes such as BBS for many of the commoner species, or by single-species surveys or RBBP data for scarcer species. However, some changes to estimates are the result of new species surveys or a change in the estimation method, particularly for wintering estimates, while some increases or decreases since APEP 3 may represent better understanding of a species' abundance rather than genuine population change.

Analysing the APEP 4 breeding population estimates by taxonomic group shows that the vast majority of species with populations greater than 100,000 breeding pairs are passerines. This partly reflects the fact that most species found in the UK are passerines, and that this group includes many ecological 'generalists' able to make use of widespread habitats across the UK, including woodland and gardens. Also, most passerines are small-bodied and exhibit particular ecological traits such as smaller territories and higher densities.

The UK's coastline is important for breeding seabirds, with populations of international importance for some species. The seabirds include a notable proportion of species with a breeding population estimate of greater than 100,000 pairs, with a population estimate for Common Guillemot of just under a million pairs (950,000). Many of seabird estimates used have not been updated since APEP 3, though updates will be available shortly.

Among the other groups, it is unsurprising that the breeding population estimates for raptors and owls are all below 100,000 pairs, since these species are apex predators and occur naturally in much lower numbers than their prey species. The UK is important for many wintering waders and wildfowl, the majority of which breed farther north, meaning that UK breeding populations for this group are less significant. However, for some species the UK breeding populations are important and are also in decline: although the current breeding population estimates for all wader species are below 100,000, those for Lapwing and Oystercatcher were both above this threshold in APEP 3, as was that for Curlew in APEP 2.

Although some international requirements for reporting avian population sizes may not apply in the future, for example when the UK leaves the EU, it will remain necessary to understand the status of UK populations to inform national conservation policy and to prioritise any necessary conservation actions. This will ensure that the UK can continue to meet other international obligations and continue to feed into BirdLife International's six-year assessment of the state of Europe's birds (which incorporates data from non-EU as well as EU countries).

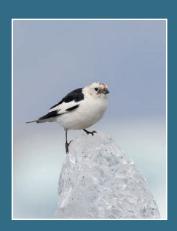
It is also anticipated that some EU Birds Directive obligations will be translated into country-level environmental reports, with a coordinating role by JNCC to evaluate the implications of any future changes in reporting protocols. We thus anticipate that APEP updates on avian population size estimates will continue on a six-year cycle.

The full report, for which this is a summary, was published in the journal *British Birds* in February 2020.

Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69–104.

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Cover: Snow Bunting, by Liz Cutting / BTO. Snow Bunting population size was based on an RSPB survey, carried out in 2011.

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