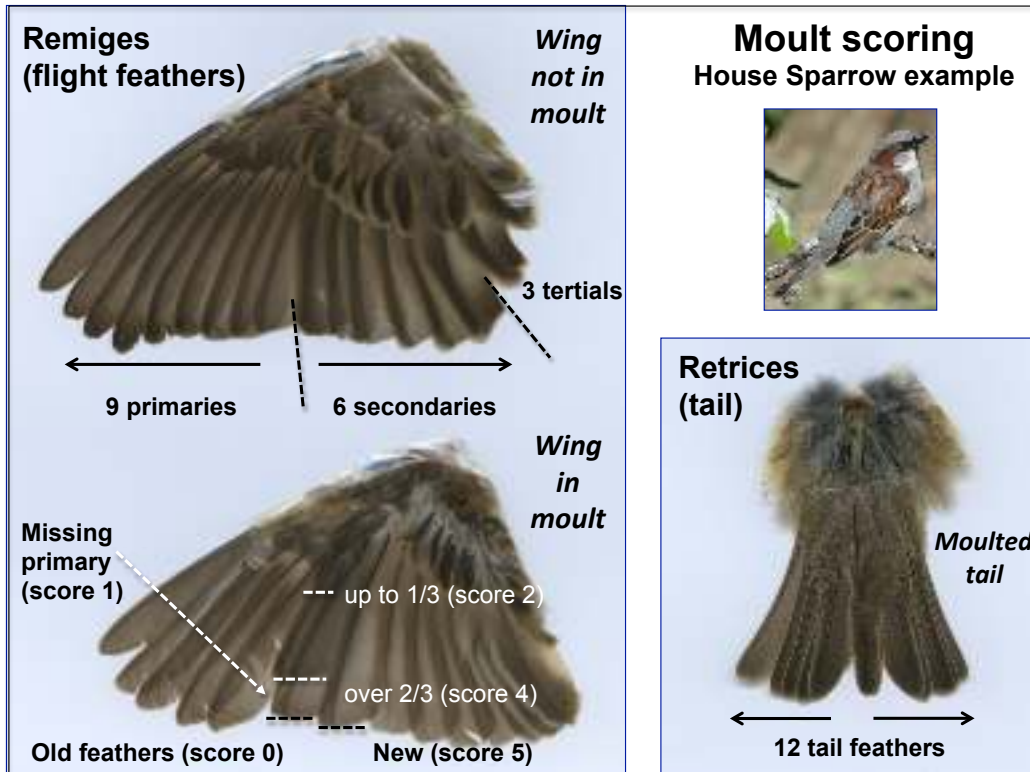


35 YEARS OF OSNZ MOULT RECORDING (1981-2015)

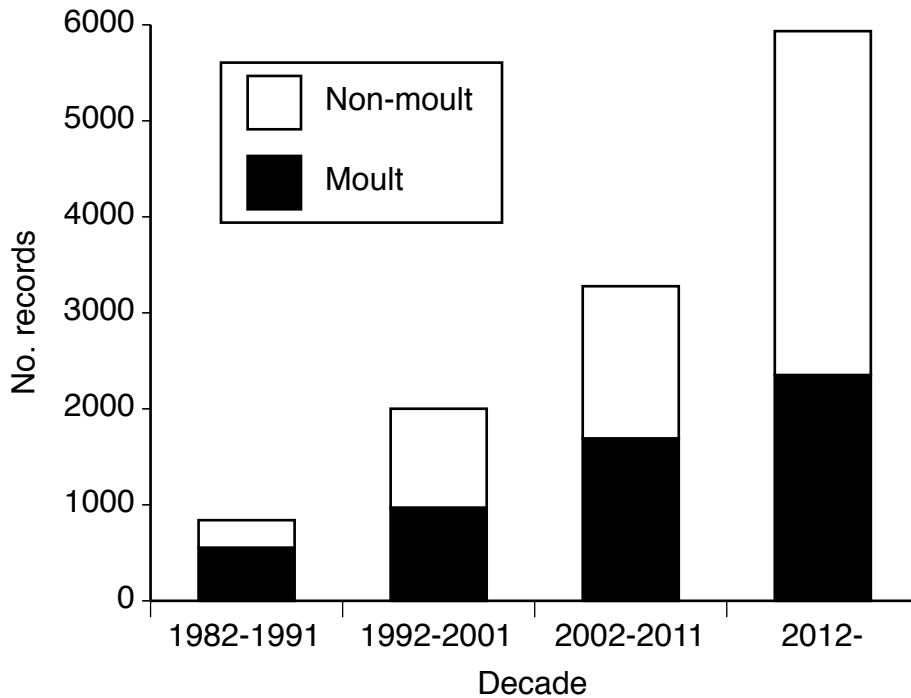
The OSNZ Moulting Recording Scheme is now in its 35th year following its launch in 1981. Based on the British plumage and moulting recording system (e.g. *Moulting in Birds* Ginn & Melville 1983), the Scheme in New Zealand has been supported by many contributors over the years, providing moulting data on live and dead birds on moulting cards, non-moulting forms, or in digital spreadsheet format. More informal records, including plumage sketches, have come in also. The official *N.Z. Moulting Card* and *Non-Moulting Record Form* can be downloaded from the OSNZ website (<http://osnz.org.nz/moulting-recording-scheme>) or obtained from the Scheme organiser.



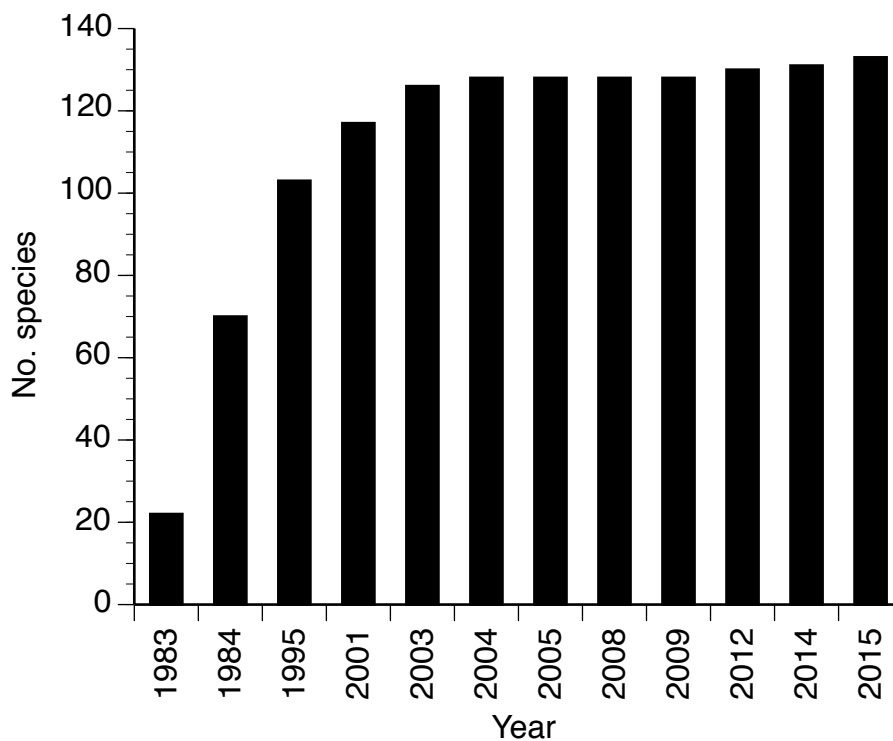
Scoring moulting requires knowledge of bird plumage, the number of flight feathers (primaries, secondaries, tertials) and tail feathers (retrices). Feather scores progress from old (0) to new (5). Arrows indicate the direction of moulting. This example is based on House Sparrow wings and tail.

Submission of moulting records. If you have outstanding moulting records please send them in to the Scheme organiser as soon as possible. As I mentioned in my last moulting report (*Birds New Zealand* 4:5), I encourage banders to record primary moulting scores routinely and to submit them annually on an Excel spreadsheet, as was done by Mike Bell and the Marlborough team for the 2014 report. Also important are records of full moulting covering the whole plumage, especially for our endemic birds that can not be studied elsewhere.

How many records have been accumulated? The OSNZ Moulting Recording Scheme data now total almost 6000 records for 133 species, 40% for birds in active moulting, 60% for non-moulting birds, most (80%) from live birds. Many recent records come from introduced passerines, the five top species being Silvereye (19%), House Sparrow (12%), Goldfinch (8%), Greenfinch (6%) and Redpoll (5%). Ten species exceeded 100 records each, including the five top species plus Blackbird, Dunnock, Chaffinch and Yellowhammer, as well as Black-fronted Tern with 137 records. There are now sufficient data for some moulting analysis on these species. Monica Awasthy and I are currently examining moulting patterns in the Silvereye (1112 records) and House Sparrow (686 records).



Cumulative totals of moult records received per decade – interim for current decade. Most records have been for birds not in active moult – useful information for determining the non-moulting periods of the year.



The cumulative total number of species recorded has tended to plateau after a steep rise in earlier years. Changes are not only due to the number of records, but also to some taxonomic revisions.

Source: reports of the OSNZ Moulting Recording Scheme.

Bird banding important means of acquiring moult records. Bird banding has been a major means of acquiring moult records for the Scheme. More than 5000 records are now in computer files, and 88% of them are of banded birds. Almost all of the records from live birds (95%) are from banded birds, many being retrapped to provide important data on the timing and progression of moult in individual birds.

How representative are the records in terms of the NZ avifauna? Overall, moult records have been received for 36% of New Zealand’s bird species (see table below): 44% of endemics, 51% of natives, 56% of migrants (mostly waders), 38% of visitors (3 seabirds), 49% of introduced species (mostly passerines), but only 3% of vagrants and stragglers (3 records). This summary shows that while most major groups are well represented, more records for all groups would be worthwhile, as there are many species not represented in the Scheme for every status group.

Percentage of different species groups with moult records. Species status based on *The Field Guide to the Birds of New Zealand* (Heather & Robertson 2015).

Species status	No. species	No. with moult records	% with moult records
Endemic	91	39	44.0
Native	88	45	51.1
Migrant	39	22	56.4
Visitor	8	3	37.5
Vagrant	84	2	2.4
Straggler	16	1	6.3
Introduction	43	21	48.8
Total	369	133	36.0

What needs to be done next? For a few species records are now fully computerised and up to date. Other records are already on Excel spreadsheets, but others (covering the last decade) still need to be transferred to computer. We have gained information on many of our introduced passerines, such as house sparrows and finches, but in future more emphasis needs to be on other species too, particularly endemic species. A recent paper by Chris Smith and colleagues examined Hihi moult (*Notornis* 62: 135-142) illustrating such an endemic bird study (although it was not based on data from the OSNZ database). The development of a new Moult Recording data management system is also required, so that researchers can gain easier access to the data, much as has been proposed for the Beach Patrol Scheme (*Birds New Zealand* 7:13).

Handing in my cards. After 35 years of organising the OSNZ Moult Scheme, I have decided to hand in my cards this year, passing the responsibility of organising the Moult Recording Scheme into new hands. I wish to extend a big ‘thank you’ to all those who have contributed to the Scheme over the years. I also wish to acknowledge the valuable work undertaken by Christine Reed, Kim McConkey, Gemma Bowker-Wright and Monica Awasthy on computer-transfer and analysis of the moult records that I’ve received.

BEN D. BELL

Appendix

Summary of moult records received to 30 October 2015 (species list based on *The Field Guide to the Birds of New Zealand* Heather & Robertson 2015).

Species	In moult	Not in moult	Alive	Dead	Total
Quail, Brown	1	1	0	2	2
Pheasant	4	3	4	3	7
Teal, Grey	0	1	1	0	1
Teal, Brown	11	39	15	35	50
Mallard	15	13	27	1	28
Duck, Grey	2	0	2	0	2
Penguin, Blue	4	2	2	4	6
Mollymawk, Grey-headed	1	0	0	1	1
Mollymawk, Black-browed	2	19	0	21	21
Mollymawk, Campbell Islands	0	18	0	18	18
Mollymawk, White-capped	5	26	0	31	31
Petrel, Cape (Cape Pigeon)	0	2	0	2	2
Petrel, Kerguelen	1	3	0	4	4
Petrel, Grey-faced	1	2	0	3	3
Petrel, White-headed	4	0	0	4	4
Taiko, Chatham Island	0	3	3	0	3
Petrel, Mottled	0	1	0	1	1
Petrel, Cook's	0	2	0	2	2
Petrel, Blue	0	4	0	4	4
Prion, Broad-billed	1	1	2	0	2
Prion, Salvin's	2	0	0	2	2
Prion, Antarctic	1	0	0	1	1
Prion, Fairy	0	87	0	87	87
Petrel, Westland	0	1	0	1	1
Petrel, Black	0	2	0	2	2
Shearwater, Flesh-footed	0	2	0	2	2
Shearwater, Short-tailed	0	1	0	1	1
Shearwater, Fluttering	11	1	0	12	12
Shearwater, Hutton's	2	1	1	2	3
Petrel, Grey-backed Storm	0	10	10	0	10
Petrel, White-faced Storm	2	3	0	5	5
Petrel, Common Diving	3	5	0	8	8
Gannet, Australasian	37	1	6	32	38
Shag, Little	0	1	1	0	1
Shag, Pied	1	1	0	2	2
Shag, Spotted	6	1	0	7	7
Shag, Pitt Island	2	0	2	0	2
Heron, White	0	1	1	0	1
Heron, White-faced	3	1	1	3	4
Bittern, Australasian	0	1	0	1	1
Spoonbill, Royal	2	0	0	2	2
Harrier, Swamp	67	28	46	49	95
Falcon, New Zealand	9	8	1	16	17
Rail, Banded	0	5	4	1	5
Weka	2	1	3	0	3
Pukeko	0	3	1	2	3
Knot, Red	9	49	1	57	58
Sanderling	2	0	0	2	2
Sandpiper, Curlew	2	4	0	6	6
Sandpiper, Sharp-tailed	1	9	0	10	10
Sandpiper, Pectoral	4	12	0	16	16
Stint, Red-necked	2	12	0	14	14
Curlew, Far-eastern	2	1	0	3	3
Whimbrel	1	3	0	4	4
Whimbrel, Little	3	2	0	5	5
Curlew, Bristle-thighed	0	3	0	3	3
Godwit, Bar-tailed	13	72	1	84	85
Godwit, Black-tailed	0	1	0	1	1
Godwit, Hudsonian	0	3	0	3	3
Tattler, Wandering	2	8	0	10	10

Tattler, Grey-tailed	1	0	1	0	1
Turnstone	11	18	0	29	29
Phalarope, Grey	0	1	0	1	1
Oystercatcher, Variable	2	0	2	0	2
Oystercatcher, South Island Pied	5	0	1	4	5
Stilt, Pied	7	27	0	34	34
Stilt, Black	5	4	0	9	9
Plover, Pacific Golden	20	47	0	67	67
Dotterel, New Zealand	6	13	1	18	19
Dotterel, Banded	23	43	0	66	66
Wrybill	9	34	1	42	43
Plover, Shore	8	23	0	31	31
Plover, Spur-winged	1	14	0	15	15
Pratincole, Oriental	0	2	0	2	2
Skua, Southern	1	0	0	1	1
Skua, Arctic	2	0	0	2	2
Skua, Long-tailed	2	0	0	2	2
Gull, Black-backed	17	3	2	18	20
Gull, Red-billed	47	1	37	11	48
Gull, Black-billed	4	1	2	3	5
Noddy, Black	1	0	0	1	1
Tern, White	2	0	0	2	2
Tern, Sooty	1	0	0	1	1
Tern, Little	2	0	0	2	2
Tern, Fairy	1	0	0	1	1
Tern, Caspian	2	0	0	2	2
Tern, White-winged Black	2	0	0	2	2
Tern, Black-fronted	27	110	133	4	137
Tern, White-fronted	13	7	4	16	20
Pigeon, Rock	47	12	53	6	59
Dove, Spotted	6	0	3	3	6
Pigeon, New Zealand	38	5	9	34	43
Kakapo	1	0	1	0	1
Kaka	14	76	76	14	90
Kea	1	0	0	1	1
Rosella, Eastern	1	3	0	4	4
Parakeet, Red-crowned	5	2	6	1	7
Parakeet, Yellow-crowned	1	1	0	2	2
Cuckoo, Oriental	1	1	0	2	2
Cuckoo, Pallid	0	1	0	1	1
Cuckoo, Shining	0	14	6	8	14
Cuckoo, Long-tailed	0	7	2	5	7
Morepork	2	11	3	10	13
Owl, Little	1	0	0	1	1
Kingfisher, New Zealand	13	13	15	11	26
Saddleback, North Island	3	2	2	3	5
Stitchbird	25	7	32	0	32
Warbler, Grey	33	42	74	1	75
Bellbird	30	28	58	0	58
Tui	10	18	21	7	28
Whitehead	9	0	9	0	9
Creeper, Brown	1	6	7	0	7
Magpie, Australian	48	6	44	10	54
Fantail	28	63	88	3	91
Tomtit	27	40	67	0	67
Robin, North Island	19	30	47	2	49
Robin, South Island	1	0	1	0	1
Fernbird	1	0	0	1	1
Silvereye	537	575	1097	15	1112
Swallow, Welcome	3	3	3	3	6
Blackbird	53	89	130	12	142
Thrush, Song	25	63	79	9	88
Starling	30	31	53	8	61
Myna, Common	17	0	2	15	17
Sparrow, House	468	218	682	4	686
Pipit, New Zealand	0	1	0	1	1

Dunnock	32	75	105	2	107
Chaffinch	65	134	197	2	199
Greenfinch	127	248	372	3	375
Goldfinch	100	355	444	11	455
Redpoll	45	275	320	0	320
Yellowhammer	12	278	289	1	290
Bunting, Cirl	7	17	24	0	24
Totals	2352	3582	4740	1194	5934