

"ANTIQUÉ" CHRISTMAS COUNTS: GONE BUT NOT FORGOTTEN

by Leif J. Robinson, Wellesley

The October, 1975, issue of American Birds contained a proposal for an experiment: to conduct Christmas Bird Counts in areas surveyed two generations earlier using techniques of that period -- no modern binoculars, field guides, even "pishing". Fortunately, I was privy to a route walked from 1915 to 1926 by Warren F. Eaton in Weston, Massachusetts. Realizing that one year's data would be inadequate for assessing trends in the quality of birdlife, I've continued these "antique" counts for the past half-dozen years.

Eaton covered a particularly fortunate area in this Boston suburb; other than normal natural evolution, changes have been minimal. Houses now ring most of the periphery, and a town dump was established. But overall, the landscape -- including a railroad right-of-way, a mature hemlock stand, two fresh-water ponds with attendant small marshes, some fields and mixed woodlots -- would seem quite familiar to Eaton.

Some general statistics. Eaton recorded 37 species; I, 41; 22 were common to both tallies. He averaged 16 species a year; I, 24 -- the birdlife is clearly more diverse in the modern era. Eaton logged some 2,200 individuals; I, 3,100 in four fewer walks. This increased abundance is due almost completely to the relatively recent invasion of the Herring Gull.

The accompanying table summarizes probably significant changes (or the lack of them) in the wintering bird populations over some six decades. Only species seen either on more than half of Eaton's 10 counts or the six of mine are included. Evidence for change is straightforward. For each species is given the average birds per hour (bph) recorded at the two epochs. The next number is three times the standard deviation ($3 \times sd$) of the average, which is nothing more than a measure of the scatter of the observations that went into it -- 99.7 percent of all observations should deviate less than this value from the average. For example, an average of 7 with a three-times standard deviation of 5 means that virtually all the observations should fall within the range 2 to 12. Given last is the number of years in which the species was recorded.

Thus, we have two quantitative measures of a species presence: its average numerical abundance (and an indication of the variation from year to year) and the frequency of its occurrence. If, as in the case of Downy Woodpecker, the modern-epoch average falls outside the three-times standard deviation range of the earlier count, this strongly suggests that a real change has occurred, in this instance one of increase. Such a conclusion is possible despite the fact that this species was recorded every year by both observers.

My thesis is obvious: despite forebodings of lessening environmental quality (which may well be true), these exists today

1915-1926

1975-1980

	bph	3xsd	yrs	bph	3xsd	yrs
Red-tailed Hawk	0.44			0.45	0.93	5
Ruffed Grouse	0.66	1.36	9	1.24	2.91	5
Ring-necked Pheasant		2.00	7	1.27	3.12	5
Great Black-backed Gull				45.54	81.84	6
Herring Gull				7.52	20.91	5
Rock Dove	*	*	*	0.50	1.38	5
Mourning Dove				0.22	1.26	2#
Hairy Woodpecker	0.28	0.45	9	1.17	1.56	6
Downy Woodpecker	0.34	0.50	10	4.22	13.53	5
Blue Jay	0.61	0.61	10	21.79	49.41	6
Common Crow	3.18	2.80	10*	1.61	6.15	4
Fish Crow				8.28	11.16	6
Black-capped Chickadee	5.39	8.82	10	0.78	2.49	6
Tufted Titmouse				1.25	2.79	5
White-breasted Nuthatch	0.35	0.79	8	0.05	0.39	6
Brown Creeper	0.50	1.15	10	0.58	0.90	1#
Mockingbird				0.27	2.01	6
Golden-crowned Kinglet	1.49	2.86	8	27.41	62.40	1#
Starling	1.06	4.01	6*	0.90	1.83	6
House Sparrow	6.26	10.57	3*	0.70	0.81	5
Cardinal				1.86	5.76	6
American Goldfinch	1.16	5.12	6	5.38	10.35	6
Dark-eyed Junco	3.46	4.98	10	2.04	11.07	2
Tree Sparrow	2.37	6.20	10	2.19	7.14	6
Song Sparrow	0.35	3.06	2			

* Rock Dove: not counted 1915-26 though present

* Common Crow: abnormally high count of 488 birds in 1920 omitted from average

* Starling: abnormally high count of 125 birds in 1919 omitted from average

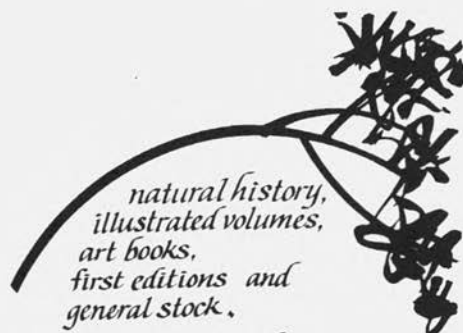
* House Sparrow: not counted before 1924

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on these 100-odd acres more wintering birdlife of greater diversity than prevailed 60 years ago. The impact of "southern species" and gulls is almost totally responsible for the numerical change; also, wintering Red-shouldered Hawks in Eaton's era were clearly less abundant than the red-tails that have replaced them today.

In short, over this period, the birdlife changed dramatically. Eight species invaded, one left, six probably increased, four probably decreased, five remained the same, and one we cannot judge. Can there be a better case for quantitative bird-watching? I really wonder about the future of the Black-capped Chickadee.

LEIF J. ROBINSON is editor of Sky and Telescope, an international popular magazine of astronomy and space science. He has been a bird student for 15 years with a principal interest in resident populations and the statistical means for assessing them. Mr. Robinson is also active in studying the migration of birds of prey.



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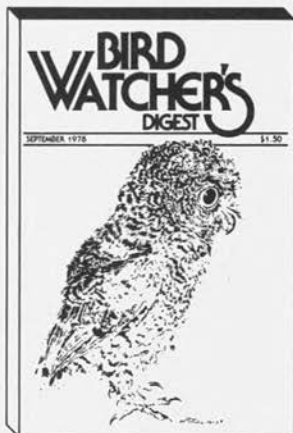


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