

quences of the population decline. *Oikos* 49: 315-322.

———, J. CLOBERT, AND P. JOUVENTIN. 1987. Survival in five southern albatrosses and its relationship with their life history. *J. Anim. Ecol.* 56: 1043-1055.

WIGGINS, D. A., R. D. MORRIS, I. C. T. NISBET, & T. W. CUSTER. 1984. Occurrence and timing of second clutches in Common Terns. *Auk* 101: 281-287.

100 Years Ago in The Auk



From "A bird wave" by Philip Cox (1889, *Auk* 6: 241-243):

"Early one morning in April, 1885, I started from Newcastle, New Brunswick, for a day's duck shooting on the Miramichi River, which was then free of ice. Snow was falling when I left my house, the tumbling flakes forming a strange contrast with the blossoms, bursting buds, and catkins of the trees and shrubs. Presently birds were seen flying eastward, and upon looking upward, through the snow which was by this time falling thick and fast, I saw hundreds of Robins (*Merula migratoria*), Song Sparrows (*Melospiza fasciata*), and Juncos (*Junco hyemalis*) mingled together in an unbroken column and passing noiselessly on. Some of the birds were only a few feet above the tops of the tallest trees, while others were higher up, the column extending so far skyward that the topmost line could with difficulty be outlined amid the falling flakes. The width of the column—from flank to flank—appeared to average about twenty-five yards. Outside of these flanks few birds were to be seen—either toward the centre of the river, or over the meadow through which I was walking; the bulk were massed in this narrow column and kept directly over the margin of the shore, apparently guided by the line of strong contrast between the whitened meadow and the dark waters of the river. They moved on in perfect silence, save for the flutter of the myriad wings,—not a note was heard from them. Their flight was slow and suggested weariness, but they displayed no inclination to rest, though the tree-tops were thrust so temptingly toward them. However, in about half an hour from the time when they were first observed some individuals showed a disposition to halt. An occasional Song Sparrow or Junco would alight on the top of a tall tree, and after remaining at rest for a few seconds—never longer than half a minute—would grow uneasy and utter a rather faint cry or

chirp. This call would be answered by one or more of those on the wing, and then the loiterer would rise and join them.

"The storm increasing, I abandoned the idea of looking for Ducks that day, and seeking the refuge of an adjacent house, for more than two hours I watched this bird wave as it rolled along. There was no gap, no cessation, neither was there deviation from the line of the river bank. As the time passed the smaller birds displayed evidence of growing more and more weary. Increased numbers alighted, and these took longer rests, and made more energetic demands for a general halt. About eight o'clock, and as if by the command of a leader, or by magic, the moving host vanished.

"Previous to this morning only an occasional early bird of these spring migrants had been observed, but now as I returned homeward I found every bush and fence swarming with birds. As snow had fallen to the depth of some four or five inches, little food could be obtained, and by noon great flocks had gathered in the farmyards, and that afternoon many a kind hand strewed crumbs and seeds upon the snow for these little friends—heralds of warm days and smiling fields.

"How was this wave formed? What brought this throng of birds together? I cannot think that they had wintered within a limited area and begun the movement northward at the same hour. I am inclined to the opinion that such flocks are comparatively small at the start, and increase by attracting similar small companies as they move along. Often, in the early spring, I hear on soft mild evenings, faint bird calls from the sky, which are answered from brush and tree, and these, in my opinion, are the trumpeters who call together the winged armies of the air."