

tions of certain cage bred individuals of native species [including W. E. D. Scott's Baltimore Orioles] are possibly due to malformations resulting from our inability to duplicate the normal diet . . ."

The Eastern Meadowlark at the Trailside Museum, River Forest, Illinois, sings a fair song of the species. My bird has half a dozen good meadowlark songs, but also several others that differ in quality. The "meadowlark" songs of both of these birds came to me as a surprise, because of the experience of Dr. George M. Saunders who raised both Eastern and Western meadowlarks some twenty years ago. He wrote me: "None of my meadowlarks raised in Oklahoma City knew the songs of their species." One raised near a Cardinal (*Richmondia cardinalis*) adopted the latter's song. The song of Scott's Eastern Meadowlark "was quite dissimilar to that of a wild meadowlark" (Science, 19, 1904:957-959). In contrast to Saunders' birds, both of the Illinois meadowlarks in question had ample opportunity to hear Starlings, and one of the commonest imitations in the repertoire of *Sturnus vulgaris* in this region is that of the Eastern Meadowlark's song. My bird had the advantage of a linguistically-gifted tutor and many of the aberrant songs we now hear in our house closely resemble songs heard from this Starling that lived across the street during the first two years of the meadowlark's life. In view of the evidence from Saunders and Scott against inheritance of song in meadowlarks, I believe these two Illinois birds learned their "meadowlark" songs from Starlings.

In some species songs are innate, while in others they have to be acquired; in birds of the latter class the tendency to adopt the species song is present, for they quickly learn it when given the right opportunity. For further discussion see Nice, Transactions of the Linnaean Society of New York, 6, 1943:133-143, and Thorpe, Ibis, 93, 1951:264-266.—MARGARET M. NICE, *Chicago, Illinois, June 6, 1952.*

The Influence of Food Abundance on the Over-wintering of Pine Grosbeaks at College, Alaska.—My observations for two winters, coupled with data from local informants of long residence, indicate that the Pine Grosbeak (*Pinicola enucleator*) regularly over-winters in the vicinity of Fairbanks and College, Alaska, but in highly varying numbers, apparently depending upon the abundance of winter food. Throughout the winter of 1949-50 from October 1 on, grosbeaks were seen frequently in the environs of College. On February 19, a flock of about fifty grosbeaks was discovered feeding on oats in a small field situated on a hill about one-half mile back of the Fairbanks Country Club. I would estimate this field to be about twenty-five or thirty acres in size. The grain had been cut and shocked, but for some reason it was left standing in the field and consequently was more or less exposed above the snow-cover throughout the winter. Also, the shocks were frequently broken into by moose (*Alces gigas*), further exposing the grain for the grosbeaks. On frequent trips to this field throughout the rest of the winter, grosbeaks were nearly always to be found, the numbers usually varying between fifty and one hundred birds. Of two adult females, five adult males, and two immature males collected between February 19 and March 5 on this field, all had crops filled with oats and all were quite fat. It is my belief that most, if not all, of the grosbeaks in the College area that winter were relying principally upon this field for their winter food.

In the winter of 1950-51 no such store of food was available locally, and very few grosbeaks were recorded. Several were heard but not seen near the Chena Pump Station on March 10. Two were seen near Cleary Summit on the Steese Highway on March 25, and that same day Ed Huizer, a graduate student at the University of Alaska, reported a "large" flock along the Eight-mile Ski Trail, which passes through the area where the birds had been so common the previous winter. These birds, however, were probably returning "migrants."

Correspondence from observers watching in the College area during the winter of 1951-52 indicates that there is again a scarcity of grosbeaks with a corresponding lack of local food in the fields, although there was an excellent spruce-cone crop throughout the interior during the preceding summer.

These data strongly support the conclusion that the highly localized abundance of food provided by the oat field in the winter of 1949-50 was responsible for the successful over-wintering of a flock of Pine Grosbeaks probably somewhat in excess of one hundred individuals. D. W. Snow (Ibis, 94, 1952:135) in his recent excellent discussion of the winter avifauna of Arctic Lapland lists the Pine Grosbeak among those species that regularly winter in that region and that are independent of man's presence for so doing. This also holds for the species in interior Alaska, but here, apparently, effects of human occupation can augment the numbers that are able to over-winter successfully.—Tom J. CADE, *Alaska Cooperative Wildlife Research Unit, College, Alaska, May 15, 1952.*