

The year 1936 brought a story of unprecedented disaster to the early flight of Violet-green Swallows. March 22 was a sunny spring day and numbers of these swallows were to be seen skimming over the lowlands. But a northeast wind came that night, and morning found the air filled with snowflakes which soon whitened the ground. It grew still colder and on the 24th there were three inches of snow. The freezing mountain breeze continued for several days, and by the 29th the mercury had reached 23 degrees above zero. On the 30th, as the weather moderated, reports were received of the finding of dead swallows at various points. A friend brought me the bodies of five that he had found in one locality. The birds had sought shelter under the eaves of a building near the foot of Lake Whatcom. There they had remained till starvation impelled them to feeble attempts at flying, which were of brief duration, ending with a fall to the snowy shroud that awaited them. The normal weight of sixteen grams had dwindled to eleven as the end came. I heard reports of many others being found where they had perished at various concentration points. That storm extended throughout a long stretch of the Pacific Coast region and the destruction of these swallows must have had proportions of a major disaster. When another week had passed, our local Violet-greens arrived for the summer, apparently scarcely reduced in numbers.

Bellingham, Washington

THE 1940 NESTING POPULATION AT PLEASANT VALLEY SANCTUARY, LENOX, MASSACHUSETTS

BY GEORGE J. WALLACE

So many comments, both verbal and in print, have been made regarding the shortage of birds following the almost unprecedentedly severe winter of 1939-40, that 1940 nesting records in comparison with those of previous years should lend needed statistical support to more casual observations. Birds of passage are difficult to estimate accurately, especially when migratory flights are coincident, as they were in the spring of 1940, with extremely unfavorable conditions for observations in the field; but records of summer residents kept at one station over a period of years should be a more dependable measure of the changed or changing status of certain forms. Figures for the 1940 nesting season at Pleasant Valley Bird and Wild Flower Sanctuary in Lenox, Massachusetts, compared to those of 1938 and 1939, rather vividly disclose the reduced status of many species—changes

that for the most part, though not without exception, seem logically traceable to the hard winter in the southern states.

Some eight or ten species that nested more or less regularly at the Sanctuary in earlier years were absent in the 1940 breeding season, and at least eleven others showed a marked decline in numbers. There were a few gains, notably among certain warblers, Scarlet Tanagers, and Indigo Buntings, but they hardly began to compensate for the losses that occurred.

For the most part it is evident that species wintering in the southern states were the hardest hit and that those wintering farther south in Central or South America returned to their summer haunts in the usual, or even increased, numbers. Coincident with the shortage assumed to be due to the severe winter in the United States, was an accompanying scarcity among northern insectivorous species whose decline was under way long before the onset of the winter in question. Chickadees, White-breasted Nuthatches, and Downy and Hairy Woodpeckers returned to the Sanctuary feeding stations in the fall of 1939 in greatly reduced numbers, before the climatic ills of the winter had had a chance to operate. Three apparently independent features, then, combined to produce the notably poor bird season in the spring and early summer of 1940: (1) unfavorable conditions for observations in the spring; (2) a decline, presumably cyclic and not related to the winter in question, among northern insectivorous species; and (3) severe winter-killing of birds in the southern states.

Following is an account, systematically arranged, of the breeding birds at the Sanctuary that showed the most significant changes in numbers, for good or bad. Estimates given for the number of breeding pairs are based chiefly on the time-honored but not altogether accurate method of counting singing, territory-holding males, a method here somewhat strengthened by repeated observations throughout the season. In a few cases (Belted Kingfishers, Phoebe, Bluebirds, etc.) the actual nesting sites were known; in the many species represented by a few to a dozen or so pairs, the estimates are probably not far out of the way; but in species represented by 25 or more pairs (Song Sparrow, Catbird, Veery, Ovenbird, etc.) considerable guesswork was involved. The general trends here indicated, however, are believed to be portrayed with reasonable accuracy.

GREEN HERON (*Butorides v. virescens*). With the establishment of a beaver colony at the Sanctuary in 1932 and 1933 the Green Heron became a fairly regular summer visitor, and finally, in 1938, a summer resident. In 1939, young were reared in the vicinity of the beaver swamp, but in 1940 the species was reduced to the status of an occasional visitor.

- SHARP-SHINNED HAWK** (*Accipiter v. velox*). The return of this species to a nesting site on the far ridge in the Sanctuary, after an absence of eight years, was probably a more or less accidental acquisition, not necessarily correlated with Sharp-shin population changes as a whole.
- BROAD-WINGED HAWK** (*Buteo p. platypterus*). The one or two pairs of Broad-wings usually resident in summer either failed to return or moved to a distant nesting site, demoting them to the occasional-visitor class in 1940.
- WOODCOCK** (*Philohela minor*). Many comments have been made relating to the effects of the hard winter on this species, but this was hardly measurable at the Sanctuary which seldom harbors more than one pair in summer. Either the species arrived nearly a month behind schedule or else postponed its vespertine nuptial ceremonies till an unusually late date (April 28 in comparison to March 31 in 1938), but apparently a pair remained in a nearby alder swamp for the summer.
- BLACK-BILLED CUCKOO** (*Coccyzus erythrophthalmus*). The apparent increase of this species by several pairs may be, at least in part, attributable to underestimation in previous years.
- BELTED KINGFISHER** (*Megaceryle a. alcyon*). The kingfishers that reared young in a gravel bank at the Beaver Pond in 1938 and 1939 failed to return in 1940.
- WOODPECKERS** (*Dryobates* sp.). The woodpeckers of this genus illustrate a decline among northern insectivorous species that can in no way be correlated with the hard winter in question. Four Hairy Woodpeckers and six Downy Woodpeckers patronized the cottage feeding stands throughout the winter of 1937-38 and the Downies were further augmented in the spring by the arrival of five or more individuals, but by the fall of 1939 the Hairies had diminished to a solitary male, not found mated in 1940, and the Downies were reduced to several individuals of questionable status.
- PHOEBE** (*Sayornis phoebe*). The five and four nesting sites located in 1938 and 1939, respectively, dwindled to three in 1940.
- ALDER FLYCATCHER** (*Empidonax t. traillii*). This species showed a decline from a probable five pairs in 1938 to three in 1939 to one in 1940. Since it winters in Central and South America, where companion species suffered no apparent winter destruction, this decrease must be attributable to other factors.
- TREE SWALLOW** (*Iridoprocne bicolor*). An almost calamitous reduction took place in the Tree Swallow population, which had increased from a single pair in 1933 to eight or ten nesting pairs in 1938 and 1939. Apparently none of them returned in 1940, for the three pairs that finally appropriated boxes did so in late May and June long after the former years' residents should have returned to lay claim to their previous nesting sites.
- BLACK-CAPPED CHICKADEE** (*Penthestes a. atricapillus*). Detailed studies of wintering chickadees over a three-year period disclosed a decline from about 60 winter residents in 1937-38 to approximately half that number in the winter of 1939-40. Here, as in the case of wintering woodpeckers, the decline was under way long before the onset of the severe 1940 season, though it appears that the rate of reduction was accelerated during the winter, possibly at a time when the cycle should have been recovering from its downward swing.
- WHITE-BREASTED NUTHATCH** (*Sitta carolinensis*). This species, which has been an un-failing winter (if not permanent) resident since 1935, shared the decline of other insectivorous winter birds, decreasing from five individuals in the winter of

1937-38 (their peak period) to a lone male in 1939-40. To date (February, 1941) none have appeared this winter. Mrs. Daniel Robert in New Lebanon Center, nearby, writes that the nuthatches that came to her feeding stands in 1939-40 sickened and died during the winter.

HOUSE WREN (*Troglodytes a. aëdon*). The decline in House Wrens took place in 1939 from about 15 pairs to about 8, with no perceptible change in 1940.

WINTER WREN (*Nannus hiemalis*). Included as a summer resident in 1938 on the basis of a singing bird on Lenox Mountain in June, in 1939 the bird was noted in summer only in a distant ravine just beyond the Sanctuary limits (nest with full grown young on August 31, a singularly late date). In 1940 the wrens were not found at either place.

CATBIRD (*Dumetella carolinensis*). The number of nesting Catbirds was arbitrarily set at about 25 pairs in 1938 and 1939, but though seemingly abundant in 1940, hardly half that number of nesting pairs could be accounted for.

HERMIT THRUSH (*Hylocichla guttata faxoni*). Though said to have suffered a marked reduction elsewhere and obviously scarce in migration, the nesting population at the Sanctuary at least held its ground if not gaining a pair or two. No difference was noted in the abundant Veeries (about 30 pairs) but the Wood Thrush dropped off slightly in both 1939 and 1940.

BLUEBIRD (*Sialia s. sialis*). For the first time since the founding of the Sanctuary in 1929, there were no nesting Bluebirds in the many boxes available. Though, for reasons not yet clear, Bluebirds have never increased to the extent that the available nesting sites would seem to warrant, a few pairs (usually two) have been unailing until the blank summer of 1940.

BLUE-HEADED VIREO (*Vireo s. solitarius*). Summer records for this usually more northern species have been frequent but irregular in the past twelve summers. None remained in 1940 after the comparatively poor and considerably retarded spring migration.

GOLDEN-WINGED WARBLER (*Vermivora chrysoptera*). This warbler has shown a noticeable northward trend and an encouraging increase in recent years. Originally rare in Berkshire County, with no known nesting records, a pair came to the Sanctuary in 1938 and lingered into early June but were not found breeding. In 1939 a pair returned to the same location and in July were found feeding just-fledged young, a discovery made by Donald and Ian Bradburn, Berkshire summer residents from New Orleans. That spring, Golden-wings had been repeatedly observed in five different places on the Sanctuary grounds. In 1940, May migrants were back in full numbers, and one or two, possibly three, pairs remained into the breeding season; but strangely enough a Brewster's Warbler, the first in Berkshire annals, replaced the male Golden-wing on the 1939 nesting site, remaining in full song till mid-June when a male Golden-wing apparently took his place. No Blue-winged Warblers were found to explain the Brewster hybrid.

WARBLERS (*Dendroica* sp.). Except for the Myrtle Warbler which, for the second time in twelve years, was entirely missed in the spring migration, there was no appreciable diminution in Dendroican warblers, and the breeding Blackburnians and Black-throated Blues showed significant numerical gains.

NORTHERN WATER-THRUSH (*Seiurus n. noveboracensis*). This species completely deserted breeding haunts in the beaver swamp which it had occupied for six successive summers, and the Louisiana form (*S. motacilla*), resident along the woodland streams, decreased from two or three pairs to one.

SCARLET TANAGER (*Piranga erythromelas*). The popular impression of a 1940 increase in this species is supported by observations at the Sanctuary. At least seven singing males were summer residents in 1940, an increase of two over the highest previous year.

INDIGO BUNTING (*Passerina cyanea*). The increase noted in 1939 continued its upward swing in 1940, with three singing males (one a second-year bird in partial breeding plumage) in the immediate vicinity of the Sanctuary buildings and one to three others in remoter corners. In both 1939 and 1940 they remained in considerable numbers into early October, whereas there were no fall records during the ten preceding years. A sizable feed patch of mixed grains appeared to influence their later sojourn in 1939 and 1940.

SLATE-COLORED JUNCO (*Junco hyemalis*). The little colony of juncos, resident for several summers on Farviews (the 1800-foot ridge forming the northwest boundary of the Sanctuary), was believed to have disappeared in 1940 because several trips to the summit in May and June failed to disclose them; but on July 21 and again in August the Bradburn boys found one or more there.

WHITE-THROATED SPARROW (*Zonotrichia albicollis*). For eleven successive years (1929-39) the hordes of White-throats that pass through in spring never failed to leave behind from one to three pairs of summer residents, but in 1940 none was found in the nesting season.

SONG SPARROW (*Melospiza m. melodia*). Though the abundance of this species has prevented getting accurate census figures of breeding birds, it seems to have suffered a decline not entirely attributable to losses in the winter of 1940. The number of pairs, set with considerable uncertainty at 40 in 1938, was lowered to 30 in 1939 and to about 20 in 1940. Swamp Sparrows (*M. georgiana*) have shown a similar downward cycle on a much smaller scale.

Obviously not all of these data are indicative of widespread population changes, some being merely local and more or less accidental; but several general trends are disclosed. The most noticeable are the severe reduction among species wintering in the southern states and the earlier decline among northern insectivorous species. Less noticeable, and possibly of no significance, are accompanying losses among swamp-loving birds—Alder Flycatchers, Northern Water-Thrushes, Swamp and Song Sparrows—only part of which (if any) is attributable to the winter of 1940, since the decline was under way a year earlier and since all of the species in question do not winter in the critical areas. Possibly the drought of 1939 had a deleterious drying effect on swamp habitats, causing the would-be 1939 summer population to seek more favorable regions, but this conjecture as yet has no observational backing. Thus several apparently independent downward trends combined to produce the lowest summer resident population during the last three years (1938-40), if indeed not the lowest in the twelve-year period of the Sanctuary's history.

Department of Zoology
Michigan State College
East Lansing, Michigan