

SEVENTY YEARS OF BREEDING BIRDS ON MILTON HILL

by Stewart Sanders, Belmont



VIEW LOOKING SOUTH

You may recognize the sketch above as the vista of green open space we see as we leave Boston, South Boston, and Dorchester on the Southeast Expressway. The "wooded hill" has remained privately owned by several families, who continue to reside in the same old homes along the top of the hill. A few new houses are close to Adams Street at the far side of 75 acres of land. From our highway view we see no houses, only woods.

The Massachusetts Map Down land-use map labels most of the area SH3A, which means mixed hardwood and softwood with the latter predominating. One spot, however, has just hardwood. The average height of the trees is 41 to 60 feet, and there is high density with 81-100% crown closure. There are also four small fields and two orchards. A brook originates in a spring; it flows first through a wet area with a dam that sometimes creates a pond, then down the hill through another wet area to the edge of a marsh at the edge of the Neponset River.

The resident families have watched birds here for generations, and one former resident, Dr. Stanley Cobb, kept records of the birds that sang consistently in the first week of June. He believed that these were breeding birds; species of which there were two or more pairs present he called "common birds", and he concerned himself primarily with these. He repeated his observations and updated his list 40 years later, and in 1945 he published the results in The Auk, Vol. 62, 606-610. In 1973 and 1974 I made a breeding bird survey of the 75 acres using the "mapping method".

This method (sometimes referred to as the "spot-map method", after A. B. Williams, 1936) is also described by George A. Hall in "Breeding-bird Censuses--Why and How", Audubon Field Notes, 1964, Vol. 18, 413-416. A discussion of the inaccuracies of the method is found in The Auk, July, 1975, 452-460, where Louis B. Best showed that four different surveys revealed eight to 12 Field Sparrow territories, whereas 13 were documented through the use of color bands, tail painting, and 133 visits.

After obtaining maps of my area from resident Dr. William Forbes and the Milton Town Hall, I divided the 75 acres into five parts and traced five stencils. Thus, each work sheet or "field map" covered 15 acres; incidentally, 20 acres is ideal size for woodland surveys. Then I added to the stencils a grid of one-acre squares and drew in at least one landmark in each square. Finally, copies of each map were made so that a fresh one could be used for each field trip.

I selected brief abbreviations for each species, which were plotted on the maps at the approximate position any bird was seen or heard. CHBC stood for Black-capped Chickadee; SPSO, for Song Sparrow; R, American Robin--as employed in the following examples. Different symbols were used for each of the following: singing male, CHBC ("In some species, females regularly sing, while in others they do so sporadically," wrote Margaret Morse Nice in her Studies in the Life History of the Song Sparrow, Vol. 2, 127). She lists species in each group on page 130: bird seen or heard chirping but not singing, SPSO; male, R♂ or female, R♀; birds carrying nesting material, MAT; carrying food, ~; aggressive behavior, R↗, with an arrow to show the movement of one or both birds upon breaking up; alarm call, CHBC; two males singing simultaneously, SPSO--SPSO; bird seen to take up a new position, CHBC----CHBC; nest location, R\*; recently fledged young, FL.

After a number of census trips, I transposed the field data onto separate sheets for each species. By using a different color for each trip, I could see at one time all records for a given species. Clusters of data, especially concerning birds singing simultaneously, outlined the approximate territories within which each singing male was noted.

**BEFORE 1903.** For earliest records, I find interesting the notes of Thomas Morton, who lived in colonial times at Merrymount in Wollaston. His writings are at the Boston Public Library. They seem reliable, although he celebrated life with maypole dances, alcoholic beverages, and was deported twice (unsuccessfully). In those days there were Turkeys, Heath Hens, and Passenger Pigeons in the area. In the 19th century the House Sparrow was introduced, and its population boomed with the urban use of horses prior to 1903.

**BETWEEN 1903 and 1943.** The House Sparrow declined, Starlings arrived; Rufous-sided Towhees moved in from the Blue Hills; Ring-necked Pheasants arrived; Eastern Bluebirds, Eastern Kingbirds, Least Flycatchers, and all the warblers except Common Yellowthroats discontinued nesting; the House Wren appeared on the list; nesting Chipping Sparrows were fewer. Song Sparrows, American Goldfinches, Red-eyed Vireos, and Chimney Swifts stayed the same.

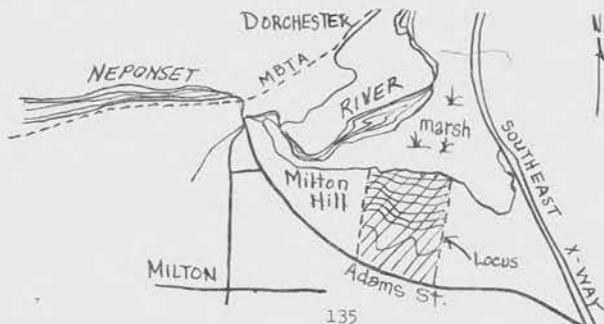
**BETWEEN 1944 and 1973.** The Cardinal and Tufted Titmouse arrived; Eastern Kingbirds came back; the Chimney Swifts declined; Barn Swallows nested in a big garage until the owner sealed up the openings; House Wrens declined; Chipping Sparrows continued to decline; the Red-eyed Vireos stopped nesting; Pheasants and Gray Catbirds increased. Common Crows, Rufous-sided Towhees, and Northern Orioles remained constant.

**THROUGHOUT THE 70 YEARS.** The number of nesting Song Sparrows remained the same; American Robins, Blue Jays, Black-capped Chickadees, Bobwhites, Eastern Phoebes, Great Crested Flycatchers, Wood Thrushes, Common Yellowthroats, Indigo Buntings, and Common Flickers remained nearly steady.

On June 8, 1902, Dr. Cobb found the nest and eggs of the Black-throated Green Warbler. I found nests as follows: Hairy Woodpecker, Cardinal, Gray Catbird, Starling, House Wren, House Sparrow, and American Robin; I found family parties of Tufted Titmouse, House Finch, Black-capped Chickadee, White-breasted Nuthatch, Common Crow, Ring-necked Pheasant, Downy Woodpecker, Rufous-sided Towhee, Blue Jay, Gray Catbird, and American Robin. In 1973-74 Brown-headed Cowbirds and Common Grackles used the area for breeding as did some chickens! Redwinged Blackbirds, Mourning Doves, Rock Doves, Barn Swallows, American Goldfinches, Purple Finches and Mockingbirds all nested nearby; Mallards, American Kestrels, Tree Swallows, Screech Owls, and Great Horned Owls visited the area during their breeding seasons.

Much housing construction took place in Dorchester, across the Neponset River, between the Civil War and the end of the 19th century. During that period, that area changed from truck gardens to densely developed neighborhoods. In the 1940's and 1950's Milton changed from country estates to a suburb. That included dividing up part of Milton Hill, just west of the study area, and cutting it off from Hutchinson Field. Also during this period the Southeast Expressway was built across the Neponset River Marshes and insect spraying became common practice.

In the last 10 years Logan Airport has expanded, and when the wind is northerly every few minutes the roar of a jet airplane blocks out all sounds of birds on the hill. A bank built a large structure on the Neponset estuary, and river pollution continues. The 75 acres, however, remain an oasis in a desert of development, a sample of forest and old fields, where 70 years ago were pastures and woodland of smaller trees. They provide a welcomed view of woodland on leaving the city and remain the breeding habitat of a wonderful community of birds.



PAIRS OR TERRITORIES IN ORDER OF 1943-44 FREQUENCY

Species	1903-04	1943-44	1973-74
American Robin	6	6	5
Chimney Swift	5	5	1
Gray Catbird	4	5	6
Song Sparrow	5	5	5
Blue Jay	4	4	3
Red-eyed Vireo	4	4	0
Rufous-sided Towhee	1	4	2
Chipping Sparrow	6	4	1
Common Crow	5	3	2
Black-capped Chickadee	3	3	4
House Wren	0	3	1
Starling	0	3	7
Bobwhite	1	2	1
Ring-necked Pheasant	0	2	3
Great Crested Flycatcher	2	2	1
Eastern Phoebe	2	2	1
Wood Thrush	2	2	1
Ovenbird	3	2	0
Common Yellowthroat	3	2	2
House Sparrow	10	2	2
Northern Oriole	4	2	2
Indigo Bunting	1	2	2
American Goldfinch	2	2	0
Common Flicker	2	1	1
Eastern Kingbird	3	0	2
Least Flycatcher	2	0	0
Tufted Titmouse	0	0	1
Eastern Bluebird	3	0	0
Black-and-white Warbler	2	0	0
Yellow Warbler	4	0	0
Black-throated Green Warbler	4	0	0
Chestnut-sided Warbler	2	0	0
American Redstart	4	0	0
Cardinal	0	0	4

APPENDIX  
PESTICIDE PROGRAMS, MILTON, MA.

Years	Treatment	Objective
1903-4	large sewers put in	mosquito control
1930's and '40's	marsh drainage with ditches	mosquitoes
	arsenate of lead	elm tree pests
1930's to 1956	probably nicotine sulphate	
1930's to present	Bordeaux mixture, (copper sulphate) fungicide	Horse Chestnut and Sycamore blight
1947-48 to about 1965	DDT	gypsy moth, aphids, elm leaf beetles, and canker worms
1956 to about 1965	DDT	mosquito (Eastern Equine Encephalitis)
1965	Sevin	gypsy moth, elm leaf beetle
	Malathion	aphids, canker worms
	larvacide	mosquitoes
	cleaned culverts, treated catch basins	mosquitoes
	maintained drainage ditches	mosquitoes
1969	opened dredge brims for water circulation on the marsh	
1968-73	Malathion	adult mosquitoes
	Flit MLO, mineral oil in catch basins	adult mosquitoes
1967-74	Abate 4-E larvicide (organic phosphate)	mosquito larvae

STEEL SHOT: A RESPONSE TO LEAD POISONING

Steel shot will be required for hunting of ducks, geese, and coots with 12 guage shotguns in portions of nine Atlantic seaboard states this fall, according to the Interior Department's U.S. Fish and Wildlife Service. Next year, steel will be required for 16, 20, 28 and 410 guages as well.

The purpose of setting up steel shot zones is to prevent further exposure of waterfowl to lead poisoning from high annual deposits of lead shot.

Coastal Essex County in Massachusetts will have steel shot zones this year because its harvest rate is 25 or more ducks per square mile each year, and it produces a total annual yield of 12,000 ducks. Such a harvest drops more than 3 tons of lead shot into its waterfowl habitats.

The program next year will be expanded to cover areas worst hit by lead poisoning in the Atlantic and Mississippi Flyways.