

15 Oct. — 9-10 a. m.—A few small swirls consisting of less than 50 Broadwings. 3:30-5:00 p. m. — Observed large strings of hawks migrating to the SE, estimated numbers greater than 1000. Also about 1000 Kites very high mixed with a few unidentified Buteos. Kites are either Mississippi (*Ictinia mississippiensis*) or Plumbeous (*I. plumbea*).

17 Oct. — 50-60 Broadwings at 10 a. m. in small groups of 7-10.

17 Oct. — Observed thousands of migrating Black and Turkey Vultures with a few Buteos mixed in, all migrating across Almirante Bay to the SE.

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Arrested molt in a Blackpoll Warbler.—On September 30, 1965, a Blackpoll Warbler (*Dendroica striata*) in unusual plumage was banded (No. 104-72499) and released at Round Hill, Sudbury, Middlesex County, Massachusetts. The bird's skull was completely ossified and its wing measured 75.5 mm. (chord). It weighed 14.7 gms., an indication that it was healthy at the time of capture. It was in slightly worn adult male breeding plumage, except for three small areas where the postnuptial molt had occurred: bilaterally, just under the eyes, and in the mid-dorsal region. Here the feathers were the typical greenish color of the fall plumage. Inspection of the feather tracts showed no evidence of further molt.

In a search of the recent literature, we found only one similar record. Griscom reported "an adult male (Blackpoll Warbler) in full breeding plumage, but very worn and dirty" from Cambridge, Massachusetts on December 5, 1946 (Griscom and Snyder, *The Birds of Massachusetts*, 1955: 203). Deborah V. Howard, 34 Fairfax Street, West Newton, Massachusetts 02165 and D. Dickinson Henry, Jr., 38 Pinehurst Road, Belmont, Massachusetts 02178.

Construction of a "beta-confinement" bird enclosure.—The terminology "beta-confinement" was originated by R. A. Norris in his paper about Savannah sparrows (1960. *Bird-Banding* 31: 173-216) for a large, seminatural enclosure. Research of bird feeding on apples at this station indicated the necessity of examining an individual species, isolated and independent of many extraneous factors. A search of ornithological and wildlife literature relating to the confinement of species in a semi-natural state was for the most part negative. Those found in addition to that cited above were as follows: (1) Marsden, H. M. and C. H. Conway. 1963. Behavior and the reproductive cycle in the cottontail. *Journal of Wildlife Management* 27: 161-170. (2) Serventy, D. L., D. S. Farner, C. A. Nichols and N. S. Stewart. 1962. Trapping and maintaining shore birds in captivity. *Bird-Banding* 33: 123-130.

Several abstracts were noted but these described only "alpha-confinement" situations, as might be stated for (2) above. Certainly this is not a complete review and perhaps it only scratches the surface. Also, it must be confessed that the author is not an ornithologist nor a zoologist. However, it was heartening to read



Fig. 1. View of the bird enclosure from a distance of 200 feet. The cage dimensions were 80' x 60' x 20' high.

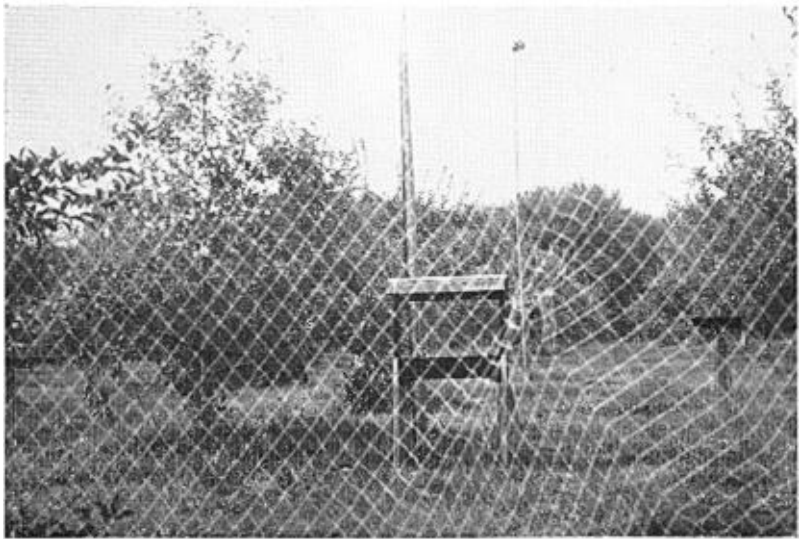


Fig. 2. View of the enclosure from an adjacent blind showing the tension and distribution of the #2 - 2'' mesh (1'' bar mesh) nylon netting used. The netting had been chromate treated and was dyed yellow. The uneven distribution shown to the right of center was caused by repairing a small hole in the net made during construction of the blind.

TABLE 1. COSTS INVOLVED IN THE CONSTRUCTION OF AN 80' x 60' x 20' HIGH ENCLOSURE FOR THE "BETA-CONFINEMENT" OF BLUE JAYS IN AN APPLE ORCHARD

Item	Percent of total cost
<i>Materials</i>	
Nylon netting (#2 gauge 1" bar mesh)*	14.0
Poles—9' with 4" min. dia. at top	3.5
20' metal extensions for poles	10.0
Feeders (2 of them hooded for food protection)	1.5
Waterping pans (2)	0.4
Plastic and poles for observation blind	0.6
Materials Total	30.0
<i>Labor</i>	
Setting poles (includes placing guywires, etc.)	8.0
Threading of netting (prior to placing over structure)	10.0
Placement of netting over the structure	30.0
Sewing of netting after in place over the structure	12.0
Labor Total	60.0
<i>Equipment</i>	
Tractor (5.5 days)	7.5
Hydraulic lift	2.0
Post hole digger	0.5
Equipment Total	10.0

*A smaller mesh size would be required for some of the smaller birds but it would increase the cost. For example, a 1/2" bar mesh for sparrows would approximately double the cost.

the statement made by J. T. Emlen that the published information on birds "has become so large that no one can pretend to know it; —" thus, specialization is a necessity (1964. Report of Research Committee for 1962-63. *Auk* 81: 426-427).

An enclosure, 80' x 60' x 20' high, was constructed over 12 apple trees at a cost of \$1000.00 for materials, equipment and labor, Figure 1. All costs were converted to percentage figures for the data shown in Table 1. Labor was based on an hourly scale of \$2.50. The use of several pieces of equipment (a tractor and accessories, such as an hydraulic lift and post hole digger) were estimated at a rental fee of \$100.00.

As is evident in the table, more than 50% of the costs involved the procedures of threading, placement and sewing of the netting over the structure. The above figure does not include about six man-days used in attempts to place the net over the structure without first threading it on a guide wire. The netting was 18' wide (the widest size manufactured) and without first threading each side on a guide wire, prior to transferring it to the wires used for the cage, it was impossible to obtain a satisfactory tension which permitted an even distribution as shown in Figure 2.

Five Blue Jays (*Cyanocitta cristata*) were originally placed in the enclosure but two died within 48 hours as a result of their plastic identification leg tag becoming entangled in the nylon net. Although alive and apparently unharmed when released, within an hour of becoming entangled, each was found dead less than 12 hours later. The other three were maintained in the enclosure for more than six weeks before the study was discontinued. There did not appear to be any reason they could not have been held indefinitely.—Lloyd A. Mitterling, Assistant Professor of Pomology, University of Connecticut, Storrs, Conn.