TELEVISION TOWER MORTALITY IN THE NIAGARA FRONTIER DURING FALL, 1962

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The ornithological history of the Niagara Frontier region has been strangely devoid of instances of avian mortality at radio and television towers in the past. Although the bird mortality at such towers has been much publicized since about 1957, there has never been a documented kill of this kind in this area. Some systematic checking of television towers has been carried out in the past but one must infer that it was lack of coverage rather than lack of incidents that produced the negative results.

On three dates during the fall of 1962, September 27, 29, and October 7, sufficient numbers of birds were picked up under one tower to make the instances worthy of mention. The WKBW-TV tower, Town of Colden, Erie County, New York measures 1076 feet in height and is situated atop a hill at 1720 feet above sea level, giving the tower a total height above sea level of 2796 feet (2224 feet above the level of nearby Lake Erie). This is by far the tallest tower in the area and accordingly produced 95.6% of the total kill, with scattered birds being found at other nearby towers. The WKBW-TV tower is guyed by three sets of cables consisting of three cables each which are attached at three heights up the tower. Birds were picked up consistently under these wires at considerable distances from the tower itself.

It is reasonable to assume that there are two necessary conditions involved in these tower kills: 1) there must be considerable nocturnal migration, and 2) weather conditions must be such that they would force migrants to fly at a lower than normal altitude and reduce visibility to the extent that the structures and supporting guy wires are rendered invisible to birds that would otherwise see them.

On the three nights during which kills occurred both these conditions were much in evidence. The night of September 26-27 produced the largest movement of the fall. Heavy flights of thrushes and other passerines were reported at several localities in Western New York and adjacent Ontario. The weather was marked by a flow of cool Pacific air directly preceeding and following a low pressure system. Locally this produced a very low ceiling, heavy rain and dense fog, particularly at higher elevations. This weather was held over the Niagara Frontier by an intense storm center over Virginia and thus remained in this area until September 29. The night of October 6-7 again saw a general low pressure system and a flow of cold air from Hudson Bay. In addition the air was moist, producing some local fog but no precipitation.

Weather conditions involved with most kills on record correspond closely with those described here. All kills in the Ontario-Western New York Region of *Audubon Field Notes* during the past three years for which there is weather data have occurred in the wake of a frontal system (usually a cold front) and most were accompanied by poor visibility due to fog and/or precipitation. The same situation was reported by Newman and Andrle: "As on previous occasions, the heaviest pick-ups were made after

the arrival of the cold air . . . " Newman and Lancaster add, "approximately 98% of the fatalities took place on cloudy or overcast nights, most typically with the ceiling between 2,000 and 3,500 feet and with a cold or stationary front present within 24 hours of the incident." Further evidence that conditions were sufficient for a kill comes from Long Point, Agincourt and Barre, Ontario, where large numbers of birds were picked up on September 27. The casualties on September 27-28 were again paralleled by Long Point, Ontario and those of October 6-7 by Agincourt, Ontario. Figure 1 shows a comparison of the relative abundance of the five most numerous species in the kills of September 26-27. It can be seen that certain species, e.g. Swainson's Thrush, Ovenbird, and Red-eyed Vireo ranked high in all of the kills. It may well be that with larger sampling a greater degree of consistency and accuracy will be found.

Town of Colden Erie Co., New York		Long Point Ontario	
1. Swainson's Thrush	39.9%	Swainson's Thrush	11.4%
2. Ovenbird	6.6	Gray-ch. Thrush	9.9
3. Red-eyed Vireo	4.8	Ovenbird	9.6
4. Rose-br. Grosbeak	4.8	Red-eyed Vireo	5.8
5. Gray-ch. Thrush	4.2	Magnolia Warbler	5.8
Total species	43		39
Total individuals	682		1713

Agincourt, Ontario		Barre, Ontario	
1. Ovenbird	12.6%	Ovenbird	18.5%
2. Bay-br. Warbler	9.9	Yellowthroat	9.7
3. Red-eyed Vireo	8.5	Bay-br. Warbler	7.9
4. Blackpoll Warbler	8.3	Swainson's Thrush	7.8
5. Black-thr. Blue Warbler	8.2	Red-eyed Vireo	5.2
Total species	36		26
Total individuals	421		113

Figure 1. Five most abundant species in the four kills on September 26-27 ,1962.

Certain observations can be made from the complete list of birds collected which follows. It is immediately obvious that such a random sampling provides a much clearer picture of the abundance and migration period of some species than field work has been able to do. Such species as Black-throated Blue Warbler, Hooded Warbler, and Philadelphia Vireo seem to be more numerous than sight records for this area indicate. Also as a result of this kill new late departure dates for Veery and Mourning Warbler were obtained.

It is apparent from data collected here and elsewhere that some species and groups of birds are more susceptible to television towers than others. The much mentioned fact that shorebirds are generally absent from these kills is also documented here. This fact seems logically attributed to

superior eyesight. Also absent from these kills are the weak-, low-flying species such as the Rallids. These birds, decidedly nocturnal in habit, could also survive because of a superior ability to discern objects at night. It was noted that some species and families seem to have a greater survival rate after striking the tower. For example, the number of downed but alive Vireonids was much larger proportionally than that of Parulids. Rose-breasted Grosbeaks were frequently picked up in a stunned or otherwise wounded condition but still alive and active while very few Hylocichlids and no Scarlet Tanagers were found in this way.

As has been the case in other areas, some birds generally thought of as diurnal migrants were found after a nocturnal kill. Consider in this respect the Yellow-shafted Flicker, Robin and Starling. Whether these birds actually struck the tower during nocturnal migration, were disturbed during their roosting period or were migrating during the early hours of dawn remains to be seen.

The documentation of such migration casualties in future seasons may greatly increase the knowledge of the occurrence of many migrants in this and other areas as well as the general concept of avian migration. Data obtained from such a random cross section would be an adjunct to our knowledge of migration obtained by active field observations.

Species	Totals	Sept. 27	Sept. 29	Oct. 7
Swainson's Thrush	279	82	173	24
Ovenbird	45	22	18	5
Unident. Thrushes*	34	34	—	—
Red-eyed Vireo	33	11	16	6
Rose-br. Grosbeak	33	14	19	—
Gray-ch. Thrush	29	—	29	—
Blackpoll Warbler	24	7	16	1
Bay-br. Warbler	23	9	13	1
Bl.-th. Blue Warbler	22	9	10	3
Scarlet Tanager	22	5	17	—
Catbird	19	4	11	4
Yellowthroat	17	6	10	1
Wood Thrush	15	8	6	1
Magnolia Warbler	12	3	9	—
Philadelphia Vireo	9	2	6	1
Tennessee Warbler	8	6	2	—
Chestnut-s. Warbler	8	5	3	—
Bl.-th. Green Warbler	7	4	2	1
Bl. & Wh. Warbler	5	2	3	—
Cape May Warbler	5	2	1	2
Amer. Redstart	3	2	1	—
Veery	2	—	2	—
Solitary Vireo	2	2	—	—
Blackburnian Warbler	2	1	1	—
Northern Waterthrush	2	1	1	—
Mourning Warbler	2	1	—	1

Hooded Warbler	2	—	1	1
White-th. Sparrow	2	—	2	—
Song Sparrow	2	—	1	1
Yel.-b. Cuckoo	1	—	—	1
Yel.-sh. Flicker	1	—	1	—
Yel.-bel. Sapsucker	1	—	1	—
Brown Creeper	1	—	1	—
Robin	1	—	—	1
Golden-cr. Kinglet	1	—	1	—
Ruby-cr. Kinglet	1	—	1	—
Starling	1	—	—	1
Nashville Warbler	1	—	1	—
Parula Warbler	1	—	1	—
Connecticut Warbler	1	—	—	1
Wilson's Warbler	1	—	1	—
Unident. Warbler**	1	1	—	—
Lincoln's Sparrow	1	1	—	—
Total 43 species	682	244	381	57

Figure 2. Species and individuals involved in kills at WKBW-TV tower, Town of Colden, Erie County, N. Y., September 27, 29 and October 7, 1962. (*—The unidentified thrushes were either immature Swainson's Thrushes or Gray-cheeked Thrushes. **—Bird dead for longer than 24 hours.)

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LITERATURE CITED

Newman, Robert J. and Robert F. Andrle, *Audubon Field Notes,* Vol. 15, No. 1, pp 78-9.

Newman, Robert J. and Douglas A. Lancaster, *Audubon Field Notes,* Vol. 14, No. 1, pp. 8.

Woodford, James
Audubon Field Notes, Vol. 17, No. 1, pp. 28-9.