

TV TOWER KILLS IN EASTERN NORTH CAROLINA: 1973 THROUGH 1977

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This paper discusses the results of a continuing study on avian mortality at two television transmission towers in southeastern North Carolina. The towers are the WECT TV tower in Bladen County and the WWAY TV tower in Brunswick County. Results from the autumns of 1971 and 1972 were given in an earlier paper (Carter and Parnell 1976). During the present study period, the autumns of 1973 through 1977 three large kills occurred at WECT, while no large kills were recorded at WWAY. The largest kill totaled over 3200 individuals, and several unusual species were found.

Descriptions of the study areas and the towers' histories were included in our earlier paper (Carter and Parnell 1976). The towers were checked irregularly during September and October from 1973 through 1977. No effort was made to visit the towers during the spring. The majority of the fall checks were made at WECT, because past experience indicated that the heaviest mortality was to be expected there. WWAY was checked very infrequently, and it is difficult to draw any conclusions, except that our visits revealed no evidence of significant mortality. Small kills were undoubtedly overlooked at both towers, and there is the possibility that large kills were missed.

RESULTS AND DISCUSSION

Three large kills were recorded at WECT, and data from these kills are presented in Table 1. The first large kill occurred on the night of 30 September-1 October 1973, and over 660 birds were picked up on 2 and 4 October. Due to a delay in discovery and recovery, many birds were lost to predators. This kill contained the first Green Heron, Least Bittern, Black Rail, Belted Kingfisher, and Prothonotary Warbler records for these towers. The kingfisher has been very rare in other tower mortality studies in the Southeast (two in Stoddard and Norris 1967 and in Buskirk 1967). The Virginia Rail was only the second kill record for these towers. The three Swainson's Warblers represent the first record for this species at WECT. Other unusual species were the Traill's Flycatcher (1), Short-billed Marsh Wren (1), and Worm-eating Warbler (1). The most abundant species were Common Yellowthroat, American Redstart, Gray Catbird, Red-eyed Vireo, Ovenbird, and Black-and-white Warbler. Two large piles of feathers from one or two Great Horned Owls were found. We are not, however, sure that this represented tower-induced mortality.

On the night of 4-5 September 1974, a tremendous kill occurred at WECT. Several people assisted in picking up over 3200 birds on 6 and 7 September. This is a very conservative total. Many birds fell in shrub bogs and dense vegetation where recovery was impossible. Other birds fell long distances from the tower. The ground around the tower was carpeted with dead birds, and one area that had been searched by two people yielded another 500 birds when checked a second time. We believe that the number of birds taken by predators and lost in vegetation may have nearly equaled the number found. This was the largest kill discovered since we began monitoring the towers in 1970. New species found in this kill were Eastern Kingbird, Brewster's Warbler, Cerulean Warbler, Louisiana Waterthrush, Canada Warbler, and Orchard Oriole. Most abundant were the American Redstart, Ovenbird, Red-eyed Vireo, Black-and-white Warbler, Common Yellowthroat, Northern Waterthrush, and Prothonotary Warbler. Only one Prothonotary Warbler had been recorded previously in our study. There are only three records for the Clapper Rail in tower kills (all single individuals; Browne and Post 1972, Taylor and Anderson 1973, Carter and Parnell 1976), but this kill yielded 15 individuals at WECT, which is 42 miles inland. The third Virginia Rail and second Black Rail for this study were recorded. The 11 Swainson's Warblers (four previous individuals), 85 Worm-eating Warblers (seven previous individuals), 7 Golden-winged Warblers (one previous individual), and 29 Blue-winged Warblers (one previous individual) were all noteworthy. This trend applies to

TABLE 1. Species and individuals found at three large kills at the WECT TV tower in Bladen County, N.C.

Species	Numbers of Individuals		
	30 Sept. and 1 Oct. 1973	4 and 5 Sept. 1974	27 and 28 Oct. 1975
Green Heron	1	—	—
Least Bittern	1	—	—
Clapper Rail	—	15	—
Virginia Rail	1	1	—
Sora	—	4	—
Black Rail	1	1	—
Belted Kingfisher	1	—	—
Eastern Kingbird	—	4	—
Acadian Flycatcher	3	1	—
Trail's Flycatcher	1	—	—
<i>empidonax</i> sp.	1	—	—
Brown Creeper	—	—	1
House Wren	6	—	7
Winter Wren	—	—	9
Long-billed Marsh Wren	3	1	1
Short-billed Marsh Wren	1	—	—
Gray Catbird	93	—	3
Brown Thrasher	7	—	—
Wood Thrush	2	1	—
Hermit Thrush	—	—	11
Swainson's Thrush	5	1	—
Gray-cheeked Thrush	3	—	—
Veery	6	83	—
thrush sp.	3	—	—
Golden-crowned Kinglet	—	—	9
Ruby-crowned Kinglet	—	—	23
White-eyed Vireo	6	5	—
Solitary Vireo	—	—	2
Red-eyed Vireo	74	478	—
Black-and-white Warbler	49	385	—
Prothonotary Warbler	1	109	—
Swainson's Warbler	3	11	—
Worm-eating Warbler	1	85	—
Golden-winged Warbler	—	7	—
Blue-winged Warbler	—	29	—
Brewster's Warbler	—	1	—
Tennessee Warbler	—	3 ^o	—
Northern Parula	9	33	1
Yellow Warbler	1	21	—
Magnolia Warbler	2	3	1
Cape May Warbler	11	30	—
Black-throated Blue Warbler	24	5	1
Yellow-rumped Warbler	—	—	106
Cerulean Warbler	—	5	—
Yellow-throated Warbler	—	7	—
Chestnut-sided Warbler	—	2	—
Blackpoll Warbler	1	1 ^o	—
Pine Warbler	1	—	—
Prairie Warbler	—	68	—
Ovenbird	53	541	3

TABLE 1, continued

Species	Numbers of Individuals		
	30 Sept. and 1 Oct. 1973	4 and 5 Sept. 1974	27 and 28 Oct. 1975
Northern Waterthrush	8	174	—
Louisiana Waterthrush	—	5	—
Kentucky Warbler	—	28	—
Common Yellowthroat	130	321	12
Yellow-breasted Chat	3	22	1
Hooded Warbler	4	31	—
Canada Warbler	—	8	—
American Redstart	114	670	—
warbler sp.	—	6	—
Bobolink	5	5	—
Orchard Oriole	—	1	—
Northern Oriole	—	18	—
Rose-breasted Grosbeak	1	—	—
Indigo Bunting	2	—	—
Rufous-sided Towhee	—	—	3
Savannah Sparrow	2	—	1
White-throated Sparrow	—	—	1
Swamp Sparrow	—	—	5
Song Sparrow	—	—	5
bird sp. (feathers only)	16+	10+	100+
Total Species	39	41	21
		+1 hybrid	
Total Individuals	660+	3240+	306+

*Identification tentative.

several other species. For instance, our earlier studies yielded only two Kentucky Warblers, but this kill yielded 28. A banded Worm-eating Warbler was recovered. It was banded on 29 April 1972 at Pocomoke, Maryland, and was the second band recovery during the study.

This was the earliest major kill that we have recorded and this undoubtedly contributed to the high individual counts of some early migrant species (e.g. Prothonotary Warbler, Northern Waterthrush, Veery). Later migrants, such as Wood Thrush and Black-throated Blue Warbler, were recorded in low numbers, and the Gray Catbird was missed completely.

The third major kill occurred at WECT on the night of 27-28 October 1975, and over 300 birds were picked up on 29 October. Again many birds were lost to predators. The Yellow-rumped Warbler was the most common species killed, as is typical of late October kills. A single Brown Creeper was only the second record for this study. Several unusually late warblers were recorded: Northern Parula, Magnolia, Black-throated Blue, Ovenbird, and Yellow-breasted Chat.

No major kills were recorded in 1976 or 1977.

Unfortunately, we have little information on the weather associated with these kills. The early September 1974 kill was associated with the passage of a strong early cold front as Hurricane Carmen approached the Gulf Coast, and the others were believed to be connected with the passage of cold fronts. Crawford (1974) presents an excellent summary of the weather factor.

The total of birds found at WECT and WWAY during 1971 and 1972 was 3070 individuals (Carter and Parnell 1976). The three kills at WECT during the 1973-1977 period exceeded 4208 individuals. The 1971 and 1972 data included records of 84 species, while

only 65 species and one hybrid were recorded in the 1973-1977 period. It should be noted, however, that the towers were checked very regularly during 1971 and 1972, and only sporadically from 1973 through 1977. The eight most common species in our 1971 and 1972 data were Common Yellowthroat, Black-throated Blue Warbler, Ovenbird, Yellow-rumped Warbler, Gray Catbird, Red-eyed Vireo, American Redstart, and Black-and-white Warbler, in that order. The 1973 through 1977 totals were led by the American Redstart, Ovenbird, Red-eyed Vireo, Common Yellowthroat, Black-and-white Warbler, Northern Waterthrush, Prothonotary Warbler, and Yellow-rumped Warbler. To date (1971 through 1977) the five most common species from all kills have been Common Yellowthroat (1023), American Redstart (925), Ovenbird (865), Red-eyed Vireo (701), and Black-and-white Warbler (549).

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