SUMMER FOOD HABITS OF THE CROW

by

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Introduction

Crows (Corvus brachyrhynchos) have been cussed and discussed by farmers and biologists alike for many years. But for all the research, we still find that much of the life history of this elusive bird remains a mystery. One exception to this lack of information may be the food habits of the crow.

Various authors have noted the adaptability of the crow in changing his food habits with the changing season. Bent (1946) noted "that isolated observations may be very misleading unless the food habits are considered from the standpoint of the entire population through all seasons of the year." However, since comprehensive studies of this bird are difficult, any report of foods eaten by crows may be worthwhile, especially when the bird's food habits are as controversial as that of the crow.

Methods

This study was carried out as a senior college research project under the guidance of the junior author. Forty-four birds were collected (shot) from April 27 to September 4, 1972 along Route 16, south of Grantsville in Calhoun County, West Virginia. The area consisted of small farms, some of which were abandoned, with small acreages of hardwoods. Birds were collected (in the morning) during the first three hours of daylight.

Results and Discussion

A complete list of all materials found in the stomachs is given in Table 1. As can be seen, the summer diet of a crow covers most everything, from carrion to insects to cattle manure.

Based on the literature this isn't too surprising. Kalmbach (1939) noted that "about 28 percent of the yearly food of the adult crow is animal matter consisting of insects, spiders, millipedes, crustaceans, snails, reptile remains, amphibians, wild birds and their eggs, small mammals and carrion." Bent (1946) felt that the

insect diet of crows was "one of the strongest points in its favor."

Bent (1946) and Neff and Wilson (1941) noted crows responding to local insect outbreaks. Thus, the presence of Japanese Beetles (Popillia japonica) in the stomachs, beginning on July 13 (see Table 1), should not come as too much of a surprise. From July 13 to August 29, 19 of 27 crow stomachs contained Japanese Beetles, 6 of 37 contained June Bugs (Cotinis nitida) and 7 of 37 contained grasshoppers. The fact that 36 of 44 birds had eaten some insects spells positive for the economic status of the crow.

But, he does consume grain, fruit and berries. Only four of 44 birds consumed corn, but seven consumed apples, one ate plums, one grapes, and two berries. Kalmbach (1920) found over 61 percent of 1340 adult crows collected in every month had fed on corn.

Carrion consumption included beef, woodchuck (Marmota monax) and opossum (Didelphis marsupialis).

Although Henry (1969) reported crows as a predator on the eggs of ground nesting birds, we found little to support this, except for two birds collected on June 16.

It appears that the crow is opportunistic, and within certain limits, will eat what is available. Since West Virginia is not agriculturally oriented, the crow's diet leans toward insects, small seeds, and carrion. In waterfowl areas, the crow has been a problem on eggs. Here again, West Virginia has a relatively small breeding population of waterfowl, and we found only one stomach with egg shells.

Our report, and most food habit studies, does not show what is preferred food for the crow. Even if the crow consumes a large amount of an item or if the percent occurrence in stomachs is high, that still isn't proof that the item is a preferred crow food. Preference is determined in wildlife the same as in people, i.e. what is in the stomach compared to what is available. For examples, we would judge Japanese Beetles to be preferred if they were available in low numbers but found in every crow stomach. This would mean that the crow actively sought out the beetles as food item. From a simple stomach analysis we don't know this to be true. But we do know that crows consumed Japanese Beetles, and many other insects.

Literature Cited

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Table 1. A list of food items found in the stomachs of 44 crows from June to September. N.I. = Not Identified

Date Killed	Stomach Content
April 27	opossum hair, insect remains (N.I.)
June 16	brown feathers (N.I.), few insects (N.I.)
June 16	pieces of egg shell, other material (N.I.) weed seeds (N.I.), and insects (N.I.)
June 16	insects (N.I.)
July 13	6-8 Japanese Bettles, 3 grasshoppers
July 13	blackberries, few Japanese Beetles
July 13	3 June Bugs
July 24	small amount of corn
July 24	3-4 Japanese Beetles, 1 June Bug

July 24	4 Japanese Beetles, 1 grasshopper
July 24	small amount of corn
July 24	weed seeds, pieces of apple, 1 seed, 2-3 Japanese Beetles, 1 grasshopper
July 24	1 Japanese Beetle
July 28	Japanese Beetles (2-3)
August 8	6 wheat seeds, 3 small rocks, 1 Japanese Beetle
August 8	5 wheat seeds, 2 rocks, 1 black bug
August 12	small crow feather, various small seeds, insect remains
August 14	3 grasshoppers, 1 Japanese Beetle
August 14	2 Japanese Beetles
August 16	pieces of apple, 2 apple seeds
August 16	pieces of apple, 1 Japanese Beetle
August 16	pieces of apple
August 16	pieces of apple, 2 grasshoppers
August 21	cattle (dead steer) carrion, numerous small insects (gnats, etc.)
August 21	cattle (dead steer) carrion, numerous small insects (gnats, etc.)
August 23	weed seeds, minute pieces of cattle manure
August 23	weed seeds, minute pieces of cattle manure
August 23	blackberries, insect remains
August 23	corn, 1 grasshopper
August 23	Japanese Beetles, other insect remains
August 28	grapes, insect remains
August 28	clover leaf, small seeds, 1 insect
August 28	2 June Bugs, 1 Japanese Beetle
August 28	3 June Bugs, 1 grasshopper

August 28	ground hog hair, pieces of flesh
August 28	ground hog hair, pieces of flesh
August 28	3 Japanese Beetles, 2 June Bugs
August 29	3 June Bugs, 1 grasshopper, 1 Japanese Beetle
August 29	2 Japanese Beetles, other insects
August 29	pieces of plums, 2 Japanese Beetles
August 29	1 Japanese Beetle, other insect remains
September 2	insect remains (N.I.)
September 4	pieces of apples, 1 grasshopper
September 4	pieces of apple

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ITEM OF INTEREST

Dr. J. D. Copeland, of Erskine College, Due West, S. C. banded the record number of 345 Cardinals in his half-acre yard in 1971. The publicity department of Erskine College took a picture of Dr. Copeland banding a Cardinal and sent the picture with an article of his 1971 bandings of 50 species of 2311 birds to the newspapers. The article was picked up by one of the news services and published throughout the South in at least four states. Most articles were two or three columns wide.

In two years of banding at Due West, S. C., Dr. Copeland banded 529 Cardinals. At no time did he ever see more than 40 at one time. Where do they all come from? They do not seem to fear traps and return repeatedly. About 9 percent returned within 3 days; about 13 percent returned within 10 days, and 24 percent returned within 30 days.

While Cardinals do not seem to be migratory birds, they do seem to have a "circulating" pattern. The ones that are being trapped as returns this month are usually not the ones that return a few months later. About 9 percent return to the traps a year later.

BENNIE

In 1972, a friend of mine called to let me know that he was raising a sparrow hawk which he really didn't want. A limb blew off a tree in his yard and the limb contained five small sparrow hawks. All except one male were killed.

I took the bird and raised him in a small wire cage in the post office. The cage was about three feet in diameter. He had a tremendous appetite and was calling for food fairly often. He was about 2½ weeks old when I got him and kept him in the post office about three weeks longer. He loved steak, liver and an occasional earth worm. Each day at 10:30 A.M., he would sit down at the bottom of the cage, tuck his head under his wing and take a nap. His little sides would heave in and out as he slept and even while mail sorting was going on, he wouldn't wake up.

As he grew older, I constructed a cage in the back of the yard and started to let him out for flying lessons. He first flew to the neighbors to sit on their porch and for three days I had to chase after him to get him back. I called him "Bennie" and when I called him that, he would answer. Finally, Bennie always came home when he became hungry. He had a favorite perch on my corn feeder and when hunger pains persisted, he'd cry there for his food.

One morning I drove down to my mother's house, one quarter mile away, for coffee, and Bennie followed, landing on her antenna. He called and pleaded for food, so I dug him some worms. When I called him, he flew down to the picnic table but he wasn't in the mood for worms. I drank my coffee and got into the car and started up the road. Rolling down the window, I called him. I saw a shadow go across the road and there was Bennie headed for home. He landed on his favorite perch and I cut up some stew beef and he was quite happy again.

On another occasion, a lady called me, rather unfriendly, to ask me if I had a sparrow hawk, that was banded. When I replied in the affirmative, she said there was such a hawk in her pheasant's pen and she was hopping mad. I told her I would be right over. She said "Never mind" I'll ask my husband to bring him down (one advantage of living in a small town). I could hear Bennie calling and as I looked out the window, the husband with Bennie in his hand were on the way. Bennie was complaining bitterly every step of the way. Perhaps he thought he was a pheasant.