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Food Brought by Broad-winged Hawks to a Wisconsin Nest.—Published studies which provide detailed accounts of prey of nesting Broad-winged Hawks (*Buteo platypterus*) in North America are from Alberta, Canada (Rusch and Doerr 1972), Kansas (Fitch 1974), and New York (Mosher and Matray 1974). Here we present food habits of Broad-winged Hawks at a nest (2 young) observed from 18 June through 7 July 1981 in Lincoln County, Wisconsin.

Observations totalling 200 h were made from a tree blind placed 7.5 m from the

Table 1. Food habits of Broad-winged Hawks at a nest in Lincoln County, Wisconsin.<sup>a</sup>

Prey species	n	% frequency	% biomass
Mammals			•
Eastern Chipmunk (Tamias striatus)	12	11.2	36.7
Short-tailed Shrew (Blarina brevicauda)	7	6.5	3.9
Southern Red-backed Vole (Clethrionomys gapperi)	6	5.6	3.6
Unidentified vole (Microtus spp.)	4	3.7	2.8
Star-nosed Mole (Condylura cristata)	3	2.8	4.4
Unidentified flying squirrel (Glaucomys spp.)	1	0.9	4.9
Water Shrew (Sorex palustris)	1	0.9	tr <sup>b</sup>
Unidentified shrew, mouse, or vole	9	8.4	6.2
Total mammals	43	40.2	62.5
Birds			
Northern Flicker (Colaptes auratus)	2	1.9	5.2
Ruffed Grouse (Bonasa umbellus)	1	0.9	6.6
Nashville Warbler (Vermivora ruficapilla)	1	0.9	tr
Blue Jay (Cyanocitta cristata)	1	0.9	1.6
Yellow-billed Cuckoo (Coccyzus americanus)	1	0.9	0.9
Ovenbird (Seiurus aurocapillus)	1	0.9	tr
Unidentified small birds	23	21.5	7.2
Total birds	30	28.0	21.5
Amphibians			
Eastern American Toad (Bufo americanus)	16	14.9	9.3
Wood Frog (Rana sylvatica)	7	6.5	1.2
Unidentified toad or frog	3	2.8	1.2
Total amphibians	26	24.2	12.7
Reptiles			
Eastern Garter Snake (Thamnophis sirtalis)	5	4.7	1.6
Northern Ringneck Snake (Diadophis punctatus)	2	1.9	0.6
Smooth Green Snake (Opheodrys vernalis)	1	0.9	tr
Total reptiles	8	7.5	2.2

<sup>&</sup>lt;sup>a</sup> Sample size of 107 prey items.

b tr = trace; 0.5% or less.

nest, which was 3.9 m high in a trembling aspen (*Populus tremuloides*). Prey delivered to the nest were identified with the aid of a  $20-40 \times$  spotting scope and  $7 \times 35$  mm binoculars.

We calculated percent frequency of each prey item from the total number delivered; percent biomass was estimated by weighing prey brought to the nest, from weights of the prey species obtained in an area about 160 km north of the nest (D. Kent, pers. comm.), and from weights given in Burt and Grossenheider (1952).

We observed 107 prey items delivered to the nest. Mammals and birds together comprised most of the diet both in frequency (68.2%) and biomass (84.0%). Eastern American toads were delivered most frequently, but the eastern chipmunk contributed most to biomass. Mosher and Matray (1974) reported that the eastern chipmunk was the single most important species in terms of biomass in the diet of nestling Broad-winged Hawks in New York.

Our data along with those of others, suggest that nesting Broad-winged Hawks commonly prey upon nestling and fledgling birds. Of 30 birds delivered to the nest, 25 were nestlings or fledglings; these (except for a Ruffed Grouse and a Yellow-billed Cuckoo) were small passerines lacking diagnostic plumage (Table 1). Fitch (1974) and Mosher and Matray (1974) also reported that most birds brought to Broad-winged Hawk nests were nestlings or fledglings.

Though food habit studies indicate that nesting Broad-winged Hawks prey on a number of prey species, mammals comprise the greatest portion of the diet in terms of biomass. The relatively high frequency of amphibians in both this and Mosher and Matray's study (1974; 27.9%) indicates their importance and may explain why Broad-winged Hawks tend to nest near water (Keran 1978, Titus and Mosher 1981). This nest was in an area of upland hardwoods with poorly drained soils that contained small (2–10 m²) pools of water throughout spring and summer.

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Fidelity of Semipalmated Plovers to a Migration Stopover Area.—The beach at Manomet, Plymouth County, Massachusetts (41°55′N, 70°32′W) is a hard sandy flat exposed for several hours at low tide. A relatively isolated section, 10 to 15 ha in size, is littered with rocks and latticed with rills which drain numerous shallow tide pools. Each fall, this area supports a small (ca. 60 maximum) population of migrating Semipalmated Plovers, Charadrius semipalmatus, along with a hundred or more shorebirds of other species, primarily Semipalmated Sandpipers, Calidris pusilla. Shorebirds do not use this area more than casually during spring migration.

In mid-August 1974, the staff of the Manomet Bird Observatory marked 10 Semi-