

FOOD HABITS OF OWLS ON THE NIAGARA FRONTIER

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Owls are in danger of being poisoned particularly in populated areas such as the Niagara Frontier. The danger is pollution of the environment with biocides particularly through the build up of chlorinated hydrocarbons in the prey species. With this in mind, we thought it important to make a preliminary study of owl food habits by pellet examination and what few stomach contents were available.

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We examined a total of 246 pellets and 7 stomachs of 7 species of owls. R. L. Sommerville (1965) has examined 26 Snowy Owl pellets from Fort Erie, Ontario and these results are added to our table.

The pellets are from Southern Ontario, Canada; Niagara, Genesee, Cattaraugus and Allegany Counties, New York and from Warren County, Pa. (map). Most pellets were collected from December to April under favorite winter roosting sites. One species, the Barred Owl, (*Strix varia*), has been studied over the four seasons in southern Cattaraugus Co. where it is the dominant resident owl.

Although most of the pellets were found from January to April, at least one resident species, the Barred Owl, has been studied over a twelve month period and the data are summarized below.

Dec.-Feb.	8 pellets }	mostly small mammals
Mar.-May	9 pellets }	
June-Aug.	6 pellets }	small mammals, insects,
Sept.-Nov.	5 pellets }	
		snakes, crayfish and fish

Of the eight species of owls treated here, four are now mainly migratory. These are Snowy Owl, Long-eared Owl, Short-eared Owl and Saw-whet Owl and for the most part are only with us from about October to April. During this time these species feed mainly on *Microtus*, *Peromyscus* and *Blarina*.

The resident species feed on essentially the same prey species, but there is much more variety, especially when data throughout the year are available as with the Barred Owl.

Another thing to be considered is the type of habitat where the owl resides. If one stops for the winter on the Ontario Plain, *Microtus* will be its main fare; but if they move onto the Allegheny Plateau and stop at Waterman's Swamp, much more variety will occur in the diet. This would be of great benefit if the *Microtus* of the lake plain were becoming more and more contaminated by chlorinated hydrocarbons.

Of 570 individual mammals identified in pellets from the eight species of owls 455 or 80% were *Microtus pennsylvanicus*, the field mouse. This was also the most frequently taken prey species in all but the Barred Owl. The field mouse then would be a key prey species of owls continuously to assay for potentially dangerous levels of biocides.

A more comprehensive study of owl food habits throughout the state might well be undertaken by active, field-orientated bird clubs of the Federation.

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Barn Owl (Tyto alba). 170 pellets, 1 stomach. 4 *Microtus* and 4 *Blarina* in 2 or 3 pellets Niagara Co., Wilson Cemetery, H. D. Mitchell; 168 *Microtus*, 17 *Blarina* and 4 *Peromyscus*, Wilson Cemetery, Dec. to March; 30 April 1960—stomach contained 1 *Zapus*, 2 *Blarina*, and 1 *Microtus*, Allegany, N.Y.

Screech Owl (Otus asio). 1 pellet, 2 stomachs. 1 *Blarina* in pellet, Elm Valley, Allegany Co.; 7 moths and 1 small frog in stomach, dead on road ½ mile west of Carrollton, Cattaraugus Co.; 1 *Microtus* in stomach, dead on road ½ mile west of Carrollton, Cattaraugus Co.

Great Horned Owl (Bubo virginianus). 26 Jan. 1967, Youngstown Cem. 1 pellet with 3 *Microtus*; 4 April 1959, North Cuba Marsh, 1 *Mephitis*, 2 *Sylvilagus floridanus*, 1 *Phasianus colchicus*, 2 *Rattus*, 1 finch, 2 *Microtus*, from 6 pellets; 9 April 1961, 6 *Microtus*, 2 frogs, 1 *Ondatra*, 1 *Sylvilagus floridanus*, 1 *Condylura*; Spring 1951, North Cuba Marsh, Allegany Co., frog, *Microtus*, *Sylvilagus*, *Phasianus*, *Ondatra*; Spring 1968, St. Bonaventure Univ., 3 *Sylvilagus*, 8 *Microtus*, 1 *Peromyscus*, 2 *Rattus*, 1 *Sturnus vulgaris*, 3 *Agelaius phoeniceus*, 1 *Carpodacus purpureus*, 1 *Dendrocopos villosus*, 1 unidentified small bird; 8 April 1968, St. Bonaventure Univ., 2 *Sylvilagus*, 1 *Condylura*, 1 young *Didelphis* in pellets under nest.

Snowy Owl (Nyctea scandiaca). 26 pellets from mid-January to mid-April, R. L. Sommerville (*Prothonotary* 31:135) collected near Frenchman's Creek, Fort Erie, Ontario; see table.

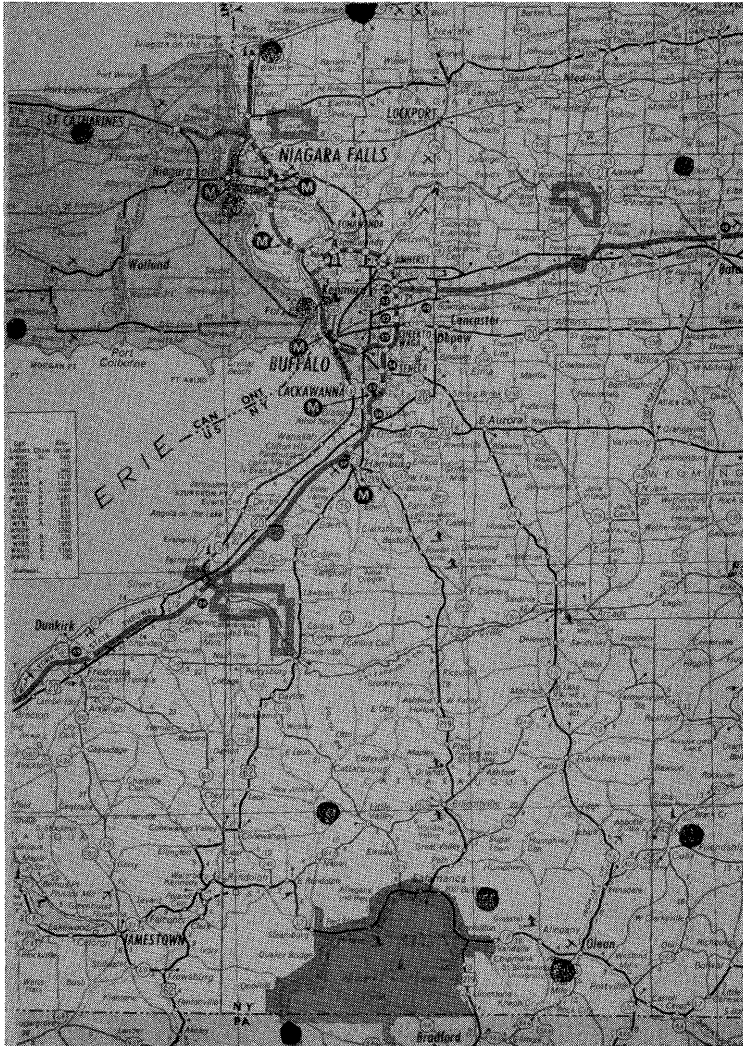
Barred Owl (Strix varia). 24 pellets, 3 stomachs. 4 Dec. 1951, 2 *Glaucomys*, 3 *Blarina*, 1 *Microtus* in 6 pellets under hemlocks, 10 Mile Valley, Vandalia, Cattaraugus Co.; 28 Dec. 1957, 1 *Glaucomys sabrinus*, 1 *Condylura cristata* in 2–3 pellets near Vandalia, N.Y.; 18 March 1957, 2 *Peromyscus*, 1 *Glaucomys volans*, 1 *Microtus*, 6 *Blarina* in 5 pellets, 10 Mile Valley near Vandalia; 22 March 1957, 1 *Peromyscus*, 2 *Clethrionomys*, 10 Mile Valley, Vandalia, N.Y.; 24 April 1957, 1 *Blarina*, Vandalia; 21 May 1957, 2 *Peromyscus*, Vandalia; 15 June 1957, 1 *Blarina*, 1 *Tamias striatus* and coleopterids, Vandalia; 21 June 1959, 1 young *Peromyscus* fed to young owl by parent, Vandalia; 22 June 1954, 1 *Glaucomys*, Vandalia; 21 June 1951, 1 young of two in vicinity had been fed by parent 2 Crayfish and 1 *Peromyscus*, Vandalia; 8 July 1962, 1 *Glaucomys volans*, Vandalia; 23 July 1966, 1 *Peromyscus*, Vandalia; 24 Sept. 1967, 1 small rodent and 1 snake, Vandalia; 2 Oct. 1952, 5 Crayfish, 1 frog, 1 *Clethrionomys*, Vandalia; 27 Oct. 1956, 5 *Blarina brevicauda* in stomach of adult from 5 Mile Valley, Allegany, N.Y.; 23 November 1964, bones of 2 *Catostomus* (sucker) fish perhaps 8 inches long, Corydon, Pa.

Long-eared Owl (Asio otus). 46 pellets. 42 *Microtus*, 3 *Peromyscus*, 2 *Pitymys*, 7 *Blarina*, 3 *Condylura*, 6 *Zapus*, 22 April 1960, Waterman's Swamp west of Little Valley, N.Y. (in 15 plus pellets); 24 March 1967, 10 *Microtus* from 8 pellets, Youngstown Cemetery; 29 March 1967, 3 *Microtus* and 3 *Peromyscus* from 6 pellets, Youngstown Cem.

Short-eared Owl (Asio flammeus). 82 pellets contained 110 *Microtus* skulls, King's Bridge Park, Ontario, V. J. Lunardini (3 Short-eared Owls flushed). L. C. Stegeman (1957 *Amer. Mid. Nat.* 57:120–128) found 97% of *Microtus* in 1,337 pellets found

near East Syracuse; J. K. Terres and E. W. Jameson, Jr. (1943 *Wilson Bull.* 55: 131) spoke about Short-eared owls congregating in an area with high *Microtus* populations near Perry City, Schuyler Co., N.Y.

Saw-whet Owl (Aegolius acadicus). 8 pellets and 1 stomach; 20 January 1967, 2 *Microtus*, 13th Street, Louth, Ontario; 4 March 1967, 1 *Microtus*, 9th Street, Louth, Ontario; 4 March 1967, 8 *Microtus*, 2 *Peromyscus*, 1 *Blarina*, 9th Street, Louth, Ont.; 13 Dec. 1953, mouse fur in stomach, Vandalia; 3 May 1959, 2 pellets probably of this species contained 1 *Synaptomys*, 1 *Peromyscus*, Vandalia, N.Y.



Black circles are areas where pellets were collected.

Table: Prey of some owl species in the Niagara Frontier Region

Owl species Migratory and Resident	Didelphis	Condylura	Sorex cinereus	Blarina	Mephitis	Tamias	Glaucomys volans	Glaucomys sabrinus	Peromyscus	Synaptomys	Clethrionomys	Microtus	Pitymys	Ondatra	Rattus	Zapus	Sylvilagus	Birds	Crayfish, fish, frogs, snakes	Insects	Number of pellets	Stomachs
Snowy Owl*		3	1	7					6			71	2		5	6		2			26	1
Long-eared Owl												56									46	
Short-eared Owl												110									82	
Saw-whet Owl				1					3			11									8	1
Resident																						
Barn Owl				23					4			173				1					49	1
Screech Owl				1								1								7	1	1
Great Horned Owl	1	1			1				1			19	2		4		8	9	1	2	1	1
Barred Owl		1		17		1	5	1	8		3	3						18	2	1	27	1
Species uncertain				4					1	1		11						4	1	many	27	3
Total	1	5	1	53	1	1	5	1	23	1	3	455	2	2	9	7	8	15	22	8	272	7

* Sommerville (1965)