The owl invasion of Amherst Island, Ontario, January-April 1979

A report from the owl capital of the world of the parliament of winter, 1979

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Great Gray Owl on Amherst Island. Photo/ Gary P. Bell.

Hawk Owl on Amherst Island. Photo/R. Wypkema.

ALTHOUGH NORTHERN OWLS moved into eastern North America in large numbers in the winter of 1978-79, the invasion of owls in the Kingston, Ontario, Canada area was unique. Over the course of the winter, thousands of bird-watchers from across Canada and the United States visited Amherst Island, 3 miles southwest of Kingston, to view an unusual assemblage of owl species.

Amherst Island is an isolated rural community lying 2 miles south of the north shore of Lake Ontario, at 44°10′N, 76°40′W. The 25-square mile island provides a variety of habitats including active farmland, old field pasture, woods and marsh.

During the latter part of 1978 the population density of meadow voles (*Microtus pennsylvanicus*) became very high. The isolation of the island, and the lack of terrestrial predators such as foxes intensifies the natural population cycles of small mammals. Extreme population "outbreaks", then, are regular occurrences. Large incursions of raptors have long been associated with such outbreaks of voles, and periodically raptor densities on Amherst Island and Wolfe Island, 2 miles to the east, increase dramatically in response to abundances of meadow voles (Phelan, 1976; Phelan and Robertson, 1978). These raptor density increases are easily predicted, but along with this increase in numbers of raptors, comes a highly unpredictable increase in the numbers and diversity of raptor species.

This past winter, most of the raptors present on Amherst Island were owls. Ten species were recorded, including Great Gray, Long-eared and Snowy owls in great abundance, with other species present in varying numbers. Table 1

Short-eared Owl on Amherst Island. Photo/ Frank J. S. Phelan.

Saw-whet Owl on Amherst Island. Photo/ Frank J. S. Phelan.

Boreal Owl on Amherst Island. Photo/Gary P. Bell.

Table 1. Owl observations from the records of the Kingston Field Naturalists, January 1, 1979 - April 15, 1979 on Amherst Island, Ontario

Owl Species	*Date of First Sighting*	*Date of Highest Count*	*Date of Last Sighting*
Great Gray Owl	Jan. 20 (1)[a]	Mar. 10 (18)	Apr. 8 (2)
Long-eared Owl[c]	Feb. 11 (1)	Mar. 17 (29)	Apr. 13 (1)[b]
Snowy Owl	Jan. 1 (5)	Mar. 4, 17 (21)	Apr. 8 (1)
Short-eared Owl[c]	Jan. 5 (1)	Mar. 4 (10)	Apr. 13 (1)
Saw-whet Owl	Feb. 17 (1)	Mar. 7 (6)	Apr. 1 (1)
Boreal Owl	Feb. 25 (1)	Mar. 7 (4)	Apr. 1 (1)
Screech Owl[c]	Feb. 19 (1)	(only 1 each count)	Mar. 18 (1)
Great Horned Owl[c,d]	Feb. 17 (1)	(only 1 each count)	Mar. 24 (1)
Hawk Owl	Jan. 3 (1)	(only 1 each count)	Mar. 25 (1)
Barn Owl[e]	Feb. 22 (1)	(only 2 sightings)	Mar. 3 (1)

[a] — Numbers in parentheses indicate count data for date specified.
[b] — Long-eared Owl on nest with 2 eggs this date.
[c] — Resident species.
[d] — Great Horned Owl on nest February 22, another nest March 17.
[e] — May be residents, although very seldom seen.

summarizes the records for Amherst Island from the Kingston Field Naturalists' files for the period January 1 - April 15, 1979. The first owls, Snowies, were present on the Island from mid-October, long before the first snowfall. The first report of a Great Gray Owl on Amherst Island came January 20, six days after the first report for the Kingston region. By February 17 it was evident that a major influx was occurring, when 15 Great Gray Owls were seen in one woodlot. Large numbers of observers, combing the island, soon located Long-eared, Short-eared, Saw-whet, Screech, Great Horned, Boreal, Hawk and Barn owls. Maximum numbers for all species occurred in a 14-day period March 4-17. By March 18 most of the Great Gray Owls had left the island. The last two were seen on April 8, and appeared to be engaging in courtship behavior.

MOST OBSERVER ACTIVITY was concentrated around two woodlots at the west end of Amherst Island where 15 Great Gray Owls were present from at least February 17 - March 17. Although many small or inaccessible woodlots went unexamined, most sizable woodlots inspected showed some signs of owl activity. With this in mind, and using our information about the movements of observers, we have produced a conservative estimate of the total owl population of Amherst Island (Table 2) for the peak period. Other raptors present on the island at this time included Rough-legged Hawk (50), Red-tailed Hawk (18), Marsh Hawk (2), American Kestrel (6), gray-phase Gyrfalcon (1) and Northern Shrike (4); thus at least 230 birds of prey were utilizing the same highly available food resources of the island. Despite the incredible density of potential competitors, few interspecific interactions were noted.

Table 2. Total owl population estimates for Amherst Island.

Species	*Number*
Great Gray Owl	34
Long-eared Owl	50
Snowy Owl	30
Short-eared Owl	20
Saw-whet Owl	9
Boreal Owl	8
Screech Owl	3
Great Horned Owl	4
Hawk Owl	1
Barn Owl	1
Total	160

Such opportunistic response to superabundant, patchy food sources seems to be a common strategy in many predatory animals (Bell, 1979). The great mobility of raptors makes local, temporary incursions possible (Galushin, 1976).

Coincident with the spring dispersal of the northern raptors, the vole population on Amherst Island crashed. It probably will not peak again for another 3-4 years. When it does, raptors on their searching migrations will again be attracted to the island. It would, however, be unusual to find soon again a diversity of owls as high as that which was experienced on Amherst Island in the winter of 1978-79.

Literature Cited

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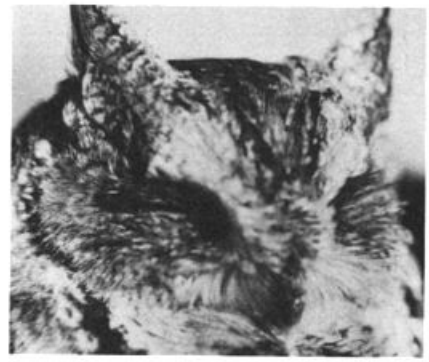

Screech Owl playing dead. Amherst Island. Photo/R. Wypkema.

Long-eared Owl on Amherst Island. Photo/R. Wypkema.