

# The Diet of Long-eared Owls (*Asio otus*) in an Urban Park

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## ABSTRACT

Long-eared Owls spent seven weeks in and around an urban park located in Evanston, Illinois. Pellets collected from roosts provide insight to available food resources during the winter of 2008.

Key Words: Long-eared owl, Evanston, Illinois, owl prey.

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## INTRODUCTION

Long-eared Owls (*Asio otus*) in Illinois are variously described as an uncommon migrant and occasional winter resident (Bohlen, 1989; DeVore et al., 2004; INHS, 2009). In Illinois it is endangered and in adjacent states it is listed as uncommon in Indiana and Wisconsin, of special concern in Missouri and threatened in Iowa (Holt, 1997). Migrant Long-eared Owls have declined in Indiana and Minnesota and are of unknown status in other Midwestern states (Petersen, 1991; Marks et al., 1994). Mlodinow (1989) indicates the period from late November to early April as the best time to see this nocturnal owl species in the Chicago land area. DeVore et al. (2004) cite late October through mid to late April. The unusual appearance of this secretive and shy owl species in a major metropolitan area such as Chicago is a cause for discussion and sharing of observations by ornithologists and bird watchers (IBET, 2008).

Various food items have been identified in the diet of this owl including birds and appropriately sized small mammals (Birkenholz, 1958; Graber, 1962; Maccarone and Janzen, 2005). Pellets or castings are passed once daily, are oval, grayish, measuring approximately 5.0 cm in length and 1.87 cm in diameter (Craighead & Craighead, 1956; Post, 2008). Historically it has generally been accepted that birds appear in Illinois and other Midwestern states in years when there are diminished winter food supplies and/or the onset of severe winter weather in the northern part of their range.

## MATERIALS AND METHODS

During the winter of 2007-2008 two Long-eared owls (*Asio otus*) took up residence in a city park (James Park) in Evanston, Illinois. The birds were first noted on 17 January 2008 and last sighted on 29 February 2008. During this time one or both owls could be located during day time hours on most days. Roost trees were identified by significant accumulations of white wash and regurgitated pellets.

Various reports describe roosting location as in groups of conifers near or adjacent to open areas which serve as foraging areas (Burton, J.A. 1973; Marks and Yensen, 1980; Monfils, 2010). In this case daytime roosts were in one of two locations, initially in a dense grouping of red cedar (*Juniperus virginianus*) numbering more than eighteen trees and in late winter in a lone Austrian Pine (*Pinus nigra*). The mean diameter at breast height (DBH) of seven cedars was 24.4 cm (SD = 1.39 cm) and that of the pine 43.75 cm. Both roosts were adjacent to open fields.

On three occasions during March of 2008 owl pellets were collected from underneath roost trees after the birds had departed the area. Earlier pellet collection was hampered by the presence of snow and ice as well as the steepness of the hill at the site. A total of sixty pellets were collected. Pellets were wet weighed immediately after collection and then placed in a drying oven at 40 degrees C. Pellets were re-weighed after drying.

## RESULTS AND DISCUSSION

During the current observation period, we sampled pellets from under the roosting trees and found mice and voles the predominant prey. After drying, pellets (N=60) were dissected; the type and number of prey per individual pellet was tallied. Voles (*Microtus* sp.) represented one third of the total of prey items (N = 20) and White-footed/Deer Mice (*Peromyscus* sp.) the remaining two-thirds (N = 40). The mean number of prey items per pellet was 1.8 for all pellets combined and varied only slightly between the three collecting dates (1.88; 2.00; 1.70).

*Microtus* sp. and *Peromyscus* sp. have been identified as common and important prey for this species (Marti, 1976; Cahn, 1930). The present study verifies these earlier reports. The overall ratio of voles to mice consumed at the Evanston site during these observations do not differ significantly from those reported for *Peromyscus* sp. and *Microtus* sp. in a residential area of Urbana, Illinois in 1926-1927 (Cahn, 1930). In that study the ratio was 27% (N = 318) to 56% (N = 673). It is worth noting that the ratio of voles to mice eaten (as judged by pellet analysis) changed from 35% early in the winter to 71% in late winter just prior to owl departure. This could be either an indication of prey availability or a change in feeding pattern from mice to voles just prior to departure. Regrettably it was not possible to independently sample the small mammal population at the site because of location.

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