



Eastern Screech-Owl Survey - 2007

Scott Meister, Ecologist
March 2007

The eastern screech-owl (*Megascops asio*) is a small, nocturnal, primarily woodland owl with a wide distribution across the eastern United States. Screech-owls feed on a variety of prey, primarily mice and voles but will also feed on large insects, small songbirds, fish, snakes, and frogs when available. Most of their hunting occurs within the first four hours after sunset.

Screech-owls nest almost exclusively in tree cavities, preferring enlarged natural cavities, but they will also use old cavities constructed by Northern flickers (*Colaptes auratus*). Nest cavities are usually 6.5 to 20 feet above the ground, and pairs will often reuse nest sites year after year. Adults tend to remain near their breeding areas year-round, while juveniles disperse in the autumn. Small territories around nest sites are vigorously defended by males, but pairs may nest within 50 meters of another pair. Breeding territories range from 10 to 15 acres in wooded suburban areas to 75 acres in more open rural areas. Home ranges are much larger – up to 200 acres – but these are not defended, and there is much overlap between pairs.

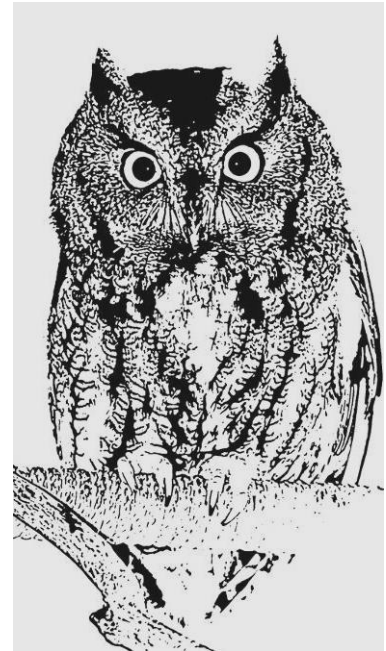
In DuPage County, screech-owls are considered “fairly common” and were listed as occurring at 22 of 57 preserves in 1998. However, since 2002, screech-owls have only been recorded in four preserves. The objectives of this study were to:

- update the distribution data of screech-owls within the District
- provide information regarding the distribution of other owls in the District
- determine which communities screech-owls use
- determine if management activities may affect habitat preference of screech-owls

METHODS

Call-back surveys were conducted by broadcasting a recorded screech-owl call and waiting for a response from screech-owls in the area. A response may have been an owl flying in and perching close to the location from where the call was broadcasted, an owl calling back to the recording, or both. If screech-owls did not respond, calls from other owls, such as barred or great horned, were broadcast in an attempt to solicit responses from those species if present at the preserve.

Forty-three ecosystems at 38 preserves were surveyed. Ecosystems were chosen based on available habitat and ease of access to the survey location. Surveys were conducted over eight nights between 23 January and 8 March 2007. Surveys began one hour after sunset and continued for up to 3 hours at different preserves.



Eastern screech-owl

Eastern Screech-Owl Survey - 2007

RESULTS

Eastern screech-owls still appear to be “fairly common” and well distributed in DuPage County, as they were detected at 17 of the 38 preserves surveyed (45%; Table 1). Of the 21 preserves where screech-owls were not found, great horned owls were observed at four (19%). No owls were detected at 17 of the preserves sampled (45%).

There does not appear to be any trend in habitat preference based on the data generated from this study. Figure 1 shows that screech-owls were observed in six of the 13 communities surveyed. However, six of the seven communities where screech-owls were not observed were only sampled once. Screech-owls particularly seemed to be present in shrub meadows (MLS; 3 of 4 sites surveyed) and dry-mesic woodlands (WUD; 8 of 10 sites surveyed). Though these areas seemed to be favored by screech-owls, the reasons are unclear. An owl’s habitat preference may be determined by factors not measured in this study, e.g. availability of nesting cavities, prey densities, etc.

Screech-owls were not detected at any of the four low-quality ecosystems surveyed. Owls were observed in a variety of moderate to high-quality ecosystems. Management efforts did not seem to be a predictor of screech-owl presence.

Even though screech-owls were detected in less than half of the preserves surveyed, their absence during the call-back survey does not indicate they are absent from the preserve. At most preserves, call-back surveys were only conducted on one night at one location within the preserve. With home ranges nearly 200 acres, an owl may have been too far away from the call-back survey location to hear the recording. The presence of a great horned owl in the vicinity may have also kept screech-owls from calling back to a recording. Surveys in additional areas of a preserve will have almost certainly discovered screech-owls.

Owls were not detected in any of the five preserves surveyed in the northeast quarter of the County. These preserves are close to major highways, including I-290, I-355, and IL Route 83, all which generate significant traffic noise. The noise may have interfered with an owl’s ability to hear the recorded call or the observer’s ability to hear a responding owl.

MANAGEMENT IMPLICATIONS

Without regular surveys, it is difficult to determine population trends of eastern screech-owls. The apparent stable status of screech-owls (“fairly common” in 1998 and 2007) seems to indicate that current management strategies are satisfactory. Practices that promote habitat preservation and biodiversity, as well as specific requirements for screech-owls (i.e. abundant prey base and nesting cavities), will perpetuate this species in DuPage County.



Red phase screech owl in decaying black cherry
(image courtesy of Naturalist Carl Strang)



Eastern Screech-Owl Survey - 2007



Gray phase screech owl at Fullersburg Woods' Graue Mill
(photo courtesy of Ranger Susan Lawrence)





Eastern Screech-Owl Survey - 2007

Table I. Owl survey locations and their attributes conducted during January – March 2007.
EASO = Eastern screech-owl, GHOW = Great horned owl

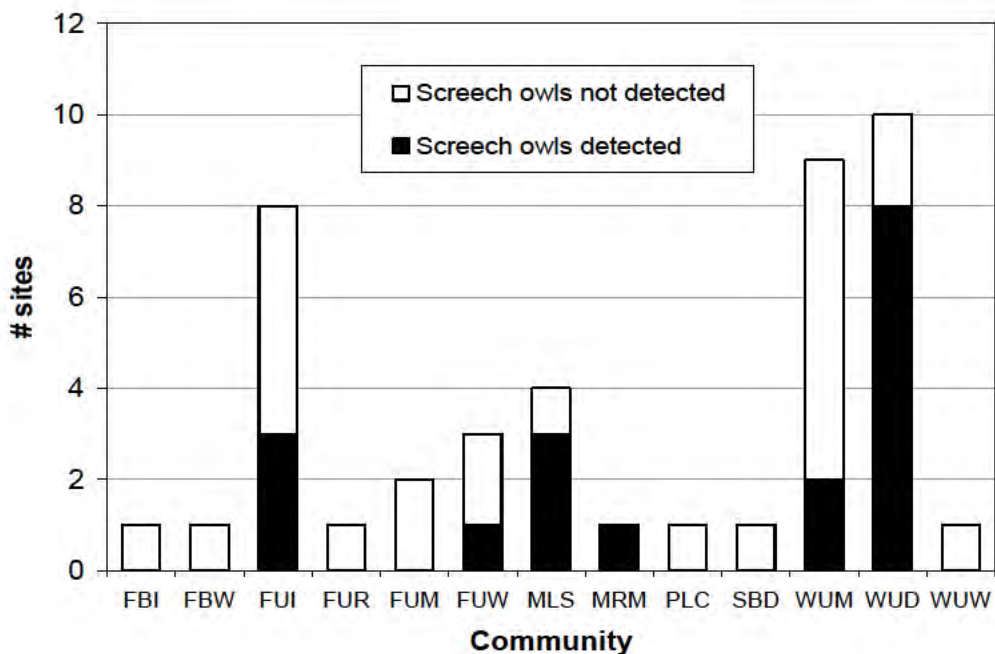
Preserve	Ecosystem	Eco Unit	Community Code*	Eco Quality	Managed?	EASO	GHOW
Belleau Woods	Belleau Woods	EBE01	WUM	High	Y	X	
Belleau Woods	North Woods	EBE04	WUM	Moderate	N		
Big Woods	South Swamp	EBI10	FUW	Moderate	N	X	
Blackwell	Springbrook Woods	EBL35	WUD	Good	Y	X	
Burlington Park	Burlington Woods	EBU03	FUM	Good	N		
Churchill Woods	Babcock Grove	ECH04	WUM	High	Y		
Danada	Parson's Grove	EDA18	WUM	High	Y		
Des Plaines Riverway	Floodplain Woods	EDP01	FBW	Good	N		
Egermann Woods	The Grove	EEG01	WUM	High	Y	X	
Fischer Woods	Dunklee's Grove	EFI03	FUW	High	Y		
Fox Hollow	East Woods	EFH06	FUI	Low	N		
Fullerburg Woods	Salt Creek Savanna	EFB06	WUD	High	Y	X	
Goodrich Woods	Goodrich Woods	EGO01	WUM	Good	N		
Greene Valley	Pond Woods	EGV18	WUM	High	Y		X
Hawk Hollow	Gilbert Grove	EHH01	FUM	High	N		
Hawk Hollow	Catfish Pond Woods	EHH20	FUW	Low	N		
Herrick Lake	Kelly Woods	EHE12	FUI	Moderate	N	X	
Hidden Lake	Cutten Meadow	EHI09	MLS	Moderate	N	X	
Hitchcock Woods	Woods	EHW01	WUD	Good	N	X	
Lincoln Marsh	Black Locust Woods	ELI04	FUI	Moderate	Y		
Lyman Woods	Lyman Woods	ELY09	WUD	High	N	X	
Lyman Woods	Kame Savanna	ELY06	SBD	Moderate	N		
Mallard Lake	Smook Savanna	EMA05	FUR	Moderate	N		
McDowell Grove	Northeast River Woods	EMC14	FUI	Moderate	N	X	
McDowell Grove	River Meadows	EMC18	MLS	Moderate	N	X	
Night Heron Marsh	Woods	ENH04	FUI	Low	N		X
Oldfield Oaks	North Woods	EOF03	FUI	Moderate	N		
Pioneer Park	Pioneer Woods	EPI01	WUD	Moderate	N		
Pratt's Wayne	Wayne Savanna	EPR19	WUD	Moderate	N	X	
Salt Creek Park	West Woods	ESA03	FUI	Moderate	N		
Salt Creek Park	Floodplain North	ESA01	FBI	Moderate	N		
Songbird Slough	Nursery	ESS10	PLC	Low	N		
Springbrook Prairie	Plainfield Meadow	ESB15	MLS	Good	N		X
Timber Ridge	Klein Savanna	ETI15	WUM	High	N		X
Warrenville Grove	Bremme Woods	EWA04	WUD	Moderate	N		
Wayne Grove	Housier's Grove	EWY01	WUM	High	Y		
West Branch	South River Marsh	EWL09	MRM	Good	N	X	
West Chicago Prairie	MacQueen Savanna	EWCO5	FUI	Good	N	X	
West DuPage Woods	East Ravine Woods	EWD16	WUD	Good	N	X	
Willowbrook	Outback	EWB05	MLS	Moderate	N	X	
Winfield Mounds	Highlake Savanna	EWM10	WUD	Good	N	X	
Wood Dale Grove	West Grove	EWO01	WUW	High	N		
Wood Ridge	Savanna (NE - unmanaged)	EWR01	WUD	High	N	X	

* An explanation of community abbreviations can be found in Appendix A.



Eastern Screech-Owl Survey - 2007

Figure 1. Screech-owl presence by community. An explanation of community abbreviations can be found in Appendix A (below).



Appendix A. List of plant communities and their abbreviations.

Code	Community
FBI	Immature bottomland forest
FBW	Wet bottomland forest
FUI	Immature upland forest
FUR	Upland reforestation
FUM	Mesic upland forest
FUW	Wet-mesic upland forest
MLS	Shrub meadow
MRM	Monoculture marsh
PLC	Plantation/nursery
SBD	Dry-mesic savanna
WUM	Mesic woodland
WUD	Dry-mesic woodland
WUW	Wet-mesic woodland