

nounced include Cook, Lake, and DuPage Counties. Fermi-Lab (DuPage County) and Illinois Beach State Park (Lake County) seem to be especially common areas to find Northern Shrikes on any given winter in Illinois (see DeVore 2000). It's likely some of the same birds return year after year to the same site in Illinois. Karl Bartel of Blue Island, Illinois, banded a Northern Shrike at Palos (Cook County) in November 1981, then retrapped it in fall 1982 and on 13 January 1983, demonstrating winter site fidelity for this species in Illinois. Winter site fidelity has been shown several times throughout the species' range (Rimmer & Darmstadt 1996).

Cycles

National CBC data from 1900 through 1980 show that Northern Shrikes go through irregular series of cycles or fluctuations. Davis & Morrison (1988) showed the abundance of shrikes was cyclical, from about 1900 to 1940, then fluctuated irregularly after 1950, with the last big fluctuation (up to 1988) occurring from 1956 to 1958. Their study shows cyclicity is temporary, at least for some species including Northern Shrike. They also state the typical predator-prey relationship may not necessarily be the only reason for fluctuation in this species' numbers.

Atkinson (1993), analyzing CBC data, found that unlike the Loggerhead Shrike, both the eastern and western subspecies of the Northern Shrike have been reported in a greater proportion of CBCs over the past three decades. Bias such as observer awareness and identification skills, better optics, and other reasons are given as possible explanations for this increase, although I would reject that explanation for the increase in central Illinois records. It does seem clear, however, that in light of this species' apparent decline in numbers in the eastern U.S., CBC data showing an increase in numbers does contain biases, which may mask actual declines (Atkinson 1993).

High counts for Illinois appear to be 8 (Waukegan CBC) 1 January 1996; 7 (Fermi-Lab CBC) 16 December 1995; 6 (Kishwaukee CBC) 30 December 1995; 5 (Evanston CBC) 30 December 1995; and 5 (Fermi-lab CBC) and 5 (Lisle Arboretum CBC) 18 and 19 December 1999 respectively (Johnson & Stokie 1996, D. Johnson, personal communication). A non-CBC high count of 3 was seen at Illinois Beach State Park on 13 November 1983 (Mlodinow 1984).

Like the Davis & Morrison (1988) study, Atkinson (1995) found Northern Shrike winter numbers have been cyclic, but only in the eastern subspecies from 1960 to 1989. His data showed the most significant cycles were of eight years duration, and showed a pulse of shrikes in the east every four and 15 years. Western shrikes appeared to have two relatively strong pulses at four- and nine-year intervals.

Researchers have hypothesized that Northern Shrike irruptions correlate well with Snowy Owl invasions. Davis (1949) offered data disputing the hypothesis. Snowy Owls from 1947-1969 had peaks that corresponded well to shrike invasions, but only four times, and after 1965, the synchrony ended (Davis & Morrison 1988). Research in Arctic Alaska showed lemmings, a major prey base of Snowy Owls, were not a major prey base of Northern Shrikes (Cade 1967). Additionally, Northern Shrikes are rare or absent in most places where lemmings are cyclic, and no real correlation between shrikes in western states and declines of lemmings exists (Davis 1974). Limited attempts to correlate winter shrike movements with large invasions of one of its common prey bases, small birds, showed no clear associations (Bent 1965). Based on these findings, it's more probable that Northern Shrikes are cyclic in response to their own, more localized prey.

It also seems to me it's more likely that if shrikes corresponded with an-

other bird of prey in response to fluctuating rodent numbers, that species would be the Northern Saw-whet Owl, whose prey base might overlap with the shrike's prey base. In the winter of 1995/1996, observers reported record movements of Northern Shrikes and Northern Saw-whet Owls nationwide. If nothing else, a connection may exist between the two species since both have difficulties finding prey after heavy snows or extreme drops in temperatures, when favored prey become unavailable. LeBaron (1996) noted this possible relationship as well, and mentioned a record movement of Northern Saw-whet Owls, although they apparently did not irrupt as far as Illinois that year (see Johnson & Stokie 1996).

Habitat

Reports of wintering Northern Shrikes invariably associated these birds with riparian or other mesic areas where wet, tussocky grasses provided good habitat for its favored prey species, voles and small birds (Atkinson 1993). Most accounts of the Northern Shrike's winter habitat from other mid-western states are rather vague and can be summed as open areas with scattered trees and bushes (see Mumford and Keller 1984, Peterjohn 1989, Robbins 1991, Kent and Dinsmore 1996). The same can be said of Illinois birds. However, reports garnered from IBET during the 1999/2000 invasion as well as my past experience show the birds overwhelmingly seem to prefer habitats in Illinois with a large percentage of marsh or at least wet, grassy areas. Bohlen (1989) also states they "seem to prefer marshy situations" in Illinois.

From site locations described on IBET, the wintering habitat of Northern Shrikes in Illinois occurred in and around the perimeters of shallow and deep water marshes (e.g., McKee Marsh, Moraine View State Park, Volo Bog State Natural Area, Cuba Marsh Forest Preserve, Goose Lake Prairie State Park, Nelson Lake

Meadowlark