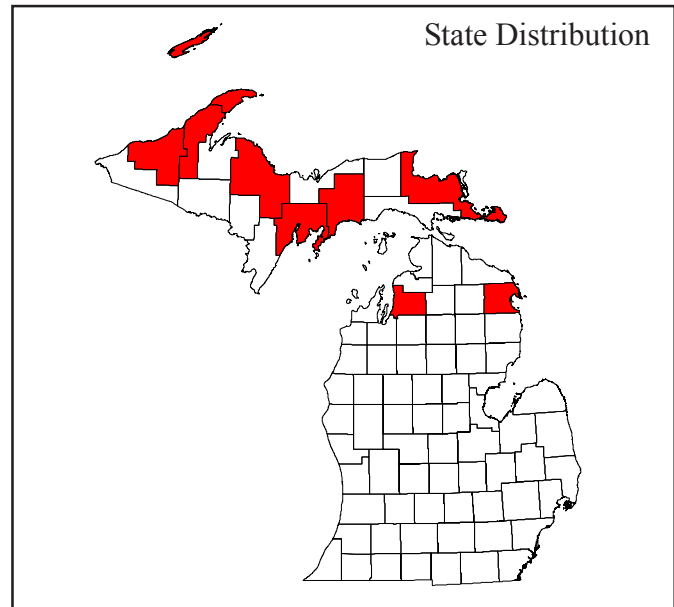
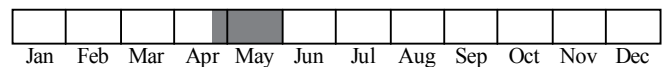




Photo by: Charles W. Cook



Best Survey Period



Status: State threatened

Global and state ranks: G5/S1S2

Family: Falconidae (falcons)

Total Range: Found throughout the northern hemisphere, *Falco columbarius*, in North America occurs in the boreal forests of Alaska and Canada south to the extreme northern portions of the United States, from the Rockies to Maine (Johnsgard 1990). The paler subspecies, *F. c. richardsoni*, breeds in the prairie parklands of central Canada and the darker subspecies *F. c. suckleyi*, breeds in the Pacific coastal regions. The more widespread *F. c. columbarius*, occupies the remaining range. The merlin winters from the Gulf of Mexico to northern South America.

State distribution: The merlin has always been a rare bird in Michigan, breeding for the most part in the Upper Peninsula. The first confirmed nest in the state was recorded in 1955 in the Huron Mountains. During the Breeding Bird Atlas Period there were 16 confirmed nesting records, 27 possible and 14 probable breeding records throughout the state (Brewer et al. 1991). The species has been either recorded breeding or presumed nesting in seven Upper Peninsula counties (Chippewa, Delta, Houghton, Keweenaw, Marquette, Ontonagon,

Schoolcraft) and two northern lower Peninsula counties (Alpena, Antrim). The highest density of nesting merlins occurs on Isle Royale. Pairs are also sighted annually in the Porcupine Mountains State Park, Ontonagon County, and in the Huron Mountains, Marquette County. During migration, merlins can be spotted throughout the state.

Recognition: The merlin is a **medium-sized falcon**, about the **size of a blue jay**, characterized by **long, pointed wings** and rapid wing-beats; a **long, heavily barred tail**; vertically streaked underparts; and faint “sideburns.” In flight, merlins appear similar to American kestrels (*F. sparverius*) but lack any brown tones above or extensive buffy to white underparts (Johnsgard 1990). The **dark tail with 2-5 highly contrasting narrow light bands** helps distinguish the merlin from the larger peregrine falcon (*F. peregrinus*) (Sodhi et al. 1993). When alarmed the merlin utters a rapid series of *ki* notes, similar to other falcons (Johnsgard 1990).

Best survey time: Merlins return to Michigan in late April through mid-May, following the main migration of small birds, their principal prey. Males arrive in some cases up to a month before females allowing them to establish breeding territories (Trimble 1975). The recommended method for surveying this species is by conducting call playback surveys during the breeding season. Some recommend call playback surveys be



done prior to incubation. Adult merlins are aggressive toward intruders in the nesting area and defend it with repeated alarm cries (Evers 1994). Surveys during the non-breeding season can include migration studies. In the spring a good spot to observe merlins is at Whitefish Point. In the fall the Lake Erie Metropark boat launch or Pointe Mouille State Game Area are two favorite locations.

Habitat: Merlins typically nest in boreal forest. In Michigan, they prefer spruce forests near bogs or open water (Johnson and Coble, 1967, Jordan and Shelton, 1982). Lake shores and islands are used most frequently in Michigan with fewer inland nest reports. These open to semi-open areas are chosen probably to facilitate hunting. Merlins are likely limited by adequate food items and a source of available nesting sites. The food base is normally provided by small to medium-sized birds of grasslands, wetlands, or forest edges (Johnsgard 1990). Merlins do not build their own nests but use those of other birds, most commonly those of corvids (crows, ravens). Rarely they nest in tree cavities, on cliffs, or on the ground (Bent 1938). Lake shorelines and other open areas are used as hunting grounds, although merlins will also commonly hunt within the forest. Captured prey items are usually taken to a prominent snag to be eaten.

Biology: Merlins return to Michigan in early spring, following the main migration of small birds. Males arrive up to a month before females and usually establish territories in the same general area each year. Merlins begin breeding at two years of age and use old nests of other species, such as ravens, crows, or hawks, in which they lay a clutch of 4-5 eggs. In one Great Lakes study most merlins nested in abandoned corvid nests in pine trees (Doolittle 1988). The female does most of the incubation during the 28-32 day period and is fed by the male. The young fledge 25-30 days after hatching and are dependent upon the adults for another 4-5 weeks. By mid-October most individuals have migrated south of Michigan (Evers 1994). Merlins prey primarily on small to medium-sized birds, ambushing them from a perch or in flight, and striking them to the ground or killing them in mid-air. They will also take large insects, such as dragonflies and grasshoppers, especially in the summer when insects are quite abundant. Merlins are almost entirely diurnal hunters but occasionally they will hunt at dusk when bats are taken

(Johnsgard 1990). Food caching has been recorded both during the breeding season as well as on the wintering grounds (Oliphant and Thompson 1976, Pitcher et al. 1979). Fledglings sometimes at play will half-heartedly chase potential prey species (Oliphant 1974).

Conservation/management: Since the merlin's major breeding grounds are north of Michigan, its population in the Upper Peninsula is expected to be low and fluctuating. In North America, loss of suitable habitat may be the major factor affecting merlin populations (Cade 1982). Currently, the merlin's habitat in Michigan is not seriously threatened and there are no known factors that are critically limiting its present population in the state. In some portions of the country dying of preferred nesting trees in woodlots and shelterbelts is suspected to have impacted merlin numbers (Sodhi et al. 1993). The effects of habitat loss and land conversion in Central and South American wintering grounds are still unknown (Sodhi et al. 1993). While death by both poisoning and shooting has diminished in the past 40 to 60 years there are still widespread reports of each occurring in recent years.

Research needs: Systematic surveys of the Upper Peninsula and portions of the Northern Lower Peninsula are required to determine its current status and population trends. Recent information is lacking on the productivity and reproductive success of the merlin in the Great Lakes states. There is some evidence that a few merlins winter in southern Michigan so observations should be carefully documented (Payne 1983).



Photo by: Charles W. Cook



Related abstracts: Dry-mesic northern forest, dry northern forest, wooded dune and swale complex, northern goshawk, false-violet, Richardson's sedge

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