

Diurnal Migration of Birds in the Great Lakes Region

By Robert Russell

Lincoln (1935) notes the day migrants include “in addition to some of the ducks and geese, loons, cranes, gulls, pelicans, hawks, swallows, nighthawks, and swifts”. Lincoln also notes that nocturnal migrants can continue travel during the day, particularly in spring as they approach their breeding grounds. “At this time flocks of birds maintain a movement in the general direction of the seasonal journey while feeding on or near the ground. Sometimes they travel hurriedly, and while their flights may be short, they can cover an appreciable distance in the course of a day.” Most birders are aware of this phenomenon from observing successive waves of warblers under optimal spring weather conditions in late April and May, hopping from tree to tree and not tarrying more than a couple of minutes in one area. These waves can consist of up to 10-20 species of warblers, vireos, and kinglets moving at a frenetic pace in the shrubs and treetops of the Great Lakes region. The actual distance traversed by these “tree top to tree top” migrants is unknown although I have seen guesstimates made that birds might be able to cover 25 miles or more.

Veteran Duluth, Minnesota and Braddock Bay, New York hawk counter Frank Nicoletti (pers. comm., July 2006) notes that during suitable weather conditions the movement of passerines can continue all day in large numbers along the Great Lakes shores. He notes movements of birds not well documented in the literature including several species of woodpeckers (Hairy, Black-backed, Northern Flicker), American Pipits, Black-capped Chickadee, Boreal Chickadee, Horned Lark, various winter finches such as Evening Grosbeak, Pine Grosbeak, Pine Siskin, and Purple Finch, as well as Snow Bunting and Lapland Longspur.

Howe and Atwater (1999) note that additional diurnal migrants include vultures, Cliff Swallows, and Franklin’s Gulls, the latter which forage on flying insects as they migrate southward. I have noted large movements of gulls along both the eastern and western shores of Lake Michigan at places such as Evanston, Illinois and Lake Macatawa, Michigan, beginning in June with the passage of the first cold front of the autumnal bird migration season and continuing until late in the fall. Most of these flights consist of Herring and Ring-billed Gulls with lesser numbers of Bonaparte’s Gulls later in the season and occasional Franklin’s Gulls and Caspian Terns mixed in with the larger gulls. Movements are usually above the foredune or immediate beach and may extend several hundred meters or more inland.

Examples of specific diurnal migrants follows:

Common Nighthawk (*Chordeiles minor*): *The Birds of North America* account (Poulin et al. 1996) notes that migration flights occur both day and night but most are observed during early evenings in fall. Ewins (1993) notes that the species becomes quite gregarious during fall migration with flocks of 1,000 birds not uncommonly recorded during this time in Ontario. Large movements occur in this province in a southerly or southwesterly direction and along lake shores and river valleys in late afternoon or evening. Details of diurnal movements in late summer along the Lake Superior North Shore including Duluth can be found in *The Loon* 58: 197 and 63: 68-69.

Chimney Swift (*Chaetura pelagica*): Cink and Collins (2002) note this species as a long-distance diurnal migrant, moving in large flocks high in the air (50-100 meters), roosting in first convenient chimney at night in groups of 50-1,000 birds. Spring migration is noted as “hurried” but more leisurely in fall, but speed of migration still variable.

Ruby-throated Hummingbird (*Archilochus colubris*): hummingbirds can frequently be seen migrating low over the dune lands in August and September on both sides of Lake Michigan. This species is an obligate diurnal migrant, foraging as they move southward but also migrates nocturnally across large bodies of water such as the Gulf of Mexico. Brock (1997) notes unpublished data from Henry Stoddard’s field notes from a 1919 hike from Gary to Mineral Springs along the Lake Michigan shoreline in Indiana when Stoddard saw “literally thousands of hummingbirds in the swamps and surrounding territory, buzzing, and cheeping and fighting.” Granlund, McPeck and Adams (1994) document a similar but smaller flight from Berrien County, Michigan when more than 700 hummingbirds were counted on 28 August 1975.

Robinson et al. (1996) notes that wind velocity and direction strongly influence migration along ridges in the Pennsylvania mountains. Diurnally-observed migrants are most numerous after passage of strong cold fronts and northwest winds, suggesting that hummingbirds gain some energetic benefit from wind. They noted the greatest proportion of migrants during the midday hours, which may indicate that birds must “refuel” in the early morning hours and have not yet acquired sufficient reserves for protracted migratory flights.

Tree Swallow (*Tachycineta bicolor*): Robertson et al. (1992) note that the Tree Swallow is a “diurnal migrant, flying low to very high, often in loose flocks.”

Barn Swallow (*Hirundo rustica*): Brown and Brown (1999) note that this species is a diurnal migrant, foraging as it moves. They also note that this swallow is often seen along lakeshores, where groups may pass continuously for several days to weeks, always parallel to the coast.

Cliff Swallow (*Hirundo pyrrhonota*): Brown and Brown (1995) write that there is little information on this species migratory behavior. “Usually seen in groups of up to several hundred, occasionally several thousand birds. Probably exclusively diurnal migrants, foraging as they move”.

Bank Swallow (*Riparia riparia*): Garrison (1999) notes that this species is a medium-to long distance diurnal migrant moving in mixed species flocks with Cliff, Tree, and Barn Swallows. Migration peaks in fall between early August and late September when hundreds to thousands may be seen moving in mixed species flocks.

Northern Rough-winged Swallow (*Stelgidopteryx serripennis*). DeJong (1996) classifies this species as a medium-distance diurnal migrant, typically migrating in mixed-species flocks, which may include few or many birds. He also notes that in the United States migration generally tracks available aerial insects. It often associates with the Bank swallow on migration with spring assemblages (4-20 birds, hundreds occasionally) much smaller than fall ones when species occurs in much larger mixed-species groups, commonly including hundreds of Northern Rough-winged Swallows and moving over diverse habitats, often far from water. Although the

species has been recorded in habitats up to 3,000 meters in elevation, the flight itself has not been observed at high altitude.

Cedar Waxwing (*Bombycilla cedrorum*): DuMont (1947) noted several hundred flying along the Lake Michigan shoreline in the Indiana Dunes on June 1, 1947. This is a widely reported diurnally-migrating species noted at bird observatories and hawk watches during spring and fall with some nocturnal migration occurring as noted from kills found at TV towers in Florida from late fall into spring. Witmer et al. (1997) notes a diurnal movement of waxwings estimated at 50,000 that occurred inland in South Carolina and continued from morning into the afternoon. Along Lake Michigan in Indiana, Brock (1997) notes that in spring “large diurnal flights are occasionally noted along the lakefront.”

Horned Lark (*Eremophila alpestris*): the Horned Lark is noted as a diurnal migrant only, foraging as flocks move, with no records of nocturnal kills at transmitter towers (Beason 1995). Larks usually follow the immediate shoreline and frequently occur in fields and low dunelands in the immediate vicinity of the lake shore. In early March I have observed Horned Larks in mid-afternoon moving northwest from the Marbledhead Peninsula in Ohio over the frozen waters of Lake Erie towards the Canadian North Shore.

Blue Jay (*Cyanocitta cristata*): Tarvin and Woolfenden (1999) note that this is almost exclusively a diurnal migrant. Flights usually begin about an hour after sunrise and cease by noon, resuming later in the afternoon on some days. Altitude during migration is noted as “<130 meters.” Huge concentrations have occurred along the shores of Lakes Erie and Michigan in both spring and fall. These birds usually follow the lakeshore rather closely, moving over the foredunes but also for some distance inland, depending upon local topography.

Yellow Warbler (*Dendroica petechia*): Duncan and Weber (1985) note that this species is a diurnal circum-gulf fall migrant along the western Gulf of Mexico. Known primarily as a nocturnal migrant in the Great Lakes, the Yellow Warbler is nevertheless frequently seen performing diurnal migration in association with major warbler movements along the Great Lakes shores.

Contact the Hawk Migration Association of North America’s website for detailed observation data at the Muskegon hawk lookout, a site which should closely resemble hawks moving through the Ludington dunes region.

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