# New Hampshire Bird Records



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# New Hampshire Bird Records Volume 31, Number 3 Fall 2012

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### IN MEMORY OF Joseph F. Quinn

This issue of New Hampshire Bird Records with its color cover is sponsored by the friends and family of Joe Quinn. Joe was an avid birder and volunteer for NH Audubon who also inspired his younger brother, Bob, to take up birding. He will be missed.



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## Spotlight on Cave Swallow (Petrochelidon fulva)

by Zeke Cornell

#### **Background**

The Cave Swallow, as the name implies, nests and roosts in caves. This species will also nest under bridges, use sinkholes and, in the Yucatan, it has been observed using wells. In the United States, breeding occurs primarily in Texas, and it has also expanded its range into southeastern New Mexico. A small stable population also nests in southern Florida, south of Miami.

Currently, there are five subspecies recognized in North and Central America. The three Caribbean subspecies are *P.f. fulva* (which is thought to be the



Cave Swallow by Len Medlock, 11/24/12, Rye, NH.

Florida breeder), *P.f. poeciloma*, and *P.f. puertoricensis*. The subspecies in southern Mexico/Yucatan Peninsula is P.f. citata. The other subspecies of Mexico, P.f. pallida, resides in the northern Mexican states and the southwestern United States.

Swallows are generally named for their nesting sites. The approximate translation of the scientific name for Cave Swallow is Petro (rock) chelidon (swallow) fulva (tawny).

#### Occurrence in New Hampshire

Cave Swallows were first encountered in New Hampshire in 2003 and have been recorded in seven of the last ten years (not seen in 2006, 2009, and 2011, Table 1). Steve and Jane Mirick recorded the first sighting on November 26, 2003 when they found four birds along the shoreline at Concord Point in Rye. The birds roosted under the eaves of a nearby house and emerged the next morning on Thanksgiving Day to the delight of many birders. (See Steve's article in the Fall 2003 issue of *New Hampshire Bird Records*, Vol. 23, #3.)

All of the sightings in New Hampshire have been during the month of November and only along the seacoast. The sightings range in date from November 4 to November 27, with the preponderance between November 24 and November 27. The locations stretch from Hampton Beach State Park at the southern end to Odiorne Point State Park in Rye at the northern reach. Since 1986, the similar Cliff Swallow has only been seen in November on two occasions, once in 1993 and once in 1998, so members of the *Petrochelidon* genus (Cave/Cliff Swallow) seen in late fall are likely to be the Cave Swallow. (Identifications of the November Cliff Swallows were carefully determined by observers—Steve Mirick, et al.) Table 1 shows the locations and the number of birds reported over this past decade.

Table 1. Cave Swallow occurrence in New Hampshire, 2003-2012 (Data sources: New Hampshire Bird Records March 1986 to July 2009; eBird online database, 2009-2012)

Year	Dates of occurrence	Number of birds
2003	Nov. 26-27	4
2004	Nov. 26	1
2005	Nov. 12	1
2006		none
2007	Nov. 4	1
2008	Nov. 9	1
2009		none
2010	Nov. 24-25	6-10
2011		none
2012	Nov. 24-25	12-16

The birds seen in New Hampshire are believed to be of the subspecies *P. f. pallida*, which is the southwestern variety from New Mexico or Texas. Engel et al (2011) analyzed specimens from eastern North America and determined that vagrants in this area were consistent with the southwestern subspecies and not birds from the Caribbean area.

#### **Expansion and Vagrancy**

Cave Swallows were first documented nesting in Texas in 1914 and in New Mexico in 1930. Previously, the Cave Swallow was considered vagrant in the US, but the species seemed to be expanding from northern Mexico. Florida's first nests weren't recorded until 1987, even though vagrants were reported nearly a hundred years prior in 1890. The nesting in Florida seems to coincide with a major expansion of this species since the mid-1980s. It had been anticipated that the birds nesting in Florida would continue to expand northward, but as of 2011, this has not occurred. The expansion in Florida and Texas has been assisted by human structures, such as culverts and bridges. Once restricted to the Edwards Plateau in Texas, Cave Swallows now reach nearly 200 miles from the Plateau, extending from the Louisiana-Texas border well into west Texas. It has been noted that this is particularly true along the interstate highways (10 and 20), as well as along other routes with highway bridges. Before the 1980s, Cave Swallows wintered south of the US border. Since the 1980s, birds in Texas have regularly overwintered there, but some of the southwestern subspecies (P. f. pallida) have extended this overwintering to coastal South Carolina and Georgia in more recent years.

As the expansion of the Cave Swallow has continued during the last 25 to 30 years, there have been regular vagrant reports in many areas, but in particular into the Great Lakes, the Northeast, and across eastern Canada through Quebec and into the Atlantic Provinces. The birds in the Northeast are seen most often in late fall (November and December) and there is speculation that these incursions are related to weather patterns. The increase in sightings in more recent years may also be the result of better coverage by birders, now anticipating possible vagrants at that time of year.

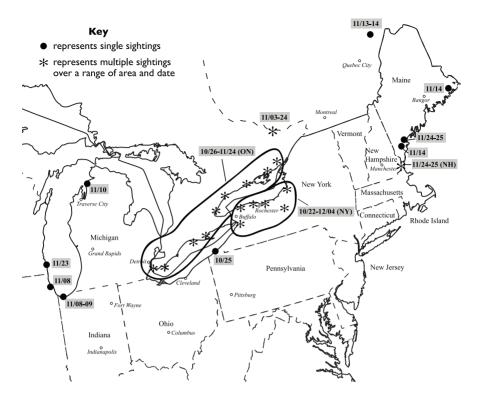


Figure 1. 2012 Cave Swallow Vagrancy (Great Lakes, Canada, New York, Maine, and New Hampshire). Reports from the fall season of 2012 illustrating the initial appearance of Cave Swallows in the Great Lakes area before being recorded in New Hampshire. For areas with multiple sightings (i.e. Lake Ontario and Lake Erie) only selected sighting locations are shown. Data from areas to the south of New Hampshire and the Great Lakes are not included. Data source: eBird.

#### **Comments**

Cave Swallow sightings are typically for only a day or two in any given season. While the records indicate November is the most likely month in New Hampshire for these vagrants, predicting whether Cave Swallows will occur in a particular year and when is more difficult. Interestingly, a cursory review of sightings in 2010 and 2012 indicates that Cave Swallows were seen in the Great Lakes region, across eastern Canada, and in Maine (eBird data) before there were any records in New Hampshire. For example, there are many records from the Great Lakes region in November 2012 including the following at Lake Ontario on November 12: 44 at Derby Hill, 61 at Hamlin Beach and 11 at Braddock Bay. In that year New Hampshire had the largest numbers of Cave Swallow sightings recorded to date. In 2011 (October-December), however, there were no records of Cave Swallows from the Great Lakes region and no records from anywhere in New England north of Connecticut.

According to Steve Mirick (personal communication), he has noticed a very strong correlation between observations of Cave Swallows on the New Hampshire coast and cold fronts with west or northwest winds. He has observed that the typical pattern is

for Cave Swallow numbers to build in the Great Lakes region in certain years and then, when a strong front with cold northwest winds occurs, the birds are transported to the coast of New Hampshire and other New England states. He has remarked on this in numerous posts to the NH Birds email list over the years.

Michael Fahay (a resident and birder of Maine) has observed a similar pattern in Maine:

"It's also very easy to track the movements of Cave Swallows using eBird's mapping function. In years where we've had observations of these in Maine, they have invariably shown up along the shores of the Great Lakes before we see any. This year doesn't look good. Except for an early report from NJ on Halloween, recent reports have been limited to Cape May, NJ, and a few in MD." (posted on Maine Birds in November of 2011)

Michael's forecast was accurate and, as stated previously, no sightings were recorded for Maine or New Hampshire in 2011.

This means we can use the mapping feature in eBird to provide a possible early warning system for Cave Swallow occurrence in New Hampshire. Steve Mirick offers a tutorial on the use of eBird's mapping function in the Fall 2010 issue of *New Hampshire Bird Records*, Vol. 29, #3, "Using eBird to Find When and Where a Species Occurs." The article is also available online at the *New Hampshire Bird Records* web site at: http://www.nhbirdrecords.org/journal/articles/NHBR-Fall2010.pdf (or go to the *New Hampshire Bird Records* home page, click on contents, scroll down to Fall 2010, and click on the hot-link to Steve's article). When using the map and data for the current year (select the CHANGE DATE button and choose only the current year), we can see if there have been Cave Swallows reported in the eastern United States. If there are reports from the Great Lakes, birders in New Hampshire should be on the lookout.

In a bit of serendipity, the write-up on Cave Swallow in *Birds of North America* discusses predators of this species. The author states that there is a paucity of information regarding avian predators of the Cave Swallow. Known predators are the Great Horned Owl and the Barn Owl and it is likely that the Spotted Owl, which roosts in caves, is a predator of the Cave Swallow as well. The final comment of this section is "Falcons ( Falco spp.) are also likely but unproven predators of Cave Swallows" which *New Hampshire Bird Records* can now document! (See Rich Frechette's article "Cave Swallow for Lunch" on page 64.)

On a different note, the literature on the taxonomy of this species can be a bit confusing. Until recently, South America was considered to have two subspecies of Cave Swallow, but those are now viewed as a separate species, Chestnut-collared Swallow, *Petrochelidon rufocollaris* with two distinct subspecies. In addition, authorities are discussing whether the Caribbean species and the northern Mexico/southwestern United States subspecies should be split into *P. fulva* and *P. pallida*. This is complicated by evidence of mitochondrial exchange between these disparate groups. Furthermore, one can find seven named forms in the literature for the North American groups, although the *Birds of North America* currently cites only the five previously described subspecies.

This is a great bird to see in New Hampshire. Watch for eBird postings across the eastern and northern portions of the United States or Canada, as discussed, and best of luck each autumn.

A special thanks and acknowledgment to David Donsker for his assistance on the taxonomy of this species and the views of various naming authorities, and Steve Mirick for his editing and invaluable documentation of Cave Swallow movements over the years.

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Zeke Cornell has been birding for four plus decades, but only recently in New Hampshire. He is enjoying becoming acquainted with the nooks and crannies of the Granite State and New England birding.

#### **Abbreviations Used**

on of
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