

2020 Summary of Cliff Swallow monitoring in New Hampshire

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Population Status

Of 29 Cliff Swallow colonies known to be active since 2015, 24 were visited at least once in 2020. Cliff Swallow activity was detected at 19 of these. Six new colonies were discovered in the course of these surveys or from reports made by birders. Most noteworthy of these were three colonies on bridges, bringing the statewide total of bridge sites to six (Appendix).

In total, at least 25 Cliff Swallow colonies, supporting an estimated 168 pairs, were present in NH in 2020 (Table 1). These are the highest totals since more systematic monitoring began in 2017 (Figure 1, Appendix). Although it appears the total nest count is increasing, full nest counts were not available at all sites in 2017-2018 and estimates for unsurveyed sites are intentionally conservative here. In the years with more intensive surveys (2019 and 2020), total nest counts are comparable. Much of the increase in nests from 2019 to 2020 is from the new colonies, and numbers at previously occupied sites have varied relatively little between the two years. What follows is a summary of current status in three regions of the state.

Northern New Hampshire

The majority of the state's colonies (15/25), and some of the largest ones, continue to be in Coos County, particularly Pittsburg. Colonies here have generally maintained their present sizes in this region for multiple years, although smaller colonies (i.e., less than five nests) are more likely to disappear and/or be recolonized intermittently. In 2020, there were four completely new colonies discovered in Coos and nearby northern Grafton Counties, as follows:

- 1) Harvey Swell Road, Colebrook. This eight-nest colony on a barn was found by following up on a report in the area from a birder searching for Northern Harriers in late May. It is not far from a historic site of a smaller colony at the intersection of Bear Rock and Harvey Swell Roads, and might represent a relocation of the latter.
- 2) Downtown Errol. A single nest found on a business here in June represents the first breeding in the Errol area since apparently the 1990s. Records from along Route 26 in Millsfield between 2010 and 2014 have suggested a small population in this area, and it is possible that additional nests remain to be discovered.
- 3) Moriah Valley Farm, Shelburne. This colony was located while searching for Cliff Swallow activity at the nearby Meadow Road bridge over the Androscoggin River, which hosted a colony as recently as 2015. No birds were detected using the bridge, but swallows were detected overhead and eventually seen going between farm buildings, presumably to access unseen nest sites. At present, the exact location of nests has not been determined at this colony.
- 4) Route 18 bridge over Connecticut River, Littleton. Birders discovered this colony in early June, with reports of up to six birds submitted to ebird. The actual number of nests is currently unknown due to access difficulties.

In addition to the Harvey Swell sighting above, there were four other Cliff Swallow sightings unassociated with known colonies in mid-May. These all bear further investigation, but one from Hall Stream Road in particular was possibly associated with a colony last confirmed in 2016. The site was not visited again until late July, when no birds were detected. Given that nesting activity in Pittsburg was already winding down by this time, it is possible that a small colony persists here. The multiple new and potentially new colonies in the north in 2020 illustrate the potential difficulty of finding new colonies in Coos County without dedicated efforts. Birders visiting the region tend to gravitate toward popular birding sites or known Cliff Swallow colonies, and thus not put effort into looking for new sites. Several of the 2020 sites were associated with observers conducting surveys for Northern Harriers, and given that the latter will be continuing for 2-3 more years, making harrier biologists aware of the need for Cliff Swallow data may go a long way toward getting better information on the species' status in the North Country.

Lakes Region

There are only six colonies in the Lakes Region (here broadly defined to extend west as far as Danbury), but two of them (in Tamworth and Danbury) are among the four largest in the state (Appendix). Collectively this region accounts for roughly a third of the nests in the state. There were no significant changes in overall numbers in 2020, although total active nests was lower at the Steele Farm. However, this could be in part due to the timing of surveys, and one recommendation is to implement more intensive monitoring at this site to assess seasonal variation and productivity (to be described below).

Seacoast

Cliff Swallows are barely persisting in the Seacoast Region, with only four known colonies probably supporting fewer than a dozen pairs in 2020. This is a minimum estimate, since a complete nest count was not obtained from the dispersed colony in downtown Dover. However, the presence of two new sites on bridges around Great Bay is encouraging.

- 1) Scammel Bridge over Bellamy River, Dover. Swallows were first noted here in late May and nesting confirmed in June. A boat is needed to determine the actual number of nests, but I suspect at least four were present given where birds were flying under the bridge. One nest was visible from shore. This site was last used in 2013, when it supported an estimated 20 pairs.
- 2) Route 108 bridge over Squamscott River, Stratham. A bird was seen gathering mud material at Chapman's Landing in early June, and taking it under the adjacent Route 108 bridge. On a water-based check of this site in late July there was evidence of an incomplete nest, but swallows appeared not to have attempted breeding beyond this. It is possible that the paint on the bridge supports did not allow mud to adhere and the birds abandoned the attempt, in which case it is possible they tried elsewhere nearby. This site may be a good candidate for future restoration efforts using artificial nests.

Table 1. New Hampshire breeding distribution of Cliff Swallows by county in three time periods.

County	Confirmed blocks in BBA (1980-85)		Colonies from NH Bird Records: 2001-10	Active colonies 2017-19*		Active colonies 2020	
	Priority	Total		Number	Pairs	Number	Pairs
Belknap	4	4	1	0	0	0	0
Carroll	9	15	10	4	49	3	34
Cheshire	1	1	0	0	0	0	0
Coos	15	23	11	12	100	14	96
Grafton	12	14	4	3	6	3	12
Hillsborough	4	5	1	0	0	0	0
Merrimack	7	8	1	1	18	1	17
Rockingham	1	2	3	1	1	2	2
Strafford	2	4	3	4	11	2	6
Sullivan	4	5	0	0	0	0	0
Total	59	81	34	25	194	25	167

* Numbers in these columns are the maximum number over the three years.

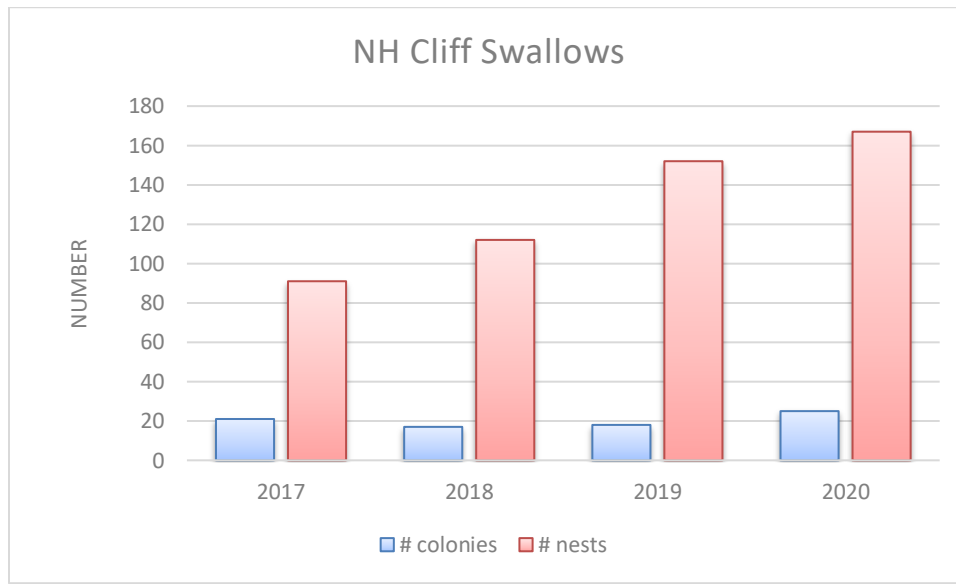


Figure 1. Number of Cliff Swallow colonies and nests in New Hampshire, 2017-2020. Numbers of nests in some occupied colonies were not available in some years (primarily 2017-18), in which cases the nest count was estimated based on other surveys within 1-2 years. All such estimates erred to the conservative side (e.g., the lower end of any range).

Technical Assistance

In the course of site visits in 2018-20, contact was made with homeowners at ten colonies (four sites in Pittsburg; three in Tamworth, and one each in Colebrook, Danbury, and Dover. With the exception of the Dover site (Fresh Creek Farm), which was unoccupied in 2019 (and not visited in 2020), these sites collectively supported over half (N=92) of known nests in the state. All owners of active colonies were amenable to having Cliff Swallows nesting on their buildings, and expressed no intention of ever interfering with the nests, especially during the breeding season. Challenges associated with COVID-19 complicated unsolicited landowner contact in 2020, and I have opted to send letters to a handful of landowners informing them of the swallows on their buildings. Before I send these, I will consult with NHFG on language, and each letter will also include a copy of the recently completed “Cliff Swallows in NH” brochure.

Because Cliff Swallow colonies are now included in the NH Natural Heritage database, we received two inquiries from the NH Department of Transportation about colonies of bridges that were scheduled for repaving in 2020. DOT agreed to delay paving until after the breeding season if the colonies were active, and both were checked in May. One bridge was the large active colony in Milan, and DOT was informed of the need to delay paving at this site. The second was over the Androscoggin River in Shelburne, and the visit here turned up swallows using a nearby farm but not the bridge. If the apparent growth of bridge colonies in 2020 continues, it is likely that NHHB “hits” will occur more frequently, and limited experience so far suggests that DOT is willing to accommodate nesting swallows to the extent that the agency is able.

Future Work

The last 3-4 years of Cliff Swallow monitoring have indicated that the statewide population has remained consistently in the range of 20-25 colonies, and roughly 150 breeding pairs. Between colonies on bridges and on buildings with supportive homeowners, the vast majority of Cliff Swallows in New Hampshire occur at sites that are secure from significant disturbance. In 2020 there were several small new colonies detected, five of these as a result of observations submitted by birders via eBird. There were 4-5 additional May reports to eBird that might represent previously unknown colonies, and these will be investigated as time allows in subsequent breeding seasons. With dedicated staff surveying for Northern Harriers in Coos County, there is potential for more such incidental records, since Cliff Swallows often occur in the same agricultural landscapes. We plan to make harrier field technicians aware of the value of swallow observations, and encourage their reporting in a timely fashion so as to enable follow-up later in the breeding season.

As mentioned above (“Technical Assistance”), landowners need to be contacted for some of the new colonies discovered in 2020. These landowners will be sent a letter informing them of the presence of a colony on their property, and given a copy of the recently completed Cliff Swallow brochure. If needed, we will attempt to set up a site visit in 2021 to determine the size and exact location of these colonies. The addition of Cliff Swallow colonies to the NH Natural Heritage database now ensures that DOT activity on State bridges will trigger environmental review. In 2020 this allowed for a shift in timing of paving at one site, and discovery of an additional non-

bridge site. The expansion of bridge-nesting near the Seacoast may mean future opportunities to partner with DOT in that area.

Only one site in NH currently uses artificial nests as a means of encouraging Cliff Swallow nesting. That landowner is interested in expanding their colony by adding additional nests, and we hope to be able to provide these in the spring of 2021. Artificial nests pre-attached to a board or similar base may also be useful where nests regularly fall off of bridges or buildings because of site conditions (e.g., paint), weather, or low-quality mud for nest building (e.g., too much sand). At least one site in Pittsburg and one of the new bridge sites on the Seacoast would likely benefit from artificial nests, and options for deploying them at these sites will be explored over the fall and winter of 2020-21.

Finally, now that we have a more comprehensive assessment of Cliff Swallow status in New Hampshire, it is appropriate to look more closely into possible threats, at least on the local scale. To do so, I am considering selecting a few easily accessible colonies for more detailed observation in the spring and summer of 2021. At these colonies, staff or trained volunteers would make regular visits to determine nest status, including stage of breeding (nest building, eggs, nestlings, fledged) and nest fates (not completed, fell off, depredated, successful). This sort of basic demographic work may help identify factors influencing nest success or colony persistence, and thus inform future conservation actions.

Appendix: Details on colony status, including technical assistance contact, at active Cliff Swallow colonies in New Hampshire 2017-20. Yellow highlighting indicates new or reoccupied colonies discovered in 2020

Site (roughly north to south)	Town	Pairs 2017	Pairs 2018	Pairs 2019	Pairs 2020	Colony Notes (on building unless otherwise noted)	Landowner Contact
Tabor Road #1 (Maple Ridge Farm)	Pittsburg	X*	15	20	17		Yes, supportive
Tabor Road #2 (Indian Stream Farm)	Pittsburg	X	17	4	10		Yes, supportive
Route 3 at Indian Stream	Pittsburg	X	0	0	10	BRIDGE. Shifting betw this and next site	
Pittsburg Mulch 'n More (office)	Pittsburg		7	7	3	Shifted from previous site in 2018	Yes, supportive
Partridge Cabins	Pittsburg	3	8	5	5	Includes artificial clay nests	Yes, supportive
Metalak Place	Pittsburg	1			1	Probably satellite of previous	
Pittsburg School	Pittsburg	X	5	12	9		
Methodist Church (community building)	Pittsburg	2	5	2	3		
Hodge Farm	Stewartstown	2		0	0		
Harvey Swell Road	Colebrook				8		Yes, supportive
Balsams clubhouse	Colebrook	X	?**	?**	2	Need more intensive survey	Partial (seasonal employee)
Northern Exposure	Erol				1		
Androscoggin River bridge	Milan	P†	X	20	25	BRIDGE	Yes, delayed repaving in 2020
Moriah Valley Farm	Shelburne				2	Birds in area, but nests not seen	
Colby Road barn	Whitefield	2	1	1	1		
Route 18 Bridge over Connecticut R.	Littleton				2	BRIDGE	
Steele Farm	Tamworth	X	12	38	28		Yes, supportive
Littlemore Farm	Tamworth	3	3	6	4		Yes, supportive
Remick Museum	Tamworth	1	1	1	2		
Community School	Tamworth			4		Last occupied 2009, appears irregular	Yes, supportive
Pulsifer's Farm	Campton	1	P†	1	1		No one home
Burleigh Farm	Holderness	4	P†	3	9		No one home
Route 4 barn	Lebanon	1					
Smith River meadows	Danbury	8	5	18	17		Yes, supportive
Washington Street mills/Cocheco R.	Dover	3	P†	8	2?	Some nests on BRIDGE	
Fresh Creek Farm	Dover		6	0		Overtaken by House Sparrows	Yes, somewhat supportive
Three Rivers Farm	Dover	3		0		Owner installed metal spikes	No, presumed not supportive
Scammel Bridge	Dover				4	BRIDGE. Last occupied 2013	
Route 108 bridge, Squamscott R.	Stratham				1	BRIDGE. Nest building not completed	
Fort Constitution	New Castle	1	1	1	1	Under eaves of entrance to fort	Partial (seasonal employee)
	Totals:	Colonies	21	19	17	25	
		Pairs	33‡	91‡	151	168	

* X = colony known to be active but no data on number of pairs

** ? = birds present in vicinity but nests not located, not included in colony totals.

† P = colony presumed active due to activity in years before and after.

‡ incomplete totals due to "X" and "P" colonies