

A Decade of Swift Conservation with the Wildlife Action Plan

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Chimney swifts, also known as “flying cigars,” are a common sight in the skies of the Northeast throughout spring and summer. However, populations have declined steadily over the last several decades across their entire range.

In 2005, DEEP issued Connecticut’s Comprehensive Wildlife Conservation Strategy (now called Wildlife Action Plan) aimed at guiding the state’s conservation efforts over a decade. A main tenet of this document is to “keep common species common,” encouraging a proactive approach to managing wildlife species that may become threatened in the future. The chimney swift was a particularly interesting and accessible species to focus on in Connecticut because the state is in the core of this bird’s range with plenty of towns full of chimneys.

At the start of Wildlife Division investigations, it was assumed that chimneys were limiting swift populations. Initial efforts focused on this problem through a coordinated regional monitoring effort called “Chimney Watch.” This effort included a standardized inventory to assess local areas for their capacity to support chimney swift populations, as well as quantify the occupancy rates of each area. Essentially, we counted chimneys and then determined just how many chimneys were being used by swifts. Surprisingly, it was discovered that there are more than enough available chimneys for chimney swifts in the Northeast. What we clearly thought would be a simple conservation action – creating more chimneys for nesting – turned into a mystery. It was discovered that we need to look more closely at these birds’ whole life cycle to understand and stop their decline.

The biggest breakthrough came when the Wildlife Division coordinated with colleagues in Canada to confirm dietary shifts in response to pesticide use. This was discovered through identification of invertebrate remains in over 30 years of accumulated guano from a roost in Willimantic, Connecticut. Guano remains exhibited the same decrease in relative proportions of remains for *Coleoptera* (beetles) to *Hemiptera* (true bugs) species as was observed in Ontario, and this change coincided with the use of the pesticide DDT and the documented decline of swifts in the U.S. Geological Survey Breeding Bird Survey. With the research,

there now was indirect evidence that food may be part of the driving cause of the swift decline. Still far from a direct link, researchers are in need of good monitoring protocols to track the birds and their invertebrate food source, with the goal of prescribing measures to stop the swifts’ decline.

Through various trial and error efforts, researchers and citizen scientists have been refining protocols to monitor biological rates, like productivity and survival, with the ultimate plan of linking these metrics with information about invertebrate abundance and availability:

- Citizen scientists piloted nest monitoring efforts, but results were unreliable. It is clear that camera systems are required for accurate monitoring of nests.

- Roost monitoring has also proven to be an ineffective index of productivity, but counts of chimney swifts in June at consistent summer roosts will serve as a useful population index to detect trends over time.

- Preliminary efforts to mark-recapture birds have laid the framework for a process that could quantify survival rates and movement of swifts, but are hampered by difficult trapping conditions, trap savvy birds, and low sample size.

We still have not definitively solved or put a stop to the chimney swift decline, but we know more and can set some conservation actions. Chimneys are not limited in Connecticut, but if the capping of chimneys continues at the current rate, nesting chimneys may become scarce. We can use our knowledge of preferred chimney structural characteristics to focus conservation on these chimneys to keep swift roosts and nests common!

Chimney Swift Roost Watching events and public outreach at key roosting



JUDY GRUND, MASTER WILDLIFE CONSERVATIONIST

Chimney swift roost watching events and public outreach at key roosting locations have increased awareness and appreciation for swifts.

locations have increased awareness and appreciation for swifts. These efforts have resulted in conservation of multiple roost chimneys that were slated for demolition.

With the knowledge that the chimney swift decline is echoed by other aerial insectivore declines in the Northeast, a more comprehensive effort is warranted to understand what has changed in these birds’ diet and what can be done to keep all of these declining species common. Activities in the next decade should focus on the lack of knowledge about the aerial invertebrate/bird interface and, if warranted, what is causing the aerial invertebrate food shortage.

The Wildlife Action Plan is currently under revision and will best serve Connecticut’s wildlife with input from the public. You are encouraged to provide input via email at deep.wildlifeactionplan@ct.gov. Visit the DEEP website at www.ct.gov/deep/wildlifeactionplan to learn more and also get involved.

