

Connecticut Purple Martin Newsletter

Winter 2014, Issue 2

Now that our purple summer visitors are taking their winter break in warmer climates, it seemed an appropriate time for the next edition of the Connecticut Purple Martin Newsletter. Thank you to everyone for a great field season in 2014. It was a very successful year filled with several new records and some promising new beginnings. The word is out about this project thanks in large part to recent media coverage (see the section on Martins in the Media). The interest generated through this work will ensure that we continue heading down the right path towards long-term purple martin conservation in Connecticut.

2014 Banding Recap

We set some records with total numbers of colonies visited (20) and chicks banded (1,192). The number average number of chicks banded per site (60) was also the highest it has ever been. Part of this can be explained by the high productivity observed around the state. There were sites that had five, six, and even seven chicks per nest! Unfortunately when martins are trying to raise that many young there is a small margin for error with regard to outside stressors. And as a result, there were also a record number of deceased chicks reported this year. The causes of mortality varied from site to site but many appeared to have succumbed to starvation because either they could not compete with their nest mates or they were orphaned when the parents were predated. Another source of mortality for the chicks was direct predation from raptors, crows, and raccoons. However, despite the losses, the total number of chicks fledged in Connecticut was impressive.

Another record set was the number of banded birds (42) reported in 2014 bringing the total number of reports up to 86. Once again sightings came from all over Connecticut as well as from neighboring states. Interestingly, at least one adult banded bird was observed at every colony we visited this year, even at sites where banding had never occurred before! Hopefully the trend will continue in 2015.

New Colonies

We also had some new colonies started this year. Most notably is the highly successful colony located at Sherwood Island State Park. In just its first year of existence, the site has already produced over 100 juveniles! The location was selected because of its proximity to the former colony managed by Phil Donahue. The hope was that the returning adults would accept this site as a substitute. The plan worked perfectly. Several of the adult birds had bands revealing that they did indeed come from Phil's colony.



Staff and volunteers banded over 100 chicks at Sherwood Island State Park in July 2014. The banding event attracted a large crowd of reporters and onlookers. Photo by Laurie Doss.

Hoping to build upon their first year success, The Friends of Sherwood Island plan to install more housing to augment the two gourd trees donated by Connecticut Audubon. With a strong network of volunteers and an excellent location, this colony is poised to be a stable, source population for many years to come.

Increasing Inland Population

For years the purple martin population around Kent, Connecticut, has been benefiting from the tireless efforts of Laurie Doss, purple martin enthusiast and dedicated colony manager. She has actively sought

to engage landowners and volunteers in martin conservation. She has also secured sources of funding to purchase new martin housing to help get colonies started or to replace outdated and damaged structures. As a master bander, Laurie has been color banding her four (and growing) colonies as part of the statewide study. Through her efforts we can now determine that the purple martin population around Kent is increasing and expanding to new locations.



Led by Laurie Doss (with clipboard) volunteers check the nest boxes at Lake Waramaug County Club on the Kent/Washington line. Through Laurie's efforts the purple martin population has seen a steady growth in northwest Connecticut.

Useful Tips/Hints

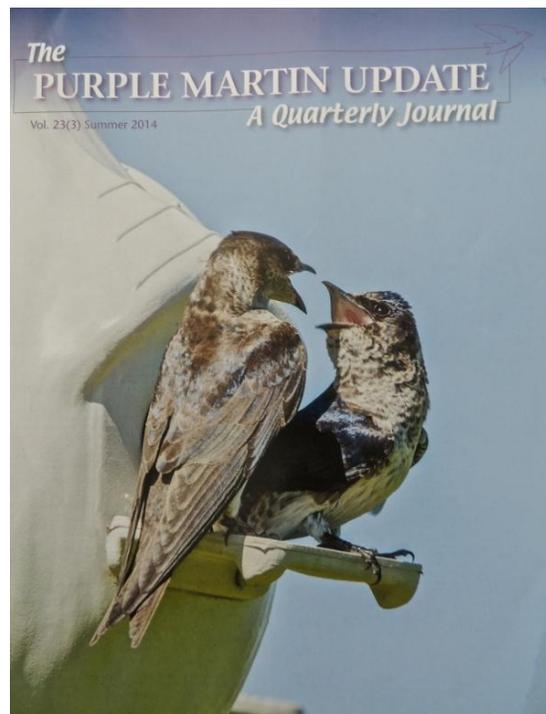
One of the hot topics this year during the banding events was how to control for nest parasites (blowflies, feather mites, etc.) These parasites weaken the young chicks and if they are present in high enough numbers they can actually cause mortality. But how should you control them? Several of you asked about using Sevin dust or diatomaceous earth in the nests. Both of these products are not recommended by the Purple Martin Conservation Association due to concerns for the health of the chicks. However, many contributors to [PMCA's forum](#) have stated that they have used one or the other for years with no apparent problems. What is agreed upon is that changing the nesting material when it is wet and/or

dirty is a great way to reduce the parasite load and increase the survival of the chicks. Cedar shavings are a good choice because they offer some natural insect repellency. [More information](#) about controlling nest parasites and a step by step guide on how to change nesting material can be found on PMCA's website.

Martins in the Media

You can read about the banding event at Sherwood Island State Park by clicking on this link: [The Hour Online](#).

Also attached is an article that first appeared this summer in the Purple Martin Conservation Association's newsletter. It outlines the work we have done here in Connecticut.



Front cover of The Purple Martin Update, Vol 23(3) Summer 2014, pgs 14-17.

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Purple Martin Conservation in Connecticut

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In March 2008, John Tautin (former Executive director of PMCA) called together representatives from each of the New England states to discuss Purple Martin conservation. At that meeting, John presented information regarding the current status of Purple Martins in New England and provided evidence that the population was declining across the region. To address this decline, a New England Purple Martin Working Group was formed. This fledgling group outlined important objectives to further Purple Martin conservation in New England. Those objectives included raising awareness and expanding group representation, surveying existing and historic colonies, improving management at existing colonies, identifying funding sources for conservation actions, and identifying factors that

may be limiting martins in New England. As a result of this meeting, a long-term project was initiated in Connecticut by the Department of Energy and Environmental Protection (DEEP) to address the New England Purple Martin Working Group's objectives. It quickly became apparent that in Connecticut, the recovery of this species would not be as straightforward as one might expect given that martins only nest in structures provided by humans. In theory, if additional housing was provided, subadult martins should find it, utilize it, and increase the population. However, this was not the case. Many housing locations were available, including some adjacent to active colonies, yet have remained unoccupied for years. The criteria these birds were using for selecting nesting sites in Connecticut were not

well understood. A lack of knowledge about dispersal patterns of young birds and the optimal conditions for establishing new colonies threatened to hamper recovery efforts. The work in Connecticut these past five years has been focused on closing this knowledge gap in our understanding of Purple Martins by (1) summarizing the current population status and available nesting structures for Purple Martins in CT, (2) determining what criteria the birds are using when selecting nesting sites, (3) providing additional housing options for the expansion of existing nesting colonies, and (4) determining site fidelity and post-fledging dispersion of second year (SY) birds.

Distribution

The first step was determining where active Purple Martin colonies still



▲ A Purple Martin nest with newly-hatched young.



One of Hans Flink's martin houses in Guilford, CT—note the martin with color bands on bottom left perch. ▲

existed in Connecticut. The current distribution was determined by assessing both newly-formed colonies and historic colonies. The DEEP's Natural Diversity Database (NDDDB) was reviewed for historic records of Purple Martin colonies. Any sites that had definitive locational information associated with them were evaluated and ground truthed to determine their current status. Site visits were conducted for a minimum of 15 minutes. Data collected were type of nesting structure, current usage, box location, and local habitat measurements. Seven historic colonies identified by the NDDDB were visited during the nesting season. All seven still had nesting structures available but only one was still being used by Purple Martins. To date over 35 additional, active colonies have been identified through site visits and word-of-mouth. Most of these colonies are located less than six miles from the coast, with only a few inland colonies identified during this project. Colony size has ranged from one breeding pair up to 53 breeding pairs. The largest colonies are along the coast.

Habitat Analysis

The next step was to determine what conditions made some sites successful while other sites that superficially appeared appropriate remained unoccupied. To get at the answer, local habitat conditions around both active colonies and empty houses were assessed using Geographic Information System (GIS) software and site visits. The variables used in this analysis were selected because current recommendations by PMCA for attracting Purple Martins provide minimum distances and suggested habitat. The variables used were distance to nearest building, distance to nearest waterbody, predominant vegetation type within 25 meters of nesting structure, number of trees within 100 meters of nesting structure, distance to nearest road, land cover within 1,000 feet, and distance to closest active colony. Comparisons were made between active and inactive sites, as well as between coastal (with 6 miles of the coast) and inland sites. Not surprisingly, the active colonies are highly associated with wetlands and open space. What is surprising is that the colonies located along the

coast actually require less open space than the inland colonies. The results of this analysis were used to create a predictive model of Purple Martin habitat in Connecticut. The model is being used to help guide efforts to establish new colonies in areas where success is most likely.

Boxes

To test the validity of the habitat model, martin boxes were erected around two known Purple Martin colonies in Kent, Connecticut, in areas identified by the model. Other objectives were to facilitate and enhance the expansion of these colonies and to determine the maximum distance birds will disperse from their natal colonies. This location was selected because these colonies represent the largest known inland colonies in the state, and they are fairly isolated from other colonies. Potential box locations were selected within fixed distance bands around the colonies by using the habitat model. Other martin banding studies have documented that juvenile martins will travel more than 40 miles to new nesting locations (Jackson 2009, Hill 2003, Miller et al 2001).



To capture this potential for a long-range jump, the distance bands selected were <1 mile, 1-5 miles, 5-10 miles, 10-15 miles, and 15-20 miles from the original colonies. Once locations were selected, landowners were contacted to inquire about their level of interest in establishing Purple Martin housing on their property. Each interested participant was given natural history information about Purple Martins and instructions for maintaining a martin colony. Six Alamo p Purple Martin nesting box systems (box, pole, winch, predator guard, and perching rods) were obtained from PMCA through a special Buy One-Get One Free program. Additional funding for this project was supplied by the Connecticut Endangered Species/Wildlife Income Tax Check-off (ITCO) program. The footings for all six boxes were installed in late 2011 and early 2012. The two boxes closest to the original colonies were successful in attracting nesting martins in 2012. Of the remaining four boxes, two attracted Tree Swallows and two boxes had persistent House Sparrow nesting attempts. In 2013, one of the boxes with House Sparrow issues was moved to a more suitable location prior to

◀ A busy day at one of Hans Flink's martin houses, Guilford, CT.

A returning martin that was banded as a nestling in 2013, carrying the the distinct (yellow over orange) colors of Hans Flink's colony in Guilford, CT. Photo by Terry Shaw, colony manager for the Nature Center in Hamonasset State Park. ▼

the return of the first Purple Martin scouts. It was successful in attracting attention from Purple Martins but none actually nested in it in 2013. The two boxes occupied by nesting martins in 2012 were again successful in attracting nesting martins in 2013 and 2014.

Color Banding

The final piece of the puzzle was to determine how the colonies themselves were interconnected. A



small pilot study was done to test the feasibility of doing a large scale banding of juvenile Purple Martins to track dispersal patterns of second year birds. A total of 142 juvenile birds were banded in 2010 at 4 known colonies in Connecticut. Standard aluminum bands supplied by the USGS Bird Banding Laboratory were fitted to the left leg of each bird. The banding occurred over the course of two days in late June and early July. Each of the juvenile Purple Martins were removed from the nesting structure, banded, and returned to their nests. This project was expanded in 2011. Six active colonies were selected for the color-banding portion of this project. Both inland

and coastal colonies were included in the study to allow for comparison of dispersal patterns. Juvenile birds were targeted for banding because they have been found to be the birds most likely to colonize new locations. Banding occurred in early July when the majority of the juveniles were between the ages of 6 days and 23 days old to minimize premature or forced fledging. If any birds were determined to be too young during the initial banding, a second banding was conducted later. Juvenile birds were removed from the nesting structure, banded, measured, and returned to the the nest. Each juvenile bird was fitted with both a standard aluminum band supplied by the United States Geological Survey (USGS) Bird Banding Laboratory on the right leg and an anodized aluminum color band on the left leg. The color of the band was unique for each colony to allow for future identification of natal colonies and had an alphanumeric code (CT###) to denote individuals. In addition, each bird was weighed and aged using a photo guide produced by PMCA. All banding data were reported to the USGS Bird Banding Laboratory as required under the banding permit. The project was further expanded in 2012 and 2013. The protocol was very similar to 2011 protocol except that plastic color bands were used at new sites. The plastic bands allowed for more color combinations than are available with the anodized aluminum color bands. This project, now entering into its fourth year, has steadily increased in size and effort. In 2011 a total of 541 birds were banded at six colony locations. That number jumped to 16 colonies and 904 chicks in 2012 and again up to 18 colonies and 990 chicks in 2013. All the same

colonies were not banded every year. Several of the smaller sites could not consistently attract martin pairs or produce chicks. Additionally one of the larger privately-owned colonies was not banded in 2013 because of access restrictions. In total, 22 colonies have been involved at least one of the three years. Only five colonies (23%) have been banded all three years. Eight sites were banded two of the three years and nine (41%) were banded only once. Colony size has been highly variable across the state. In 2013, a new colony in northwestern Connecticut only produced three chicks while another well-established site along the coast had over 200 juveniles. The average number of chicks banded per colony was about the same in 2013 (55) as in 2012 (57). This slight drop is likely the result of some chicks being either too old or too young to band when the colonies were visited. There was a wide spread in nesting times coupled with a condensed banding season which made it impossible to band every chick. As this project continues to gain momentum the hope is to get most, if not all, actively-managed colonies involved. When the color banding began in 2011, the area covered was limited to four coastal and two inland colonies in western and central Connecticut. Now there are 13 coastal colonies from Greenwich to Stonington, and nine inland colonies, including sites on both sides of the state, that are participating in this study. With more color-banded birds on the landscape, the more likely that they will be sighted again later. So far over 60 birds have been spotted and reported to the CT DEEP. The early results reveal an interesting pattern. The vast majority of birds reported either returned to

their natal colonies or were found at another established colony less than 11 miles from their natal site. So the general trend seems to be for the second year birds to stick close to home. However, there are always exceptions. Some birds did relocate to colonies that were much farther away either in Connecticut or other states. Reports have come from colonies in New York and Massachusetts.

Conclusion

This work served to establish a solid foundation for future Purple Martin research and recovery in Connecticut. The collection of baseline information on most, if not all, of the major colonies in Connecticut will provide a starting point for monitoring of population trend and assessment of the recovery effort. But perhaps the most important outcome of this project has been the establishment of a volunteer network with buy-in from the people actually managing Purple Martin colonies in Connecticut.

Due to their total dependence on manmade structures for nesting, Purple Martins in Connecticut will only be successful if martin landlords continue to provide housing and care for their colonies. While the DEEP has served to coordinate all these efforts, the work would not have been possible within all the enthusiastic partners including the landlords, Connecticut Audubon Society, Menunkatuck Audubon Society, and all the volunteers. Additionally, the DEEP has positioned itself as an ally for the landlords. This strong relationship with the landlords will be critically important when the time comes for collecting band reports and conducting future work at their colonies.

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A banded martin and his mate.

