

Connecticut Purple Martin Newsletter

May 2015, Issue 3

The martins have returned and from early reports it sounds like we may be in for another record-setting year! I want to thank everyone for your tireless dedication in helping this species thrive in our state. I also want to thank you all for making this project such a great success over the past 4 years. I will miss working with you as I will soon be changing positions within the Wildlife Division. However, despite my departure, this project will persist. Min Huang, Migratory Bird Program Leader, will be continuing the purple martin research because this project is providing important results as you'll see below.

Index of Chick Health

All of the age and weight data that we have collected over the four years has revealed some interesting patterns. Fitting the data to regression models has allowed for comparisons of chick growth rates between years. As with similar studies of chick development, the growth in mass was rapid early until the chicks approached an asymptote (the point at which weigh gain stops) before development was complete. In this case that asymptote was the adult weight of 56 grams for purple martins. The average chick weight reached the asymptote at 15 days (Figure 1). Therefore growth models were only fitted for data truncated at 15 days.

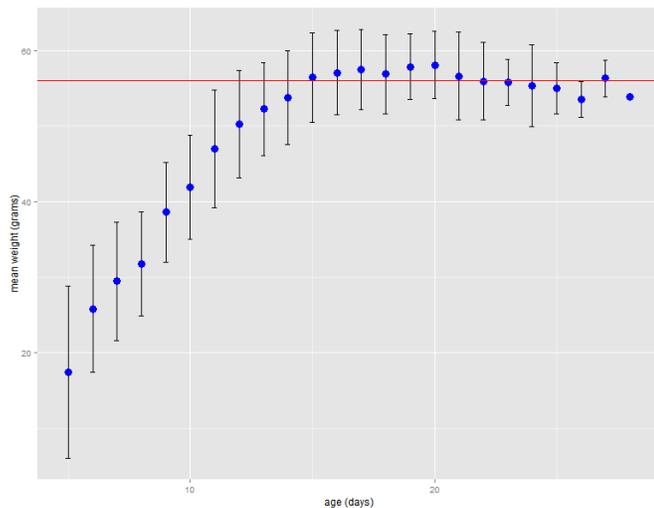


Figure 1. The daily average weight for chicks over the four year period (2011-2014) reaches the adult weight at 15 days. The red line indicates the adult weight (56 grams).

Growth rates for chicks were similar across all four years (Figure 2) ranging from 2.84 grams/day up to 3.36 grams/day. The average growth rate over the four year span was 3.2 grams/day (SE=0.06). Average chick weights were higher in 2012 than they were in other years (Figure 3).

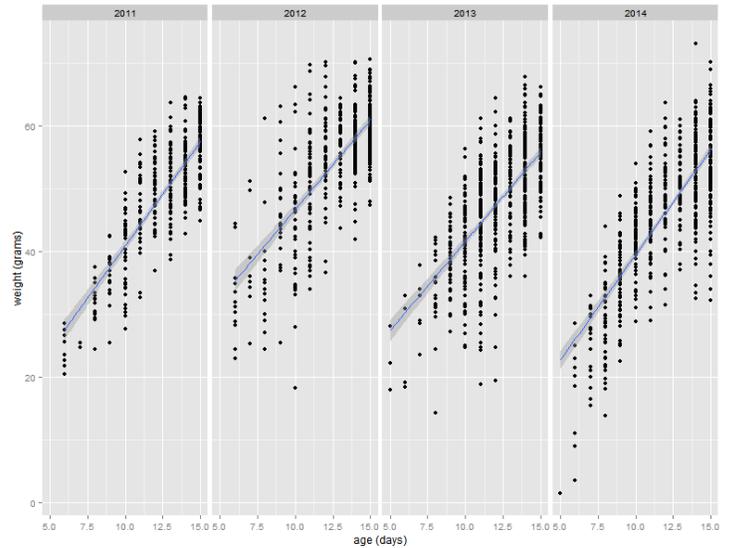


Figure 2. Annual growth rate of purple martin chicks in Connecticut between 5 and 15 days of age.

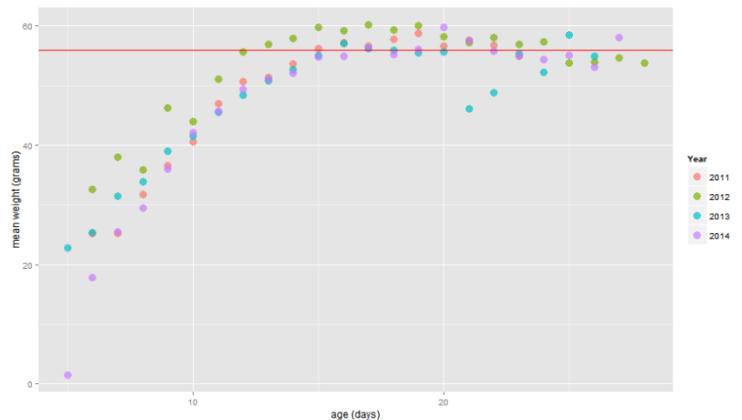


Figure 3. Average daily weight (grams) of chicks by year. In 2012, the average reached the asymptote (red line) 3 days early than in other years.

Focusing future efforts on weighing chicks in the range of 5-15 days of age will allow for a quick assessment of statewide health and could potentially serve as an index for food availability.

Dispersal Patterns So Far

Forty-two banded adult and sub-adult purple martins were reported in 2014. Six sighting reports included

complete band numbers. Sightings came from multiple locations across Connecticut as well as from neighboring states (New York and Massachusetts). Seventy-nine of the eighty-three sightings to date have been in Connecticut with an additional two sightings from New York and two from Massachusetts. Twenty-four birds were observed at the same location where they were originally banded (Figure 4). The overall average dispersal distance was 24.3 km with a maximum of 225.4 km.

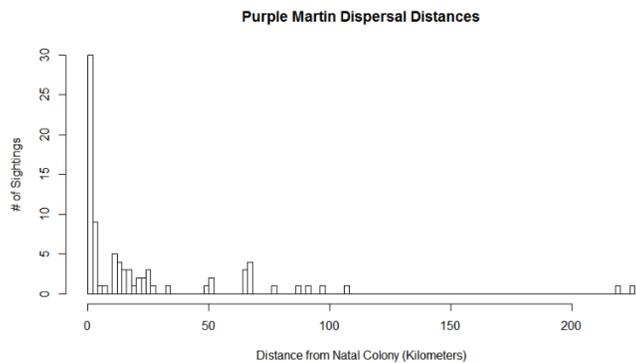


Figure 4. Dispersal distances of purple martin chicks color banded in Connecticut. Thirty-nine sightings (46% of the total) were within 5 km of the natal colony.

While there does appear to be some movement between clusters of colonies located along the coast or located inland, to date there has not been much exchange between coastal and inland colonies. The reasons for this are not clear. Presumably, sub-adult martins migrating north from their wintering grounds would arrive at the coast first where many of the colonies are still new or expanding. This would present opportunities for young birds to find nesting locations. However, over the course of this project only one bird banded at an inland colony has been found nesting at any of the coastal colonies. No birds banded at coastal colonies have been seen inland in Connecticut.

Overall the sighting (or recapture) rate is only 2.3%. With over 3,600 purple martin chicks color banded the last four years, this rate is shockingly low. More effort needs to be spent checking colonies for banded birds. At least one banded bird was observed at every colony visited in 2014, even at sites where banding had never

occurred before. Other studies have found that with enough effort, even band numbers can be read.

What this all means is that efforts at establishing new colonies should be focused in areas near existing colonies. Additionally, establishing a “trail” of purple martin colonies between the coastal and inland sites should be considered a priority because it could increase the chances of gene flow between the different parts of the state.



This second year male returned home to his natal colony where he successfully raised young of his own in 2014. Photo by Hans Flink.

Moving Forward

So as you can see, we have accomplished quite a bit in our four years together. I encourage all of you to stay involved in this program as I have no doubt that this is the just the beginning of what can be accomplished here in Connecticut.

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