

Project Martinwatch: Results from the 2004 Season

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Introduction

As landlords all over North America begin to gear up for another martin season, we thought that it might be of interest to report the results of Project Martinwatch for 2004. Initiated by the *PMCA* in 1995, Project Martinwatch is a continent-wide research project where landlords record and track the nesting success of Purple Martins at their individual colony sites.

Using a nest record sheet, participants follow a standardized protocol and track egg-laying dates, hatching and fledging success, and other data of interest each year. Some landlords use nestling photos and a Purple Martin Prognosticator to help them record data. Project Martinwatch forms contain additional information such as arrival dates of the first adult and subadult birds, the sex and relative age of each breeding pair at the site, type(s) of housing and entrances offered, and nesting attempts by martins and other birds. At the end of the breeding season, participants send in their data forms to the *PMCA*.

Project Goals

As participation in Project Martinwatch grows, *PMCA* and others will be able to monitor annual population changes on



Fig. 1. Colony site locations (marked by red dots) of the 167 landlords who participated in the *Purple Martin Conservation Association's* Project Martinwatch during the 2004 season.

	States/Provinces	Total # of Participants
Northern	AB, MA, MI, MN, ND NY, ON, RI, SD & WI	35
Mid	DE, IL, IN, KS, KY, MD MO, NE, NJ, OH, PA, VA & WV	68
South	AL, AR, FL, GA, LA, NC, OK, SC, TN & TX	64

Table 1. The regional breakdown of the 167 landlords who participated in the *Purple Martin Conservation Association's* Project Martinwatch during the 2004 season.

a continental basis, measure regional and annual differences in reproductive success, and determine variation in reproductive success and timing as affected by parental age. We will also be able to learn how latitude affects clutch size and the timing of breeding in martins, and we can compare the relative reproductive success of martins using wooden houses, metal houses, plastic houses, natural

gourds, and plastic gourds. Landlord participation in Project Martinwatch will help us all better understand Purple Martins, and enable us to devise martin housing and management practices best suited to their needs. Already others are benefitting from Project Martinwatch. *York University* (Ontario) graduate student Scott Rush is using Project Martinwatch data to study the effect of acid rain on martin populations.

Collecting information for Project Martinwatch takes some extra effort on the part of landlords. Conducting nest checks every five days or so for the four months, or longer, that martins are actively nesting takes time. Fortunately, many landlords report that the experience increases their knowledge and enjoyment of the martins. We believe it also increases the nesting success of the martins, as regular nest checks allow landlords to detect some problems and take steps to correct them.

Participation in 2004

Landlords from thirty-one states and two Canadian provinces sent in data, with a total of 167 landlords participating (See Figs. 1 and Table 1). For the purpose of this article, the breeding range of the Purple Martin has been grouped into three zones, based on spring arrival dates: South, Mid-Range and North.

Participating States and Provinces

Table 1 shows the geographic breakdown of the 167 participants in the PMCA's 2004 Project Martinwatch nest-monitoring program. The 35 participants in Northern range were from two provinces, Alberta and Ontario, and eight states, Massachusetts, Michigan, Minnesota, North Dakota, New York, Rhode Island, South Dakota, and Wisconsin.

There were 68 participating landlords from the Mid-range, including Delaware, Illinois, Indiana, Kansas, Kentucky, Maryland, Missouri, Nebraska, New Jersey, Ohio, Pennsylvania, Virginia, and West Virginia.

In the Southern range, 64 landlords from Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas contributed data.

Continent-wide Results

The 167 Martinwatch participants in 2004 reported some impressive continent-wide numbers (see "Total" column in Table 2). There were 6,353 total cavities available to the Purple Martins at these colony sites (average, 38 per colony

site), and 4,163 of these cavities had nests with eggs in them for a 65.5% occupancy rate. 20,658 eggs were laid, for an average of 4.96 eggs per nest with eggs. Of the 20,658 eggs laid, 17,087 hatched, for a continent-wide hatch rate of

82.7%. And of the 17,087 hatched, 15,060 fledged for an egg-to-fledge success rate of 72.9% — an impressive number, given the rainy, cool summer that many of the landlords in the Mid- and Northern ranges endured. The thought of 15,000+ new martin babies in the world should make anyone who manages a colony very proud!

Regional Results

Table 2 also shows the regional breakdown of results in several reproductive categories. Among these 2004 data, there seems to be a weak trend toward decreasing occupancy rates and breeding success rates as one moves from south to north. As these are just preliminary analyses, we don't yet know if these trends are meaningful, or if Purple Martins follow this general pattern year after year. We hope that more years of data from

Project Martinwatch will answer questions about regional differences in nesting success of Purple Martins.

Individual Results

Among Project Martinwatch participants, Tony Frederickson's colony site at Seguin, TX produced the most Purple Martins in 2004. An astounding 1,217 birds were fledged at his colony site. Congratulations, and thank you Tony!



Fig. 2. 2004 Project MartinWatch participant, Wendell Foy's colony site at Lizella, Georgia. This is one of Wendell's gourd racks filled with SuperGourds. Poles with winches, and gourds with access caps not only facilitate better martin management, but also make participation in Project Martinwatch easier.

	South	Mid-range	Northern	Total
Participants	64	68	35	167
Total # of Cavities	2,154	3,109	1,090	6,353
Total # of Nests with Eggs	1,451	2,050	662	4,163
Occupancy Rate	67.36%	65.94%	60.73%	65.53%
Total # of Eggs (E)	7,472	10,005	3,181	20,658
Total # of Young Hatched (Y)	6,222	8,240	2,625	17,087
Hatch Rate (Y/E)	83.27%	82.36%	82.52%	82.71%
Total # of Young Fledged (F)	5,661	7,249	2,150	15,060
Young that Fledged Rate (F/Y)	90.98%	87.97%	81.90%	88.14%
Overall Success Rate (F/E)	75.76%	72.45%	67.59%	72.9%

Table 2. The cumulative breeding success of Purple Martins at the 167 colony sites participating in the 2004 Project Martinwatch.

Lewis and Bobbi Latham at Hutchinson, KS were second with 844 martins fledged at their colony. The next highest number fledged was 488 by the Joseph Bontrager colony at Ligonier, IN. There was a two-way tie for fourth between Dean Kildoo of Grove City, PA, and Andy Troyer of Conneautville, PA, with each reporting that his colony fledged 366 Purple Martins. Tim Shaheen at Locust, NJ was fifth with 287 birds fledged. No doubt other PMCA members also produced high numbers of birds. We hope that they will participate in Project Martinwatch in 2005 so we may also include their results.

While the quantity of birds produced by these Project Martinwatch participants is impressive, we also want to recognize the quality of efforts made by participants. Table 3 lists 2004 Project Martinwatch participants whose colony sites had the highest reported nesting success rates, (i.e. those colonies that had the greatest number of eggs that actually resulted in fledged young). Five landlords reported perfect success rates of 100% among their breeding martins. One might argue that achieving a perfect fledging rate is more probable in smaller colonies with fewer nests. True, but we wanted to recognize some of our smaller contributors for their excellent landlording skills. What is important is that any landlord can participate in Project Martinwatch, and every one's contribution, whether large or small in total numbers, supports the Project and the conservation of Purple Martins.



Fig. 3. The colony site of Walter and Ruth Busse at Appleton, MN. The Busses were 2004 Project MartinWatch participants.

Landlord	State/Region	Eggs Laid	Total Fledged	Success Rate (%)
Daryl Anderson	WI / N	35	35	100
Kirsten Klugow	WI / N	21	21	100
David Sizemore	IN / M	5	5	100
Sharon & Arvel Boatner	TX / S	5	5	100
Adam Romain	TX / S	5	5	100
Sue Coker	GA / S	76	74	97.4
Phil Stamps	KS / M	34	33	97.1
Fred Ashmore	AL / S	33	32	97
Ardell Nolte	NC / S	22	21	95.4

Table 3. The nine colony sites reporting the highest success rates in 2004, as measured by the percent of eggs laid that led to fledged young.

Discussion

The 2004 Project Martinwatch was a success for both the participants and the PMCA. The PMCA would like to express its gratitude to all participants who monitored their birds and meticulously filled out their Project Martinwatch forms. With-

out participation from dedicated landlords from all over the continent, the Project would not be possible. The data obtained through Project Martinwatch are critical to efforts to improve colony management and increase our knowledge of

the Purple Martin in North America.

The PMCA is also grateful to all who shared with us their numerous pictures, observations, thoughts and comments (not to mention hopes and frustrations!) in the course of this research project. There are too many to name individually, but please know that every contribution is appreciated. Every word is read, and every picture is exclaimed over. We share in your disappointments as well as in your joys.

2005 Project Martinwatch

2004 was a good year for Project Martinwatch, and we look forward to an even better season in 2005 when we hope that more landlords will participate. If you make periodic nest checks (we recommend that all landlords do) and you are willing to record the data,

you can participate and make a contribution to Purple Martin conservation. It does not matter how large or small your colony is. To participate in the 2005 Project Martinwatch, use the form from the center of your Martin Marketplace annual catalog, download a form at <http://www.purplemartin.org/downloads/MartinWForm.pdf>, or request one by mail. When martins begin to nest, start recording the date and what you find each time that you do a nest check. We recommend that nest checks be performed every four to five days. Continue until the very last nestling has fledged. Thank you, and have a most successful martin year!

Mindy McCall is a phone support and data entry specialist with the PMCA. She has worked for PMCA for several years on a part-time basis. Her full-time roles of wife, mother, and civic activist keep her very busy.

