

BREEDING SUCCESS OF PURPLE MARTINS IN EASTERN MASSACHUSETTS

by David E. Clapp, Marshfield

The population of Purple Martins (Progne subis) in the state is sporadic and is so man-dependent that changes can occur rather rapidly. Though weather is the ultimate controlling factor, the location of suitable nesting facilities in areas attractive to the species is very important in establishing new colonies or allowing older colonies to grow. The south-eastern part of Massachusetts has long had local populations of martins in managed colonies. There are several good areas in the state for observing them, and there are still many people interested in the maintenance of the nest sites. In fact, people with martin colonies tend to worry about these attractive, but vulnerable, birds that seem to arrive in spring just ahead of dependably warm weather and to depart as much as a month ahead of time while there are still many flying insects about. This quirk, along with their domesticity, creates a very emotional concern on the part of people who are responsible for martin colonies. This concern has manifested itself in a Purple Martin newsletter that has a nationwide readership.

Historically, the birds have been quite uncommon in the state and are at present, locally common. Near established nest sites, the species is easily found, and away from these sites it is rare. It is rarely reported as a migrant although it can be both seen and heard during late August.

The best situation for Purple Martins seems to have several predictable components: nesting boxes, lack of breeding competition, and an unforested landscape with water. The usual nesting box is a multi-roomed house located on a pole 10-20 feet above the ground. The apartments should be kept clean and free of starlings (Sturnus vulgaris) and House Sparrows (Passer domesticus). The number of apartments seems to be a limiting factor in a colony where reproduction is repeatedly successful. If more apartments are added at a successful site, the colony will grow; if space is restricted, the younger birds will seek other nesting areas. Current research at colonies shows that about half of the birds of the year present at a colony were not fledged from that colony. So, post-breeding dispersal and late summer scouting forays help to keep a heterogeneous mix in colonies. The competition for the apartments with the aforementioned species can be a significant factor in limiting growth of a colony. In many well-managed colonies, the interlopers are trapped and removed from the site. At a minimum, the nesting efforts of starlings and sparrows should be interrupted on a regular basis. Metal nest boxes seem to be significantly less attractive to starlings than wooden houses. Water is an important component as martins often feed over ponds and lakes, but the need for open space is almost as important as far as feeding areas are concerned. The final factor that must be

considered is the availability of birds. The total Massachusetts population is small. There are few actively managed colonies, and a well-maintained colony often increases its apartment space yearly. There are few excess birds on an annual basis. Thus, it is often true that an area with fields, water, a lovely house, and nearby colonies remains uncolonized year after year.

The State Division of Fisheries and Wildlife, Non-game Section, has been actively collecting information on Purple Martins and supplying houses to locations that offer probable success if a colony were to establish. Dick Turner at the Southeast Regional Office in Bourne has collected a great deal of information on the colonies in this part of the state and watches over many of the sites. He has also set up several houses in southeastern Massachusetts during the past two years.

There have been many reliable sites in the southeastern part of Massachusetts during the past thirty years with Wiksten's Dairy and the Reg Maxim colonies perhaps the two best known. On the north shore, the colony at Plum Island is perhaps the best known occurrence. In the southeastern part of the state, there are several active colonies:

| Location/Manager | Pairs in 1983 | History |
|----------------------------------------|---------------|-------------------------------------------------------|
| Marshfield Country Club/Gurney | 16 | 4th year; well managed. |
| Halifax Country Club/Gurney | 1 | 3rd year; maximum 4 pairs in 1982 |
| Carver/Arponen | 10 | 31st year; lower number than usual. |
| Middleboro/Steill (Maxim's old colony) | 44 | 27th year; has had as many as 150 pairs in the past. |
| Middleboro/Wiksten's Dairy | 15 | 54th year; good site; formerly a larger colony. |
| Middleboro/MacDonald | 1 | 2nd year with one pair |
| Middleboro/Akers | 2 | 6th year; about same as always. |
| W.Wareham/Pierce | 5 | 40th year; 16 pairs in 1982; could support 20+ pairs. |
| Hanson/Smith | 16 | 21st year; could support more. |

There are several other sites that have had birds in the past and several sites that are ready for the arrival of martins, but as of July 1983, this table seems to be an accurate tally of nesting birds in southeastern Massachusetts. There are about 130 pairs known, and the southward-heading group could have as many as 400 birds.

Cold rainy weather has a very severe effect on martins. Clyde Gurney who manages the Halifax and Marshfield colonies feels that an early arrival can result in a high mortality rate among adult birds if an extended cold and/or rainy spell

occurs in April or early May. The birds are often known to cluster in a small cavity such as one room of a colony to combat the cold weather of late spring. If the weather is such that the flying (feeding) time is diminished and flying insects are unavailable, the birds will die. Three days of rain is often sufficient to kill off newly arrived spring birds. The same situation can occur with extended bad weather in June or early July as the nestlings are being fed. A spell of bad weather can eliminate the food source, and though the adults might survive, the young will die in the nest. Although they might lay a second clutch, they will only raise one clutch each season.

Most martins begin their southward migration in August and are all gone by early September. As migration approaches, the birds often leave the area of the colony and gather in pre-migration flocks. I do not know where they gather on the south shore, but the north shore will have a flock in the Norway Spruces along Middle Road in Newbury. I presume it is largely from the Plum Island martin colony that this staging area fills up in mid-August. The flocks will then migrate southward, the majority of them going into the Amazon River Basin in Brazil.

It would be remiss not to mention the colony on the north shore at the Parker River Wildlife Refuge. This is the colony that is easiest to approach and affords the birder the best chance for a year bird. There are eleven houses erected between the headquarters at the north end of the island and Stage Island Pool to the south. Ludlow Griscom, in his book, Plum Island and Its Bird Life, written in 1955, cites only six records on the island through the early 1950s and describes the bird as a rare transient on Plum Island. There have also been breeding birds in Rockport at Whale Cove, in Topsfield at Clark's Pond, and scattered along the New Hampshire coast.

The first record for nesting at Plum Island was of two pairs of birds in 1955. George Gavutis, refuge manager in the 1970s, thinks that this first house was a gift from the Massachusetts Audubon Society, and it served as the only residence until the latter part of the mid-60s when one other was added. During the decade of the 70s, houses were added to reach the total of eleven. All houses have had nesting birds in them, and in a given year, there is rarely more than one empty house. This coastal colony seems to be flourishing and, for the past fifteen years, has been very successful. The coastal location offers the advantage of moderate temperature fluctuations and open water which affords flying insects even in the cool early spring. This location, on a large scale, is similar to what the Eastern Phoebe (Sayornis phoebe) is seeking in the spring when it hangs around small open ponds looking for the few available insects.

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