

Twelve Reasons Why People Lose Their Purple Martins

When a martin landlord loses an entire colony from one year to the next, they frequently suspect their 'flock' died in a storm during migration or was poisoned by pesticides on their Brazilian wintering grounds. These scenarios are unlikely because the individual martins that share a colony site do not migrate or overwinter as a group. Colony members are a random aggregation of unrelated birds attracted to a common breeding site — they arrive in spring, and depart in late summer, independent of each other. Therefore, it is highly improbable that any single calamity, occurring away from the colony site, would affect every one of them. Almost without exception, the reason for total colony loss is the result of something that happened (or didn't happen) in the landlord's back yard. Below is a list of the 12 most common reasons why landlords lose their entire colonies from one year to the next.

1. Predation. The most common reason martins abandon their colony site is because predators have raided their nests. It only takes one foray up a martin pole by a snake or raccoon, a few nightly visits by an owl, or a few daily visits by a hawk or crow to cause all the surviving birds to abandon the site, often forever. Since many martin landlords don't have easy-to-lower housing (and therefore, don't conduct weekly nest checks), most never realize their martins, nestlings, or eggs are disappearing prematurely. Early detection via weekly nest checks and written records can often save a colony site before it is entirely lost. All martin poles (both wooden and metal) are easily climbed by martin predators and should be equipped with predator pole-guards. In addition, landlords should check the ground under their martin housing daily for evidence of predation (i.e., owl feathers, plucked martin feathers, chewed-off martin wings, etc.). Active martin houses that have become regular targets for hawks, owls, or crows should be immediately equipped with owl guards.

2. Tree encroachment. The second most common reason people lose their martins is that the trees and shrubs in their yards gradually grow taller and closer, decreasing the "openness" of the airspace immediately surrounding the martin housing — a situation called 'tree encroachment.' Since martins require lots of swooping space around their housing, a tree-encroached yard is undesirable to them. At colony sites where trees are gradually encroaching the housing, the original colony members will return year after year, as long as they live (due to the strength of site tenacity), but they will be decreasingly successful in recruiting new colony members. Since most fledgling martins do not return to breed at their natal colony sites, once all the veteran martins have died, the site is lost because there are no younger martins to take their place. If martin numbers at your colony site are gradually declining, and tree encroachment is the cause, only tree cutting, pruning, or house relocation will reverse the trend.

3. Weather extremes. Since martins are aerial insectivores — meaning they catch all of their food in flight — they are extremely vulnerable to weather conditions that eliminate or diminish insect flight. Prolonged bad weather, such as rain, snow, cool temperatures, and/or heavy winds all reduce or eliminate insect flight. If poor weather persists continuously for more than 4 or 5 days, martins begin to die of starvation. At the other extreme, heat waves and droughts can also be a problem. When air temperatures go above 100 degrees F. for many days at a stretch, nestlings in non-ventilated or improperly-insulated martin housing can perish from overheating. Prolonged drought can also adversely affect insect numbers.

4. Nest-site competition. Martin landlords who allow their housing to become overrun with nest-site

competitors often lose their martins. The martin's two most serious nest-site competitors, the non-native European Starling and the House Sparrow, take over martin compartments for their nests, kill martins and their young, throw out or eat their eggs, and aggressively repel them. In addition, one pair of House Sparrows will clog so many compartments with their nesting material, that they essentially barricade martins from access. Research has shown that landlords who allow House Sparrows and starlings to nest in their martin housing, have colony sites with significantly reduced martin occupancy and productivity. If a landlord makes the mistake of leaving their martin housing out, and open, over the winter and paper wasps, squirrels, American Kestrels, or Screech Owls take up residence before the martins return from migration, the martins will abandon the house. A landlord should never allow any other species to occupy housing intended for martins.

5. Parasite infestations. Under certain environmental conditions, blackflies, blowflies, nest mites, fleas, and mosquitoes can become so numerous in and around a martin's nest, that they weaken and kill their hosts. Sometimes, martin houses get so overrun with nest mites that parent martins refuse to enter their compartments to feed their young. Complete reproductive failure can result, with entire colony sites being abandoned. Because many martin landlords don't have easy-to-lower martin systems (and many of those who do, don't lower their housing for weekly nest checks), they may not realize their martins' nests are becoming overrun with nest parasites. To safely reduce parasite infestations, a landlord can completely remove a martin's nest when the young in it reach about 13 days of age (when their wing and tail feathers begin to burst through sheaths) and replace it with a 1-2" bed of thoroughly dried grass clippings or dried pine needles or wood shavings. Most of the nest parasites will be thrown out with the old material.

6. Neighbors 'steal' martins. If your martin housing is infested with nest-site competitors and/or your yard is becoming enclosed by trees, your martins may be using it just because it is the only housing available. Should a neighbor get into the hobby and erect housing that is superior, is managed better, and/or has a yard that is more open, your martins may quickly switch to it and totally abandon your site. Despite a martin's strong sense of site-fidelity, abandonment of a colony site is not uncommon if the housing is improperly managed and/or poorly located. It is in a martin's best interest to trade sub-optimal nesting conditions for optimal, especially when offered nearby.

7. Not enough housing offered. Too many martin landlords offer just one 12-unit martin house. While this is enough to start a colony, it is not enough to ensure long-term colony site survival! Landlords should offer multiple houses and/or at least 24 total nesting compartments. They should strive to build their colonies to at least 12-15 breeding pairs. Because conventionally-designed martin houses rarely have active nests in more than 50 - 60% of their rooms (due to male porch domination), this means a landlord should be offering at least 24-30 total compartments. Don't put 'all of your eggs in one basket.' If you have only one house and a summer storm blows it to the ground, smashing the eggs and killing the nestlings, you could be out of the martin business. Landlords with single houses (and thus smaller colonies) run a much higher risk of losing all their birds from a weather calamity, or from one year to the next due to natural attrition — approximately half of all adult martins die each year, and about 75% of the fledglings. Give your martins a diversity of nesting choices: try adding some gourds to your housing set-up.

8. Local pesticide use. Although pesticides have rarely, if ever, been positively implicated (via autopsy & tissue analysis) as the cause of large-scale martin die-offs, they have been strongly suspected in some cases. The PMCA occasionally receives word of martin die-offs or disappearances that coincide with the local spraying of pesticides. Whether these incidents are caused by a lack of food or direct poisoning is unknown.

9. Failure to open the housing on time. Martins are quite loyal to the location in which they bred the year before, but if a landlord fails to open or erect the housing within a certain period of their return, they eventually give up and move on. No one knows exactly how long a martin's patience will last when it comes to waiting for its former housing to be re-erected, but it's probably not more than two or three weeks. Typically, this is only a potential problem at summer homes or weekend cottages — situations where landlords may be absent when their martins return. At permanent residences, on the other hand, newly returning martins rarely allow their presence to go unnoticed — they will chatter and swoop in front of their human hosts until they get their housing opened up.

10. Housing not reoriented to the same compass direction after a nest check. When landlords with telescoping poles fail to mark their poles with vertical alignment tabs to assure correct realignment after a pole lowering, the potential for disaster is great. Martins only recognize their own nest compartment by its height, relative position, and compass direction. If a house is inadvertently repositioned into a drastically different compass direction after a weekly nest check, havoc will break out. Martins will go into the compartment in the position that was their own and perhaps find nestlings, when all they had was eggs. In such a case, they may throw out the foreign young. Others, while looking for their nests, will "trespass" into the compartments of others, resulting in prolonged battles. The end result can be reproductive failure for the entire house, which typically leads to total colony-site abandonment.

11. Housing changed between seasons. Landlords whose colony site consists of just one active house should never replace it from one year to the next, unless the replacement house is identical and is erected in the same spot. This is because the same martins return each year and often abandon the site if the housing they are used to is gone, has drastically different architecture, or has been painted a different color (trim excluded). Housing should be replaced over a two-year period. Landlords should erect the new housing near the housing in need of replacement and give the martins an entire season to get used to it. Do not replace or eliminate the old housing until some of the martins have accepted and bred in the new housing for at least one season. Once martins have nested in the new housing, do not move it to the site of the old housing — either eliminate the old house at this point, or put an additional new house in the old house's place. In contrast, landlords with martins nesting in multiple houses can replace a house between seasons without risk of colony loss.

12. Death of the landlord. A curious thing happens when the person who manages a colony site dies — if no one else takes over the responsibility, the colony invariably goes into decline and is eventually lost. This dramatically emphasizes the fact that colony sites must be actively managed to persist. This is analogous to a garden needing to be weeded, watered, and fertilized in order to produce a healthy and abundant crop. An unmanaged colony site is one that is at high risk of being lost from one year to the next.



Tom Ridge Environmental Center
301 Peninsula Dr., Ste. 6
Erie, PA 16505 USA
814-833-7656
info@purplemartin.org
www.purplemartin.org