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Control Methods for Objectional Roosts of Purple Martins

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Abstract.--Multi-thousand bird roosts of Purple Martins (Progne subis) occasionally form in the South during the early summer (June-July). Nightly depositions of fecal material create considerable nuisance and potential health problems. Since they are federally protected migratory birds and have legions of bird-lovers trying to increase their populations, lethal controls are unlikely to be popular or even permitted. Control techniques including plastic netting (partial or complete exclusion), active scaring and modification of building schedules are discussed and evaluated. Plastic netting was observed to be the most successful long-term solution.

INTRODUCTION

Purple Martins are an extremely popular member of the swallow family. They are a common summer breeding bird throughout the South arriving often in early February (Farrand 1983). Nesting activity runs from March through July. After nesting, they begin to congregate in roosts as early as late May through as late as mid-August. Large roosts of up to 6,000-10,000 birds have been reported in June and July (James and Neal 1986). After this peak, they begin to migrate south toward their wintering grounds in Brazil (Farrand 1983).

These large aggregations of birds are often attracted to lighted structures with a quantity of sheltered small diameter rods for perching. The lights seem to allow them to feed both on a concentration of insects and for a few minutes longer than at other sites before they go to roost. The problem comes from the nightly accumulation of fecal material under these roosts which causes nuisance, morale, safety, and potential health problems (Weber 1975). Whether or not lethal control might be appropriate is a moot question. Due to the vast number of bird-lovers who admire Purple Martins and their reputation (regardless of how appropriate) as effective mosquito/insect control agents, obtaining permits for any lethal control is highly unlikely in the current political environment. Thus, the only alternatives are to scare them or exclude them from the buildings.

The purpose of this paper is to describe and discuss both effective and ineffective control methods for Purple Martins. Thanks are due to Messrs. M. Hoy and T. Booth for their helpful critique of this manuscript and Mrs. G. Hiryak for her assistance in the preparation.

INEFFECTIVE CONTROL MEASURES

A plethora of advertising is currently available for predator decoys, ultrasonics, and flashing lights. While a few have experienced some success, these devices generally are ineffective. Birds have essentially the same hearing range as man and ultrasonics have yet to be demonstrated to be effective on birds. Predator models (snakes, owls, etc.) that are static usually only work for a day or two if at all. Some animated models may be somewhat more effective. The same applies to loud music, rotating beacons, shiny objects, etc. Will (1985) provides a more detailed discussion of these items.

EFFECTIVE CONTROL MEASURES

Not all control measures can be expected to work or be feasible for every situation. Control methods can basically be categorized as schedule changes, exclosures, or scaring.

Schedule Changes

Some benefit can often be obtained from modification of work/building schedules. One of the simplest, yet least often tried techniques is to turn off the interior/exterior lights for the first hour after dark. While this may not move an established roost, it may well keep the birds from returning in subsequent years if begun before the birds begin to roost at a given location. Closing

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all possible entrance doors and windows will also help make the location less attractive to new arrivals.

Scaring

Purple Martins respond well to traditional bird scaring devices. The combination of pyrotechnics, propane cannons and bio-acoustics using red-wing blackbird or gull tapes described by Bivings (1985) works well on most Purple Martins. Application of water from a high pressure hose to those few that are persistent combines to make a very effective scaring program. However, scaring programs do nothing to resolve the long-term problem which is the basic attractiveness of the site to birds.

Exclusion

There are several general methods for excluding birds from an area. Those most readily available are chemical repellents, sharp pointed projections and netting.

Chemical Repellents

These devices usually come in a paste, gel, or liquid formulation and produce a tacky surface or a "hotfoot" effect. Surfaces must be cleaned prior to application of the material. The principal problem is that they lose their effectiveness when contaminated by dust, feathers, or fecal material so they are usually good for only a few months. Also, some products may melt and run off the surfaces under hot weather conditions or may be washed off if exposed to wet weather. Application of these materials is very labor intensive and all or almost all potential roosting surfaces must be covered to be completely effective. Given these handicaps, chemical repellents do offer consistent control when properly applied.

Sharp Projections

These are strips of metal with sharp pointed wire which look like a porcupine. These prevent birds from lighting on ledges covered with this material. Like chemical repellents, this material requires a great deal of labor to install. The major limitation is the great cost of the material and installation. It is simply not economically feasible for indoor sites where large areas must be protected. In areas exposed to weather, this method may be useful to protect small areas such as ledges over a major building entrance.

Netting

Probably the best long-term results have been obtained from the use of netting to exclude birds from roosting areas. Although netting is available made from cotton, nylon or monofilament materials, plastic netting is currently the most useful for this purpose. Several different strategies are available but most interfere with daily activities. The strategy which interferes with daily operation least is to attach netting under the interior supports similar to the methods described by Pratt (1983) so that the upper rafters are not accessible. If all entry holes can be sealed, this offers excellent results. Since the materials are not exposed to the weather, currently available netting will offer a minimum of 3-5 years of service without replacement. Principal limitations are the cost of installation and modifications required if the building design presents difficulties. Another strategy is to hang netting down like a curtain to close off access to the roosting areas. While this is very effective in a building with little traffic in and out, it is a considerable problem for an aircraft hangar or an open work shed or walkway which all have considerable traffic in and out. Some success has been obtained by hanging netting in the top third of the opening and attaching light weights to the bottom to reduce blowing. Since roosting birds normally only use the very top of an opening, this is a barrier to the birds, but the people can go in and out through the bottom. Another variation is 2-inch vertical plastic strips from top to bottom. These are commonly used as thermal barriers into cold storage areas, but have been effective on birds.

CONCLUSION

Architects design structures based on aesthetics or functional efficiency. Birds subsequently find unplanned uses for these structures and we must come in after the fact and try to resolve the existing problem. Plastic netting seems to offer the best and longest lasting results. As the quality of these materials improve, I expect that this option will become even more attractive. Managers will have to choose between appropriate options to decide the magnitude of the problems caused by the birds as compared to the cost and magnitude of the problems caused by the control measures. Our job must be to provide these options along with our assessment to assist the managers with their decision.

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