NUISANCE BIRD CONTROL IN VIRGINIA

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INTRODUCTION

In the mid-1960s, State officials of Virginia recognized an increasing bird damage problem, yet no legislation existed that allowed any state agency the authority to initiate a nuisance bird control program. In 1968, with bird damage estimated at 25 million dollars, the Virginia General Assembly passed the Nuisance Bird Law. This law provided the basic legislation for the Virginia Department of Agriculture and Commerce (VDAC) to allow its personnel to investigate complaints, conduct surveys, and initiate bird control programs when necessary. Administration of the law is by the Plant Pest Control Section of the VDAC along with a cooperative agreement with the U.S. Fish and Wildlife Service and the Virginia Cooperative Extension Service. This paper is intended to explain how the VDAC, now the Virginia Department of Agriculture and Consumer Services (VDACS), conducts its program, the problem bird species encountered, the control techniques employed, the unique bird problems in the State, and the acceptance of the program by the public.

The VDACS is primarily responsible for the administration of control activities and for field operational supervision. The U.S. Fish and Wildlife Service within the U.S. Department of Interior provides training, review of operations, technical assistance, advice, and assistance in publication and demonstration to both the VDACS and the Virginia Cooperative Extension Service.

The bird control program under the VDACS is conducted by one full-time Bird Control Supervisor and three Regulatory Inspectors who work primarily on bird control. To provide better service with less travel, two men are located in field offices in southwestern and northern Virginia, in territories of 25 counties each. The remaining inspector and supervisor operate out of the Central Office in Richmond and cover the remainder of the State. The program operates on a complaint-oriented basis, with complaints answered with an on-site investigation. If control is needed, recommendations are tailored to the individual situation and usually a later visit is made to see that the proposed solutions are working properly.

The program originated to help citizens of Virginia with problems caused by starlings, pigeons, blackbirds, and sparrows. The work and law have expanded to cover any bird species causing or about to cause problems by their great numbers, their eating habits, their droppings and filth, and various deleterious habits.

Public acceptance of the bird control program is based on an increasing workload. Requests for assistance is increasing annually by 10%. In 1982, we were requested 417 times and did 614 field follow-ups. In the future as the population increases, we can expect a continued problem with nuisance birds.

FEEDLOTS

Controlling birds in feedlots is a large and growing problem in Virginia. Feedlot complaints come from dairy, beef, hog, and poultry operations with occasional calls from zoos and even dog breeders. Starlings *(Sturnus vulgaris)* cause most of the problem, with Red-winged Blackbirds *(Agelaius phoeniceus)*, Grackles *(Quiscalus quiscula)* and Brown-headed Cowbirds *(Molothrus ater)* often intermixed. English Sparrows *(Passer domesticus)* may also cause problems at times.

Feed loss is the most frequent complaint but disease spread, filth, and lice are all major concerns of the farmers. Control measures for the various types of feedlots follow similar guidelines. Observations as to where most of the birds are feeding and on what (birds may be picking out one ingredient from a ration), need to be made first.

Bait trays need to be constructed and put in place as close to feeding areas as possible. Trays need not be elaborate. We have successfully used old scrap lumber with a 2-inch edge or lip attached, guttering, chick-feeders, and barrel lids. Trays should be prebaited with the same feed the birds are consuming. This should be done for about a week to train the birds to the trays and to allow the farmer time to determine how much feed the birds will eat in a day and time to spot useage by non-target birds.

In Virginia, DRC 1339 (Starlicide technical) is the preferred avicide for feedlot use where starlings and blackbirds are the problem. However, Avitrol (4-aminopyridine) is used in some situations. DRC 1339 has a very low LD 50 for blackbirds and starlings and can be mixed on any feed the birds are eating. Normally we use cracked corn, however we have had

success using wheat, bread cubes, raisins, and peanut butter. Several pieces of bait are lethal with death occurring in 1 to 3 days. This time lag helps to prevent bait tray shyness, and birds normally die on the roost and not in the feedlot. Of course, secondary hazard is practically nil.

For the control of English Sparrows, the same pre-baiting procedures are followed. Avitrol sparrow bait and strychnine cracked corn are the registered materials used in this type baiting.

Avitrol and strychnine are lethal in a much shorter time period, so dead birds must be picked up and disposed of to prevent bait shyness and any secondary poisoning. Labels should be strictly adhered to.

For some finicky starlings that we have had difficulty in controlling with bait, we have had fair success using starling distress recordings in and around loafing sheds and other feedlot areas. Several dairy operators have installed wiring and put amplifiers in and around the feedlots, once they found it to be successful.

With these techniques we have reduced starling populations around feedlots by up to 90%. In almost all cases depredation was reduced by at least 50%.

BLACKBIRD ROOSTS

Roosting birds can be a problem anytime of the year in Virginia, although the peak time for roost complaints occurs from mid to late summer through late winter.

The birds normally using these roosts include Starlings *(Sturnus vulgaris)*, Grackles *(Quiscalus quiscula)*, Red-winged Blackbirds *(Agelaius phoeniceus)* and Brown-headed Cowbirds *(Molothrus ater)*, although English Sparrows *(Passer domesticus)*, migrating Robins *(Turdus migratorius)* and Night Herons *(Nycticorax* sp.) have created problems for us. Populations may vary from 100 to ½ million.

Summer and early fall roosts occur in hardwood trees and bamboo patches. Varying in size from a single tree in a yard to several-acre sites of thick growth, the birds can cause quite a nuisance.

With the coming of colder weather and advanced leaf drop of the hardwoods, the birds usually change their roosting sites to cedar or pine thickets which offer more protection. Some roosting does occur in barns, loafing sheds, silos, and on the exterior of buildings during the coldest part of the winter. Reasons for dispersing a roost include obnoxious odor, noise, droppings from staging areas, and worry about a health hazard.

Dispersal techniques vary with the size and location of the roost and with the season. Small summer roosts of only a few trees can usually be moved by using an amplified starling or blackbird distress recording played for 3 to 5 nights at the time of the birds' arrival at the roosting site. Usually the recording is played from 1 hour before to one-half hour after sunset. The effect is enhanced by the addition of home-made noise which can include banging pans and garbage can lids together.

Larger summer and winter roosts, which usually consist of more than a few trees, are handled differently. Our first approach is to try to get the roost thinned by ⅓ to ½, either mechanically or by hand. This solution serves a two-fold purpose. Primarily, the roosting birds move to a new and, hopefully, less troublesome location because of a lack of roosting space and because of the disruption to their routine caused by the thinning. Also the birds find the area much less attractive. Second, the remaining trees benefit because of the reduced competition for the available nutrients and water. In a pine stand winter roost, the droppings, because of the high nitrogen content, may, following 3 to 4 winters of continued use, kill the trees.

Thinning is the most cost effective method of moving a roost because the birds normally will not return to the location in subsequent years due to the unattractiveness of the area.

The second method for moving a roost is by the use of pyrotechnics, propane cannons, live shot shells, amplified distress cries, and high pressure water sprayed from a fire truck or a combination of any of these. The effectiveness of this method varies with roost size, location, time of year, and availability of an alternate roost location. This method is costly in equipment, laborpower, and time. The birds may not be moved at all if the roost is large and well established, and, if it is moved, it may reform in as little as 2 weeks. Also, the birds return about 90% of the time to the same roosting site the next year. Other problems encountered with this method are restrictions on use of pyrotechnics and discharge of firearms in cities, complaints from area residents about the noise, and a lack of trained personnel to assist in moving the roost.

PIGEONS

Pigeons in Virginia have created nuisance situations in towns and cities, and around grain, food, and farming operations. In highly populated areas, they consume large amounts of foodstuff, add to public health problems, and damage and deface buildings and equipment.

In Virginia, the bird control personnel offer assistance and consultation in 3 types of pigeon control. The first is habitat manipulation, the second is bird exclusion, and the third is population reduction.

Habitat manipulation of pigeons is the elimination of either 1 or all of the necessities of a pigeon's life; food, water, or shelter. In certain situations, such as around a grain storage or processing operation, eliminating grain spillage can encourage pigeons to move elsewhere. The same goes for their water source if water is scarce in a particular area. These types of control are control are not recommended because they rarely provide the control that is needed.

We recommend bird exclusion when populations are small but the problem of defacement or nuisance still exists. By blocking access to indoor roosts, breeding places, ledges, lofts, areas behind signs, and around eaves, pigeons are encouraged to move elsewhere. Welded wire, strong netting, plexiglass, wood, sheet metal, and concrete are all used in these particular situations. This type of control, when done properly, provides a good long-term solution.

Population reduction of pigeons is attempted by shooting, trapping and by use of toxic baits, and is sometimes recommended where populations are high in number and infest a general area. Shooting is the exception when a population is small and confined to 1 area and there is no possible method of excluding them. Also the legality of discharging firearms plays an important part in this control method.

Live trapping of pigeons has been found to be a good means of pigeon control. Although it is slow and time consuming, it is generally more acceptable to the public. We have used our homemade traps which are either a small wire trap with funneled entrance or a larger framed trap with swinging bobs. If citizens, towns and cities, or industries want to try trapping, we supply trap design and information on their operation and construction. Trap site location, bait, holding pens, and disposal of trapped birds are also supplied to complainants. In some cases as many as 500 birds have been removed from an area in 2 weeks.

Avitrol (4-aminopyridine) and strychnine on whole corn are the 2 toxic baits used in Virginia. Once baiting sites are located (usually a flat roof or platform near the birds' roosting site), prebaiting with untreated bait, usually whole corn which reduces the hazard to nontarget birds, is initiated. A daily prebaiting routine is recommended for a period of 2 to 3 weeks to determine if non-target birds are feeding, to reduce over application of toxic baits (by monitoring prebait material consumed), and to acquire better bait acceptance. A final cleanup of uneaten bait and pickup of stricken birds is the final step with recommendations made to prevent population buildup in the future.

In general, 30% of our bird control personnel's time is spent statewide in trying to assist the people of Virginia in controlling pigeons. In Virginia, vagrant pigeons are not protected by law and few, if any, local governments have ordinances protecting them.

SPROUT PULLING OF CORN

In Virginia, the pulling of sprouted corn by birds has been recognized by farmers, extension agents, and agricultural specialists as a problem for many, many years. This problem can be devastating to farmers when part or an entire field has to be replanted. In some instances, entire fields may be replanted 2 or 3 times. In 1972, a damage estimate by our personnel showed that corn sprout pulling by nuisance birds was approaching $500,000 annually.

The 2 species of birds that cause most of the damage year after year with sprout pulling are the Common Crow *(Corvus brachyrhynchos)* and the Common Grackle *(Quiscalus quiscula)*. We found that grackles cause problems east of the Blue Ridge while the crow dominates elsewhere.

In any particular year the sprout pulling problem can vary, with weather being the most important variable. A cool and wet, or a dry spring, both of which prolong sprout growth, increases the damage considerably. Other factors which contribute to increased damage are seed planting depth, soil conditions at planting, seed coverage, timing of planting, local topography and adjacent habitat. Corn that is not planted as deeply as practical is easier to pull. Corn grown in wet, pliable soil will also be easier to pull. Seeds that are not completely covered also make an easy meal for depredating birds. Fields planted exceptionally early or later than surrounding fields, can be more susceptible to damage. In western Virginia, where corn fields back up into hollows and steep valleys and where woods nearly surround a field, more damage may occur due to the quick escape route the woods provide.

When a sprout pulling complaint is received at our offices, we first examine the field to determine if the damage was being caused by birds. An interview with the farmer and an examination of the field will determine this. Once bird damage has been recognized, we proceed to a control solution. Mechanical control, such as the use of scare devices, or chemical control, such as baits or repellents are the 2 best solutions. Shooting with live ammunition has shown to be effective providing a farmer or his workers has the time to spend watching their fields. Dead birds have a repelling effect if left in the field, and timely shooting, in the morning and evening, can be effective harassment methods. Scare devices such as automatic exploders, shellcrackers, bird bombs, and rope firecrackers are also effective if the farmer has the time to move the cannons and use the pyrotechnics.

Chemical control can be used as a preventive measure or control technique in fields showing damage. In some fields where damage has been prevalent in the past, the farmer may use Mesurol (Methiocarb) as a hopper box treatment to protect his seed corn. Mesurol is a seed treatment repellent that leaves a bad taste with the birds.

Avitrol (Double Strength Whole Corn) for crow control has proven to be effective in Western Virginia, where crow damage is high in out of the way fields. Avitrol is designed to affect a small percent of the offending birds by causing distress cries and symptoms in those ingesting the treated grain. Several reacting crows will frighten the others away. These few affected birds usually die, but the secondary hazard is practically nil, and with the use of whole grain corn most smaller birds are unable to ingest the treated corn. At our recommendation, the Avitrol is scattered through the middle of the field where the sprout pulling is likely to

be occurring. We dilute Avitrol DS 1 part treated with 10 parts untreated whole corn and apply manually at ½ pound per acre. As much as 700 pounds of this 1:10 mixture has been used in one season in Western Virginia in a 25 county area. To assist farmers in obtaining this bait, we have set up distribution points so that when damage is occuring, quick action can be taken to repel the birds from stricken fields.

We have observed that sprouting corn is most vulnerable to being pulled the first week to 10 days after the sprout appears. After many years of watching fields and talking to farmers, we have found several very acceptable means of controlling sprout pulling. Farmers in certain areas of Virginia have gotten together to plant their corn at the same time to lessen the damage to any 1 field and in theory spread the damage to all. In conclusion, to control sprout pulling the control method chosen must be done quickly, for once a field is targeted for damage, depredation will likely be great in a few days.

PROBLEMS ARISING FROM MIGRATORY AND DOMESTIC WATERFOWL

Basically the 2 areas of concern with waterfowl are nuisance and depredation.

The Canada Goose *(Branta canadensia)* and domestic ducks (mallards, Muscovys, etc.) cause most of our nuisance problems. We are finding that more Canada Geese are not migrating north each year but are taking up permanent residence on lakes and ponds throughout the Commonwealth. As they multiply, they become a nuisance because of their droppings and grazing on lawns and golf course greens. They are also a major concern around airports where the possibility of contact with a plane could occur.

Our duck problems arise mostly from domestic ducks in and around suburban housing projects and apartment complexes. Overcrowded conditions result in ducks feeding and loafing around lawns and patios, devouring vegetables, flowers, and any other desirable food source available to them. Droppings left during their frequent visits cause most of the concern.

We are currently resolving these problems with a trapping, banding, and relocation program. This can be accomplished in the summer months when the birds molt and lose their secondary and primary wing flight feathers. They can then be herded into an enclosure, after which they are banded, crated and moved to a more desirable location.

Depredation occurs in the winter months when the Canada and Snow Geese *(Chen caerulescens)* and Whistling Swans *(Olor c. columbianus)* are overwintering in eastern Virginia. The birds graze on the small grain which has been planted in the early fall. This can cause a lower yield, but in some cases a higher yield can occur due to the "stooling" out of the plant which results in more seed heads. However, generally, a later harvest results in lower prices for the grower.

The depredation develops when wet conditions occur and the birds, particularly the swans, due to their heavier weight, pack the soil and uproot the plants, resulting in areas of complete devastation. There are no accurate figures available to us on actual monetary losses, however, the damage could be high when depredation conditions are favorable in certain areas of dense populations.

Control can be attempted with varied success using several techniques. Pyrotechnics (bird bombs, shell crackers), propane cannons, flashing lights, and balloons have been used to move the birds to more desirable locations. Farming practices can be utilized also by attracting the birds to certain areas rather than by frightening them. We have observed less damage to a grain field when the grower has left an adjacent corn field in an undisked or lightly disked state. The birds seem to spend less time in the small grain field and more time resting and feeding in the corn field where they can do very little damage.

Another area of concern with the swan is the damage done to the oyster industry. For years the swan has fed mainly on tuberous aquatic plants and vegetation near the coast, but recently they have moved inland and adapted not only to the small grain fields but to feeding on the small clams in the shallow water of our tidal river systems. In search of the clams, the swans blow holes or small crater-like depressions in the sandy bottom of the oyster beds which allows the oysters to fall into the holes. Soon the seed oysters are covered by sand from changing tides and currents, which causes death in most cases.

Estimated losses in 1981, to 5 oyster planters was between $60,000 and $70,000. This figure does not include losses to the local economy from lost wages to the harvesting sector. The total loss could be expected to be higher, possibly approaching $100,000, according to Michael J. Oesterling, Commercial Fisheries Specialist with the Virginia Institute of Marine Science.

Lastly, another area of waterfowl depredation, which probably is certainly not new, but fairly new to us, is the damage done by the Double-crested Cormorant *(Phalacrocorax auritus)* to the commercial fishermen. These birds literally "fish" the trap nets and what fish they do not steal or catch, they frighten away with their constant diving and noise made while feeding. There are no documented figures available as to monetary loss suffered by the fish industry and the only tool we have found to be successful in dealing with this damage is the propane cannon. This, when attached to the stake nets, appears to disperse the cormorants with no frightening effect on the fish.

FIELD CORN EAR DAMAGE

For many years Red-winged Blackbirds *(Agelauis phoeniceus)* and Grackles *(Quiscalus quiscula)* have

damaged corn in the milk and dough stage. In the eastern third of the state, damage is greatest by the redwings, whereas in the western two-thirds the grackles predominate.

Not only is corn lost from what is consumed, but the largest loss may be from the rotting that occurs after the ear is opened. Many farmers have resorted to planting tighter shucked varieties of corn to try to discourage the birds from opening the ears.

Pyrotechnics, propane cannons, scare crows, and Avitrol FC-99 are used to repel the birds from the fields. The scare devices and shotgun patrols have proven effective, are not too time consuming, and are relatively inexpensive. Early morning and late afternoon patrols around the field can effectively reduce some of the depredation. Rotating the cannons from corner to corner of the field on successive days confuses the birds. There are approximately 3 weeks when corn is most susceptible to damage, and, once the corn begins to harden before the dent stage, the birds look for softer corn or a different food source. We stress that farmers keep a close eye on their corn in this 3 week period so damage can hopefully be kept at a minimum.

Avitrol FC-99 has proven quite effective in certain cases we have encountered. Application has been by high clearance tractor (high-boy), horseback, aerial, and simply walking through the field scattering the bait. One or 2 treatments are usually needed. The roving flocks of grackles in the western part of the state are more easily controlled than the redwings in the east.

Depredation appears to have stabilized since the mid-seventies, when damage was on the increase. In some areas redwing populations seemed to have declined and the birds have even turned to other food sources.

ENGLISH SPARROWS

English Sparrows *(Passer domesticus)* cause problems that require some attention by our bird control personnel. Hog and poultry farmers are continually plagued by sparrows year-round. In the wintertime their feed consumption and contamination cause concern, whereas in the summer the main complaint is from their droppings at their roosting and nesting sites. Control includes exclusion *or* physical elimination or reduction of existing nesting and roosting sites. Many times this exclusion cannot be accomplished and that is when other controls (trapping, shooting and baiting) are tried.

Trapping consists of using live traps baited with mash or fine cracked corn or something similar to what the sparrows are feeding on in the area. Of course, prebaiting is necessary for about 2 weeks to accustom the sparrows to the trap and establish a feeding habit in a location that they may not have been accustomed to.

Avitrol sparrow bait is more effective as a toxicant than as a repellent. Sparrows tend to be not as frightened by reacting birds as are pigeons or blackbirds, so sparrow populations can, in most cases, be effectively and safely reduced through an Avitrol baiting program.

Strychnine cracked corn is also registered for use in Virginia for controlling English sparrows, however, we have noticed considerable bait shyness. Most prebait material is different from the actual strychnine cracked corn that is used and possibly the sparrows notice the difference. The Avitrol bait is very similar to prebait material, and bait shyness has been limited.

WOODPECKERS

Of continuing concern has been the increase in damage done by woodpeckers on softwood-sided structures. This last year alone we answered over 100 calls on woodpecker complaints. Woodpeckers are protected and therefore scare tactics must be tried. Hanging pie plates, aluminum foil, pillow cases hung out a window, or any odd type object hung near the damaged area may frighten the woodpeckers away. It also may fly to the other side of the house and start pecking there. Immediate action upon the first signs of damage usually will break the woodpecker's pecking habit before it becomes established. Other problems include utility pole structural damage and the general nuisance of their drumming activity on resonant surfaces of buildings.

CROWS

Several times over the past few years, crows have damaged golf course greens and fairways by their probing for grubs. Use of insecticides to control the grubs could reduce the damage. Crows have also damaged tomatoes, watermelons, and cantaloupes by their pecking. In drier periods, pecking damage seems to be greater because the crows are more interested in the moisture than the food content, however at times it appears that crows are so full of mischief that damage or depredation comes naturally to them. Avitrol and scare devices have proven effective in certain situations, however, as has been known for years, the best scare device is a dead crow hung in the field.

BUZZARD ROOST PROBLEMS

For years the concern of individuals living near buzzard roosts has been brought to our attention. Likewise, problems have been caused by the buzzards that have roosted on the tall microwave communications towers situated around the state. In some cases the buzzards have damaged the insulation covering some of the wires at the top of these towers.

Efforts to disperse these buzzards, which include both the Turkey Vulture *(Cathartes aura)* and the Black Vulture *(Coragyps atratus)*, center around frightening them away, hopefully breaking their roosting habit at the particular location. Fair to good success has been achieved using pyrotechnics such as shell crackers and racket or noise bombs directed at the approaching

buzzards at or near sunset. Normally, several days of this activity will frighten them away. It has been observed that buzzards use several roosting sites at the same time of the year. For this reason the buzzards may leave quickly, however they may return just as quickly.

GULLS

Sea gull *(Larus* sp.*)* complaints arise from the general nuisance of their activity and presence around piers and boat docks to their presence around airports, causing considerable concern and hazard.

Around the piers and docks, some success in frightening the gulls has been achieved by use of amplified gull distress cries played intermittently for several weeks. Many times the loafing habit around these areas can be broken.

In airport situations, propane cannons, manned gull patrols, and other frightening devices are used to keep away the troublesome gulls. Avitrol is registered for use at airports but is seldom used because of expected adverse publicity.

MONK PARAKEET

About 10 years ago the fear of potential problems associated with the Monk Parakeet *(Myiopsitta monachus)* played a part in our work. About 25 monks were collected by trapping and shooting. In the last 5 years we have had 2 confirmed sightings of monk parakeets in the wild, and we do continue to monitor any sightings because we feel the potential is there for this bird to become a pest if populations are allowed to increase. Our observations showed that several monks could inflict damage by pecking fruit and by pruning shrubbery (ornamentals). The twigs, some as large as a finger or $\frac{1}{4}$ inch in diameter, from the shrubbery were used as nesting material. Potentially, the damage to grain crops appears more costly, however a substantial population would be needed before significant damage could occur.