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C. E. Faulkner
U.S. Fish and Wildlife Services, Minneapolis, Minnesota

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CONTROL OF BIRDS IN THE AIRPORT ENVIRONMENT

C. E. Faulkner, Regional Supervisor,
Division of Wildlife Services,
U.S. Fish and Wildlife Services
Minneapolis, Minnesota

We now move from the inside of the hangar to the outside and view the problem of birds on runways and taxiways. The increased use of aircraft for transportation and the increased use of jet aircraft to take care of this transportation will, of course, compound our bird problems at major airports. To lesson this probability of the bird-aircraft strike, bird management plans should be initiated at these various commercial airports so we can lessen the bird problem. To show you some of the mechanics involved in a bird management plan, I'm going to take you to a typical airport which some of you have departed from or arrived at during the last year. May I have the slides please, Charlie?

Rather than take an aerial view from the tower I shall show a view from the tower, then we'll move in closer to look at the problem, then return to the tower again and see another picture from another section. So we're going to move back to the tower many times.

We're up in the tower at a typical airport looking in any direction. The first thing I home in on from any tower is water. Whenever I see water I automatically think of waterfowl and shorebirds, most of which are flocking birds. Immediately we look closely at the water situation and find some of the other interesting factors concerning the vegetation adjacent to the water courses. This particular body of water is on the end of the runway, so aircraft would take off or make a final landing approach over this water.

Looking closely at this scene, we see that there is tall vegetation around this body of water. The water is very open so we know that it can support waterfowl, also it can support nesting waterfowl in the marshy edge. We know that it can also support red-winged blackbirds, because of the Phragmites and the cattails which are present. A closer look at the vegetation reveals that coontail is present, which is an excellent aquatic food for a breeding population of waterfowl.

We must remove this attractant immediately or use scaring devices. The use of cracker shells, carbide exploders, or the movement of man in that area, will move waterfowl very easily. Our

recommendation under these conditions will be: (1) Put a carbide exploder near the water, and perhaps put a foot patrol using cracker shells just during the migration season, just when the ducks start arriving from the South. This will keep the area free of waterfowl during the nesting season. As the ducks migrate southward, we again put our roving foot patrol with cracker shells in shotguns, to keep the waterfowl off the water during the migration.

Our recommendation also (2) would be to use a herbicide on the area to cut down on the vegetation and the protective cover used by the shorebirds and red-winged blackbirds.

Next slide. While we are still near that body of water, we find by snooping around that there is a rodent problem. The Microtus (meadow mouse) is very prolific and this type of vegetation is conducive to a high population of this particular mammal. A high population of this animal also brings in predators such as hawks and owls which feed upon these mice. Many hawks and owls have been killed at airports, as they hover over the runway area seeking various rodents. Next. This is what we are looking for, the tunnels down in the tall grass. Microtus is a vegetarian and is easy to locate. They make these miniature "cowpaths" in the sod. They go below ground sometimes and develop small nests for the young. They're very prolific, having many litters of young a year. So there's a real crop of mammals for these hawks and owls. These animals, being vegetarians, are easy to control with broadcast techniques. Zinc phosphide-treated apple cubes or zinc phosphide-treated corn or oats broadcast over the area in the fall of the year is very selective and will reduce this population down to a very low level. They will recover the following year. Every fall the population builds up to a high level and should be reduced to remove the food for hawks and owls which may come into the area.

They won't stay if no food is present. The tall grass should be mowed because it will support the mouse population if it's left in its tall condition. It will also support nesting birds so maintain this grass at a very low level. Keep it mowed for two or three other reasons: Tall grass is ideal for insects so keep the grass short and it will not attract insects. By keeping the grass mowed you prevent it from going to seed, and seed attracts seed-eating birds. Next. This is the type of mower you use around the airport. It's a very large rotary mower; it can go through about any type of low or tall vegetation. It's a new piece of equipment and they are pretty proud of it. They use it quite frequently and when that grass gets around six inches tall, they mow. It's a continuing mowing program which every airport should have. You'll find that mowing is perhaps the best cure-all for airports to take care of insect and bird problems.

Next. I neglected to show that this particular area has a lot of ground squirrels, an animal which also is selected and eaten by the hawks and owls. The ground squirrels should be poisoned out using a

grain bait rather than an apple bait because the ground squirrel is a seed-consumer.

Next slide. As I looked out from the tower I also saw this incinerator. I was suspicious of it when I saw it. They said it was covered and it was, around the sides but not from the top. The mesh was large enough so that a bird could land on the mesh and scoot through to the inside. This supported a good healthy bird population even though they only incinerated papers. I have yet to see an incinerator only for paper; they always somehow collect garbage and other things. There was a rat population around the area also. Incinerators should be located well away from the airport. Dumps and incinerators have no place near an airport environment. Next.

Back to the tower we go; we look off in another direction and see a grain field. This is a typical situation; the farmer likes to take advantage of the land and the airport likes to lease out some land. Looking at the scene close up, we see a tall stand of grain through the fence. This is very conducive to blackbirds feeding in the area. The blackbirds will flock in this area and as they flock they may pass over the runway in the path of oncoming aircraft. It only takes about 8 to 10 bodies of birds in a jet engine to completely phase out most of the jet engines we have today. Our recommendations here would be to use harassing techniques--scaring techniques--just before the grain comes into hardening stage and before the birds really start utilizing the area. Distress calls and scaring devices should be kept going during all daylight hours to keep the birds out of that grain field so they won't come there to feed and create a hazard for aircraft. Next.

Back to the tower for another view. Out in the distance next to the runway and parking area is a tall grass clump and also a lot of trees. This intrigued me for two reasons. One, without being told, the airport people were beginning to rip trees out of the area. I was delighted to see what they were doing, how they were doing it, and even figure out why they were doing it. We visited the area by vehicle. Next.

As we got to the end of the taxiway and got out of the vehicle, I noticed this characteristic thing, and I couldn't quite understand why it was allowed to happen. Here we see the mower doing a good job around 50 feet from the active taxiway. Then they ceased and conducted no more mowing off to the right. Here we see on the right-hand side, vegetation which has gone to seed which is an ideal attractant to songbirds. As we walked through this we saw insect life. Here is one place where I become a hypocrite. I recommend a pesticide which is very persistent. I'll recommend a chlorinated hydrocarbon under these conditions as long as the application on the soil has no effect on the surrounding area, that includes water.

The reason I'm recommending one of these is that the insects in this soil are attracting bird life and we can't have birds and aircraft in the same location. Insects attract birds. We recommend the application

of a chlorinated hydrocarbon at a high concentration to take care of the grubs which are down in the soil. High concentrations are also required to kill the earthworms which may crawl out on the runway after a rainstorm and are an attractant to laughing gulls and herring gulls. We're doing everything we can to sterilize the area so we recommend chlorinated hydrocarbons under these conditions where the area is mowed. At the same time recommend herbicide to take care of broad-leaf plants and that seed problem. Our recommendation here would also be to mow as far as they can mow out into the right-hand side. Next.

While we were there we saw a jackrabbit, in fact before I left the airport I saw 10 different jackrabbits. The jackrabbit is subjected to being preyed on by hawks and owls and also a jackrabbit can be sucked up very easily by a jet aircraft. This has nothing to do with birds, but was a bonus I had while I was visiting this airport. My recommendation here would be to poison or shoot off these jackrabbits as soon as possible. Next.

We see the workers pulling out the trees. As they pull them out we see that they had the beginnings of a starling problem here. So they were removing the trees and bulldozing the area which is a good idea because this was on a final approach for aircraft. Removing of tall brushy vegetation and the trees on the airport proper was another recommended procedure. Next.

Here's our friend again. Rabbits hide behind these taxiway markers, in the shade, and when the aircraft or any vehicle come by they just scoot across the runway. I don't know how many have been ingested by aircraft, but they're quite a sight when they get on the runway.

Well, we've covered very briefly a good management plan which should be developed on an airport. The only thing I can try to impress upon you when you go to an airport, don't be satisfied with one bird management plan on one trip. Take many trips into the tower, and out into the area where you observe the problem, and back into the tower again. Do this at many times of the year because each season brings on a new bird problem, and each control that you apply brings on another control. Every time there is tall grass, you cut it down to eliminate the weed problem, but keep in mind that you're making ideal conditions for the insect problem. The problem changes from seed-eating birds to insect-eating birds, thus you're forever creating another control problem.

As you go to a tower, think big and think bird management and control of the total environment when you're out there. By doing this on several occasions you'll finally come up with a bird management program which the airport personnel can conduct on an annual basis.

[Discussion on page 52.]