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10-1983

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Swink, F. Nelson, "WILDLIFE HAZARDS TO AIRCRAFT" (1983). *Bird Control Seminars Proceedings*. 288.  
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# WILDLIFE HAZARDS TO AIRCRAFT

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I am not going to talk about the past history of bird problems and the aviation industry; we're pretty well aware of what has happened. It was in 1960 that the U.S. really got some awareness because of the crash at Boston's Logan Airport. Following that was the first Fish and Wildlife Service involvement in bird problems at airports. For a number of years thereafter, the Fish and Wildlife Service Center at Laurel, Maryland had at least one staff biologist working with the FAA and specific airports to try and resolve their problems.

Following the 1975 Canada incident with a DC-10 and gulls, the FAA came to the Service and said, "Don't you think it is about time that we formalize the arrangement we had for your providing assistance upon request?" This was culminated by the signing of an agreement. It was a very simple, two-page brief, which says that the Service will provide assistance to the FAA upon request. That means that we are not going to go out and solicit work.

There has been a lot of discussion within the Fish and Wildlife Service itself. The question that is always raised by our field people is, "What happens if I am driving by this airport and I see 350 seagulls sitting at the end of the runway, and I do not go in and say something to the area manager? Am I liable?" I do not know whether he is liable, but he sure is derelict in his duty if he does not go in there and tell the airport manager that he has a problem. Most of them go out and say, "Hey, that is not my problem." OK, there is another way. Get hold of the FAA regional office and tell them of the situation. Hopefully, they will suggest to the airport and the airport management that something be done.

People ask how big a problem this is. Let us talk about airports in the U.S. There are 14,000 airports in the U.S. Of this approximately 900 are certified airports; that means they have an air carrier section. The rest of them are general aviation airports, and I am not counting the military airports here. I think in terms of financial loss to birds and other vertebrate pest problems: in the U.S., at the very minimum, \$20,000,000 annually. I suspect it is closer to one hundred million dollars, if the truth be known. Why is not the truth known? We have already discussed that. Airlines are very reluctant to say, "Hey, I got hit by a bird, or I plowed into a deer."

But this did happen very recently when a Concorde was taking off from Dulles Airport and hit two deer. The pilot said after he landed at Charles DeGaulle Airport in Paris, "Yes, I did feel a little bump when I was on rotation in Washington, D.C." Fortunately the airport people in the tower did see the incident, and they hustled their bird control crew up to the runway and cleared the deer off. Of course, the deer were killed, but there was no structural damage to the aircraft. The next time we may not be quite so lucky.

You know that 80% of the strikes occur at 20% of the airports in the U.S. Where are these airports located? They are all coastal, East coast, Gulf coast, West coast, and the Great Lakes area, 80% of them. The fall and spring migration periods of birds are when we have most of the strike incidence, but that is not to say that we do not have them year around. We do, by non-migratory species; approximately 60% of the strikes are by gulls. But you would expect that, would you not? Of course you would, when we are talking about coastal airports.

I am not saying that we do not have seagulls inland, but not in the numbers we have them at coastal airports. For instance, how many people know that the wintering

population of seagulls in the New York City metropolitan area is estimated at 500,000? There are three major airports there: JFK, LaGuardia, Newark, and a lot of smaller airports; no wonder we get a lot of bird strikes up there. There are reported over 1000 bird strikes in the U.S. every year. This ranges from humming birds to Canada geese, and once in a while we do hit swans.

Deer, particularly in the eastern half of the U.S., are becoming a terrific problem. The habitat in the East is ideal for rapid expansion of the deer population. Recently, there have been a half-dozen airports that have put up very, very expensive deer fences. Last week I flew up to Ithaca, New York to attend a workshop on vertebrate pests. They have a brand new fence, but it is not going to stop a deer. If he wants to make his way across that fence, he is going to do it. At that conference, interestingly enough, there were a large number of fencing dealers with samples of wares. It is going to be interesting to see how these things work. I know they do work some places; they have been using them for years.

When you are talking about fencing an airport, you are talking about big bucks. At Pittsburgh, they wanted to put up a 10-ft., chain-link fence. The cost was astronomical, something well over one and a half million dollars. The airport did not have the money, so they put up another kind of fence.

Let us talk about the arrangement the Fish and Wildlife Service has with the Federal Aviation Administration. We said we would provide them with technical assistance. Notice that I did say "technical" assistance and not "operational" assistance. That does not mean that we are going to go out and chase birds or deer or coyotes off the runway. We are going to tell them what needs to be done and how to do it. We will train their people, but they are going to do it. There are some special cases where we will become involved, when there needs to be immediate action. When you are on the airport and those gulls are right there, and you have aircraft coming in and out, our guys will do it.

In ecological studies of airports, our approach is we cannot possibly know what the bird situation is in most cases without making observations on a year-round basis. So when an airport asks us to do an ecological study, we agree; and then probably during the year we are there at eight different times. In most instances one man per state cannot do more than one or two airports at a time. We are spread thin. We do assist the FAA in training their personnel, such as with the Detroit program. We make air managers, airline people, our own people, state fish and game, state DOT people aware of the problems and how to resolve them, or at least go about attempting to resolve them. We have on many occasions assisted FAA in testifying on the site locations for new airports.

The FAA, for their part, identifies problems and makes a formal request to the Service to do the work. They provide us with the proper channels for communication through the airport managers, the Washington office, the airlines manufacturers. All kinds of communications are now open to us that were not before. The agreement in the beginning did not say anything about money, so what does that mean? Our ecological studies are on the house; we do not get paid for that. FAA has special funds for research projects. There are seven specific ones going on right now: bird movement patterns in the New York area and preparation of a risk hazard map in the N.Y. area, control of cattle egrets in Hawaii, the use of netting, wires, all kinds of deterrent devices, what kinds of plants are put on the airport to discourage these birds.

Reports are in various stages of being completed, and they are going to be incorporated into an advisory circular by the FAA sometime very soon. We do have a slide show; it is a brand new thing, about 160 slides with an accompanying tape. It is patterned somewhat after that of the Air Force. Our state supervisor in Florida developed the thing with a contract from an outside company. They did a real good job in producing what we feel is a quality tape/slide show that will interest everybody. It is mostly on what you do about problems.

We are not the only country concerned. For a long time Canada has been working on this; they are way ahead of us in many respects. They have a better grasp of airports and airlines and bird movements than we do here in the U.S. The British have been working on this kind of problem since 1962 along with a group in Europe called BSCE (Bird Strike Committee of Europe). There may be 15 countries involved in that now. What I am saying is we have not resolved our problems yet; we do not know all the answers. But we cannot stand idly by and allow birds to congregate or allow deer or goats or coyotes to graze; we have got to do something. That is why the workshop at Detroit, which incidentally was the 10th workshop that the FAA and the Service put on.

\* deceased. Paper is edited version of oral presentation.