Wildlife Hazards Working Group Meeting
July 19, 1022

Agenda Item: Safety concerns related to waterfowl movement during hunting season

I. Summary of discussions to date.

December 2, 2010 WHWG meeting

At the 12/02/10 Wildlife Hazards Working Group meeting Bob Armstrong--based on several years of observations--raised his concern that the daily migration of waterfowl from the Mendenhall Wetlands to Auke Lake in the morning and back to the wetlands again at night takes the birds across the NW approach and departure route for jets. He felt that he had witnessed near misses between planes and jets. Bob feels that this is the greatest potential biological hazard we have at the airport.

A long discussion followed regarding what might be done and who might be involved in trying to reduce this potential hazard. There was agreement on several issues including the following:

--The daily migration of waterfowl is a potential hazard and it needs to be studied more to determine if there is a basis for concern and if so, how to deal with it.

--This issue should be brought to the board before any actual work is done on planning or implementing a study to determine the magnitude of the problem.

--Before a study is formulated, we should hear from Alaska Airlines and other potentially affected entities regarding their concerns regarding the daily waterfowl movements during hunting season. Hunters and pilots should also be surveyed to get their thoughts.

--If a study is proposed it should provide recent data regarding how many and what species of birds are involved, the timing of the flight movements, flight altitudes and flight paths and the effects of weather, tides and human activities on these movements.

--Nick Borchert agreed to send the minutes of the 12/02/10 meeting to a colleague at the USDA Wildlife Service's National Wildlife Research Center in Sandusky, Ohio to get his suggestions regarding what to do. Wildlife Service personnel in Juneau are fully utilized and additional staff would need to be added if they were to try to do the study.

Note: (see Attachment 1 for a more detailed description of the discussion that was held on this issue. The attachment is taken from the transcribed minutes of the 12/02/10 meeting)

March 19, 2011 WHWG meeting

There was continuing agreement at this meeting that a study needs to be done. Nick indicated that staff at the Sandusky, Ohio research center were fully utilized on other issues and would not be able to participate. It is also an off-site issue. He felt that if a study is done we should identify movement patterns and put boots on the ground.

Bob estimated that approximately 600 geese fly from the Mendenhall Wetlands to Auke Lake and back again each day. It takes 30 seconds to a minute for them to pass by the airport each time. Based on observed bird movements he felt the hazard would be greatest for jets coming in from the west at an altitude of 500 to 1,000 feet. We need detection devices that work in the dark and indicate what elevation the birds are flying at. He felt that radar tags might be put on geese to get the elevation they are coming in or going out at. The group also wondered if the satellite transmitters that were being placed on eagles near the Juneau airport might be available for placement on geese after the eagle study was completed. Scott Frickey said he would brief Deborah Groves at USFWS on our concerns and questions.

Because the group had agreed that it has identified a hazard that should be brought to the airport board, Bob agreed to draft a letter that the board might consider sending to the USFWS. (See attachment 2).

Conversation with Deborah Groves.

A few days after the meeting I called Scott Frickey who told me that he had briefed Deborah Groves on the meeting and I might want to call her to discuss the issue. I called her on March 24, 2011. She said that the satellite transmitters that are being used on the eagles could not be reused. She also said that using satellite transmitters would probably not be the best way to go. If transmitters are used the study should warrant the handling necessary to put transmitters on the birds. She suggested that we might set up an observer study to determine where the birds are and how they react to stimuli. She suggested that we might try to do something similar to the wetlands study that Jack Hodges did. She also suggested that we need to determine the specific question that we are trying to address. Does hunting the birds near the airport create a dangerous situation? Does something need to be done?

Conversation with Jack Hodges.

Following up on Deborah's suggestion I called Jack Hodges on March 25, 2011. He suggested possibly using UHF radio tags with base stations that monitor continuously to determine the time of movements. This would not, however, give flight altitude information. Laser range finders and clinometers might help to establish flight paths which could then establish the flight altitudes as a flock moves.

Jack said that waterfowl learn quickly where they are safe or not. He feels that under natural conditions they would feed on land during the day—when they can see predators and their food of choice—and rest at night on water. If protected areas are created on the wetlands they might feed there during the day. He feels that the WHWG should propose a study and the board should

send a letter to USFWS requesting the study. In a separate conversation Bob Armstrong similarly stated that he felt we should get this issue out of the WHWG to the next level (i.e. the Airport Board).

II. Next steps.

At our meeting on July 19, 2011 I suggest we do the following:

1. Discuss Bob's letter and consider approving it for transmission to the Airport Board

2. Discuss what questions a study of the problem should address (i.e. does hunting waterfowl near the airport create a dangerous situation; does something need to be done?).

3. Discuss how to solicit input regarding study need and design from potentially concerned entities including airport staff, Alaska Airlines, local pilots and others.

3. Discuss types of data that need to be collected to answer the question. Possibilities include:
   - What is the behavior of the birds before hunting season begins?
   - When do they leave the wetlands relative to the beginning of hunting each day?
   - In what direction do they fly when leaving the wetlands?
   - At what altitude do they pass through air space in proximity to the airport?
   - How long are they in airspace in proximity to the airport?
   - When do they arrive at Auke Lake?
   - When do the birds leave Auke Lake?
   - In what direction do they fly after leaving Auke Lake?
   - Where, and at what altitude do they fly as they return to the wetlands?
   - How long are the birds in airspace in proximity to the airport?

4. Discuss what organization(s) should be involved in planning and carrying out the study (e.g. USFWS, ADF&G, USDA-Wildlife Services) if one is proposed.

Attachment 1. Minutes from the Wildlife Hazards Working Group December 2, 2010 meeting

C. Historical Review and Discussion of Safety Issues – Past and Present – in the Airport Area by Bob Armstrong and Nick Borchert: Bob Armstrong said he has had a concern for many years about 500 to 700 Vancouver Canada geese that are resident birds. They feed on the Mendenhall Wetlands in the winter and spring and probably nest on Admiralty Island. They return in the fall to the wetlands. Another thing that has always occurred is that during hunting season, they typically take off and go someplace else and then come back to the wetlands and feed at night. In recent years, mallards are starting to follow these birds. The tagging studies have shown that the birds that are here in the fall or winter are not the ones that nest here. In 2001, he noticed that when the geese took off in the morning, they were flying to Auke Lake. He had not noticed this in prior years – it had been Colt Island. What concerned him was that the birds fly directly across the approach and departure of jets on the northwestern runway. He observed what he thought were near misses of 500+ birds and aircraft. Because he thought this was a significant hazard, he informed the FAA and talked to the people in charge of the Airport's EIS. He never heard anything back.

When the hot spot study was done in 2002, Auke Lake was added as an observation area. It was well documented in 2002 and 2003 that the birds spend the day on Auke Lake and fly back to the wetlands in the evening and back to Auke Lake in the morning. Since then, he has generally observed the area and is convinced that this continues to happen. He spoke to someone recently who said that since hunting season began, the birds have been spending the day on the lake. There are also 500 to 1,000 mallards doing the same thing. Laurie Craig said the birds do not fly all at once. She felt this was a legitimate concern as they fly through the cut.

Airport M&O Superintendent Jerry Mahle said this is something they deal with on a regular basis. He said the Airport is the middle of a corridor and the majority of large flocks are migratory birds. The FAA's bottom line is zero birds around the airport, but everyone knows that will never happen. The Airport hired experts to determine if an incident occurs, who will be there to protect the rights of the Airport to show that it has done the best they could to protect the flying public. Ms. Craig asked if there was any type of equipment that would alert pilots to the hazard. Mr. Mahle said bird radar and whether scare systems would work in Juneau was discussed with the FAA earlier in the day. The Airport will use the latest technology to insure the public is as safe as possible. Ms. Johnson said that the Tower notifies pilots when they are aware of birds in the area. Nick Borchert said that his agency performs wildlife hazard assessments. If a study is needed, a second person (specialist) would need to be hired to do the study. The geese fly across the runway. The birds' departure from the wetlands occurs after the first shot, either from a hunter or Mr. Borchert's guns. The predictability of the time is a management tool as is actual physical dispersal from the areas. It is known that the birds will not be moved from the wetlands as it is a food and water source. By utilizing the predictability, the Tower can be contacted if any type of flights are observed. When the

geese are crossing the runway, they are there for a matter of seconds. Mr. Borchert said there is an avian radar unit at Sea-Tac Airport. The system costs $750,000 dollars and requires on-site staff to interpret the data. This system does not go through trees, which means it would have to be higher. It seems this system is not feasible at this time. Mr. Borchert said that Alaska Airlines had discussed equipping their aircraft with an avian "dissuader" radar, which would push birds out of their path.

An idea was noted to remove trees around the ponds off of Fish Creek and do some enhancements which would make geese comfortable. Other enhancements would include closing it to hunting and dogs, with certain habitat manipulations. There would still be flights between the refuge and Fish Creek, but they would not be right over the runway. This would be a modification only and would not take care of all birds. As both of these ponds are within five miles of the airport, it would require FAA approval. Mr. Mahle said that this type of modification had been tried before and it had actually increased the birds in the area. Chair Zimmerman said that this area is bordered by the Bayview Subdivision and it would be difficult to keep dogs out of the area.

When asked if a study would help, Mr. Borchert said it could not hurt. He said his organization has programs at Anchorage International and Elmendorf Air Force Base where they are on-site 24/7. If the funding was available, an extra person for an hour before and an hour after daylight hours would help, which would be one and one-half people in the wintertime and as many as three is in the summer time. He said it is always advantageous to have more people. Mr. Borchert asked the feasibility of pushing the geese off of Auke Lake at a set time, which would make it more predictable.
Chair Zimmerman said that it would be good if the group get to some sense that could be taken to the Board -- perhaps to advocate for more people from Mr. Borchert's group during hunting season to study the problem. Diana Thompson suggested using the University as she was there because she was using the eagles as a research project. She thought that other students might be interested in volunteering for studies. She noted there is a foundation called The Bald Eagle Foundation which provides $19,000 per year for student projects research funding related to the eagles. It could be a source of reducing the cost of a study. Chair Zimmerman said he thought the group needed to get the information to take it further in terms of having a report, something concise and verifiable. Perhaps Ducks Unlimited could be contacted. Ms. Johnson said that Alaska Airlines should be approached for their suggestions on how they see Juneau International Airport. Do the pilots notice something in their path at certain times of the year? She said she would contact Lynae Craig at Alaska Airlines.

Chair Zimmerman said the group has identified a potential hazard. The sense of the group is that it probably needs to be studied to determine if it really is a hazard. If so, how might the hazard be reduced? Any study should involve not just the people studying the problem, but also the insight of pilots and other people involved. The next step would be how to do the study--if, in fact, that is the sense of the group. And then, how to get funding and how to advocate for the study. He thought that solid scientific evidence was needed and more research needs to be done.

Mr. Borchert said this sounded like something to be tabled by the group. Items to be discussed include funding, personnel, the goals from the study, and time of year. He said the hunting year was nearly over and it would need to be done next year. Ms. Johnson agreed with Mr. Borchert's suggestion. She thought this was not solidified enough to take to the Board. She said that at some point in time, Mr. Zimmerman as the Chair will need to bring to the Board whatever the committee decides to do. Again, she is very interested in hearing from Alaska Airlines about their view of the safety issue at Juneau International Airport on these birds. We know they are very concerned about the eagles, but nothing has been heard from them about the ducks. Mr. Borchert noted that this might be a threat that is not a threat. He personally would like to see meetings in a less formal setting, if possible, to further discuss the issue. Ms. Johnson said that the Public Meetings Act must be adhered to. Information can be distributed, but any agreement must be done in a public forum. Chair Zimmerman said that theoretically, Nick could take the minutes of this meeting to someone in Sandusky, Ohio, to see if there is anything that could be done. Ms. Johnson said he could then bring any ideas or suggestions back to the committee. Mr. Borchert said he would take it to his contact in Sandusky and after his conversation with that person, he can let the Chair know what he found out. Mr. Borchert could see hunter surveys, visualization within the refuge itself, questions like weather, tide-high and low values, and the time of the tide change.

Attachment 2. **Draft letter to send to the Airport Board by Bob Armstrong**

It has been well documented and known for some time that the resident Vancouver Canada Geese and Mallards that feed on the Mendenhall Wetlands take refuge on Auke Lake during the waterfowl hunting season. In general they leave the wetlands when hunting begins in the morning and return to the wetlands to feed at night.

The flight path of these birds appears to take them across the northwesterly approach of jet aircraft to the Juneau airport. The numbers of these birds taking this, at least, twice daily flight during hunting season is about 500-700 Canada Geese and over 500 Mallards. Other species of waterfowl also do this but in much smaller numbers. Due to our general warming trend Auke Lake has been available for these birds over a longer period of time before the lake freezes over.

Because of the heavy bodies of Canada Geese and because they have been known to cause problems with jet engines we are concerned that this may create a hazard for jet aircraft at the Juneau airport. Therefore we recommend that a study be conducted to determine the significance of this potential hazard.

We suggest that consideration be given to installing tracking devices on a few geese and possibly mallards. Since these birds make this journey in flocks, tracking only a few should yield information that would apply to the entire group. The devices should be capable of determining the elevation of their travels and a more precise location. This information could then be compared to the elevation of jets entering and leaving the airport and help determine whether or not a potential hazard exists.

We recommend that the Juneau Airport Board draft a letter to the U.S. Fish & Wildlife Service requesting that such a study be conducted.