



November 1, 2012
File No: 129577-3

Mr. Quentin Hix
Airport Manager
Denton Municipal Airport
11005 Airport Road
Denton, TX 76205

Subject: Denton Municipal Airport – Preliminary Findings Report for the Initial Site Evaluation

Dear Mr. Hix:

This letter report summarizes the preliminary findings from the initial site visit and evaluation in regards to the Denton Municipal Airport wildlife hazard assessment. This preliminary findings report was completed pursuant to the scope of work defined in our consulting agreement with Texas Department of Transportation. Upon our initial site visit and evaluation of the airport and surrounding land area, this preliminary findings report outlines recommendations that can be used by you and your airport operations staff to control wildlife hazards at the airport until the final wildlife hazard assessment report is issued in November 2013. These recommendations will allow your airport to be proactive and begin implementation of any needed wildlife management activities based on our initial site visit and evaluation.

OVERVIEW

On October 1-3, 2012 Kleinfelder's FAA Qualified Airport Wildlife Biologist, Rick Jones, and BASH's FAA Qualified Airport Wildlife Biologist, Dr. Russell DeFusco were onsite to conduct an initial site visit and evaluation to begin field efforts associated with the wildlife hazard assessment. The initial site visit was performed over a three day period and included an assessment of existing site conditions within the airport property and surrounding off-site properties. Based upon these existing site conditions, we have developed a list of conclusions and recommendations that will allow you to continue using your current wildlife management techniques, and to implement new wildlife management activities on the airport.

CONCLUSIONS AND RECOMMENDATIONS

1. Airport Staff Awareness:

- a. Currently - It appears that all airport personnel are aware of the importance of properly managing wildlife within the airport property and the potential hazards that wildlife can create if not properly managed. The airport has successfully made all staff aware of wildlife hazards.
- b. Recommendations - The airport should continue keep staff and tenant personnel awareness towards wildlife hazards a priority. This can be accomplished through the distribution of airport staff awareness letters, emails, or holding short wildlife hazard awareness training classes.

2. Wildlife Strike Reporting:

- a. Currently - Per our discussions with airport personnel, the reporting of wildlife strikes in accordance to FAA guidelines is being utilized at the airport by private, FBO, and all airport operations staff.
- b. Recommendations - Proper and accurate reporting of all wildlife strikes is an important part of airport wildlife management and we encourage the airport to report 100 percent of the wildlife strikes in accordance with FAA guidelines (FAA Form 5200-7). It is important that the airport develop a reporting system that 1) documents the daily activities of wildlife control procedures, 2) logs information about daily wildlife numbers and behaviors on the airport, and 3) records all wildlife strikes with aircraft. It is important to instruct all airport personnel on the importance of record keeping and to keep this information in a standardized format.

3. Wildlife Hazard Communications:

- a. Currently – Our initial evaluation of wildlife hazard communications at the airport indicate that operations staff and the air traffic control tower communicate effectively to deal with wildlife hazards. Further communications should be implemented to increase awareness and control of wildlife hazards.
- b. Recommendations – It is recommended that PIREPS and NOTAMS be used more effectively in wildlife hazard communications. If pilots observe birds that could present a potential strike hazard on the ground or even in flight, they should issue a pilot report (PIREP) so that air traffic control can warn other pilots or information can be relayed through ATCT. FAA regulations require controllers to issue advisories that include the bird type, location, altitude, and direction of flight. All of these parameters should be included in the PIREP. It is strongly recommended that DTO advise airlines and pilots to issue PIREPs relating to wildlife hazards on or near this airport. NOTAMS should be issues if consistent and persistent wildlife hazards are noted on or around the airport at specific times.

Blanket advisories are not recommended. Information can be posted in the pilots' lounge to increase awareness and promote reporting of hazards among aircrews.

4. Habitat Modification:

- a. Currently - Observations from our initial site visit indicate that the airport has completed positive habitat modifications to make the airport environment less attractive or inaccessible to hazardous wildlife. The removal of all trees and shrubs within the airport property is a key habitat modification technique that the airport has done very well. The airport also recently installed a new perimeter security fence that has proven to be effective at deterring deer from entering the AOA, though they occasionally still enter the airfield. The routine maintenance and mowing of all airside ground cover appears to be on-going. Initial observations of grass height and condition indicated that heights were too short and bare ground was observed within grass areas. Significant numbers of grackles and starlings were observed loafing and feeding in these short grass areas, which were near movement areas.



- b. Recommendations - Grass Management - The management of the airport's airside ground cover to minimize bird activity is very important. The main principal to follow is to minimize attractive airside vegetation cover through a mowing regime that does not result in a build-up of rodent numbers or the production of seeds, forage, or insects desired by birds. The general recommendation by the FAA is that airside grass cover be maintained at a height of between 6-12 inches. This grass height will disrupt visual communications systems and discourage many species of birds from loafing and feeding and will also discourage rodent populations from utilizing the grass because of risk of predation by raptors. It is recommended that operations staff maintain the runway and taxiway airside ground cover so that it grows directly off the edge of the surface and that bare ground is not exposed. This will discourage certain bird species (i.e. Killdeer) from loafing, feeding, and nesting in these areas. The use of continual habitat modification actions that reduce, eliminate, or exclude the food, cover, and water that wildlife require for survival will result in a proportional reduction of wildlife populations within the airport.

- c. Recommendations - On-Site Agricultural Production - The western half of the airfield is leased to a local farmer. Hay production is the primary crop farmed in this area. This crop provides both food and cover for a wide variety of birds and other wildlife, such as deer and coyotes. FAA Advisory Circular 150/5200-33B, *Hazardous Wildlife*.



- d. *Attractants on or Near Airports* paragraph 2-6 Agricultural Activities, states “Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the use of airport property for agricultural production, including hay crops, within the separations identified in Sections 1-2 through 1-4.” Those separations are a minimum of 10,000 feet for airports such as the Denton Municipal Airport. Such attractants within the separation criteria are considered by the FAA to be “incompatible with safe flying operations.” Consult FAA AC 150/5300-13, *Airport Design*, Appendix 19 for possible exceptions. Unless necessitated by exceptions noted in the FAA’s guidelines, it is recommended that agricultural activities not be practiced anywhere on airport property or at the very least; the airport should seek a written exception from the FAA Staff Wildlife Biologist and Regional Office to protect itself from potential liability to continue the operations. Grain crops such as corn and wheat should never be planted near the runways or approach and departure paths, even outside security fences. Other agricultural activities in the local surrounding area will serve to draw birds and other wildlife from the airport property itself, but only if the airport is made as unattractive as possible through proper habitat management. Should an FAA waiver be granted to allow agricultural outleases on airport property, it is highly recommended that less attractive crops such as grass hay be substituted for alfalfa if at all possible. To continue the practice of agricultural outleases on airport property as observed could potentially jeopardize FAA grant assurance funding and can open the airport up to liability issues during any litigation that might follow future mishaps.



5. Perimeter Fencing:

- a. Currently – A perimeter fence that encloses the entire airport property was observed and appeared to be in good condition. It is apparent that the airport properly maintains the fence and has kept the fence-line right-

of-way free of excess vegetation. The fence effectively excludes large mammals such as deer, but is not sufficient to deter small mammals such as predators and rabbits.

- b. Recommendations - Given that the airport perimeter fence does not meet the FAA recommended fencing specifications (see Certalert No. 04-16, Appendix E), it is important for airport operations staff to properly maintain the fence and right-of-way. It is recommended that operations staff patrol the fence line at least weekly to look for and repair any washouts, breaks, digs, or other holes in the fence. During the initial site evaluation of surrounding areas, it was apparent that deer occupy surrounding lands and are traveling next to the airport perimeter fence. Proper maintenance of this fence and weekly patrols will help with exclusions efforts for large mammals.

6. Perimeter Access Gates:

- a. Currently - Our initial evaluation of the airport's perimeter access gates indicate that some of the gates are left open during regular daytime business hours to allow local business entry into the airfield. These gates also require maintenance in order to eliminate large gaps that exist below the gate and between the gate swing arms when the gates are closed at night. The current condition of some of the perimeter gates has the potential to allow mammals access to the airfield.



- b. Recommendations – It is recommended that each perimeter access gate be closed at all times during the day and night to prevent unlimited access to the airfield by mammals and also for airfield security reasons. It is also recommended that these gates be adjusted to eliminate large gaps that allow access by mammals. This can be completed by adjusting the gate swing arms position and height to eliminate gaps between the arms. To eliminate the gap underneath the gate, a small asphalt bumper (i.e. speed bump design) can be constructed in line with the arms when the gate is properly closed. This type of bumper will not inhibit vehicle traffic through the gates and will allow gates to swing freely off the high points of the bumpers.

7. Current Wildlife Control Techniques:

- a. Currently - According to airport operations staff, the current wildlife control methods include wildlife patrols, vehicle runway sweeps, and non-lethal harassment using vehicle horns.

- b. Recommendations - These are all key components of a wildlife hazard management plan and it is highly encouraged that the continual use of these techniques be maintained along with other techniques such as pyrotechnics, lethal control techniques, and various chemical and repellent techniques. Regular patrols and runway sweeps allow operations staff to learn daily movement patterns, habitat preferences, and behavior of wildlife on the airport. Wildlife habituation to control techniques can be minimized through various methods; 1) use each technique sparingly and appropriately when the target wildlife is present, 2) use a variety of techniques in an integrated fashion, and 3) reinforcing non-lethal techniques with lethal control directed towards problem species.

8. Depredation Permits:

- a. Currently - We understand that the airport does not have the appropriate federal and state depredation permits in place to use lethal control techniques for wildlife. These include a federal Migratory Bird Depredation Permit from the U.S. Fish and Wildlife Service and a Texas state depredation permit (or hunting license when appropriate) for mammals.
- b. Recommendations – It is mandatory when using lethal control measures, that accurate records of all wildlife killed by species and date be documented. It is also encouraged that the airport uses various types of repellent methods (i.e. audio, visual, chemical, etc.) in conjunction with lethal control measures and only use lethal methods as a last resort. Using non-lethal control techniques coupled with lethal techniques can reinforce consequences and lessen the chance of wildlife habituating to the control techniques.

9. Use of Pyrotechnics:

- a. Currently - We understand that the airport currently does not use pyrotechnics for wildlife hazard management.
- b. Recommendations - We highly recommend that pyrotechnics be purchased and used to disperse hazardous birds. These pyrotechnics would include 15mm pyrotechnics that incorporate screamers and bangers fired from a pistol launcher. Using non-lethal control techniques coupled with lethal techniques can reinforce consequences and lessen the chance of wildlife habituating to the control technique.



- c. Recommendations - Pyrotechnics can be purchased from various companies across the country. The most used pyrotechnic company is Reed-Joseph Company based out of Greenville, Mississippi. The pyrotechnic launchers, screamers, and bangers can all be purchased through their website. For more information, please refer to <http://www.reedjoseph.com/pyrotechnics.htm>.

10. Control of Rodents:

- a. Currently – With the current hay production within the western portion of the airport property, the probability of a large rodent population is likely to exist in these areas. This large prey base can attract large raptors, foxes, or coyotes that will utilize the airfield as feeding grounds which in turn will create a significant hazard to aircraft operations.
- b. Recommendations – The first recommendation is to control rodent populations by performing good habitat management practices (i.e. mowing and elimination of attractive agricultural crops). The second recommendation is to use a toxicant to control rodent populations in airside vegetation. Phostoxin® can be used to control rodent populations as well as various insect species that can attract birds.

SUMMARY

Habitat modifications to minimize food, cover, water, physical barriers to exclude wildlife, and the proper use of non-lethal and lethal control techniques will be the foundation of wildlife hazard management at the Denton Municipal Airport. Two of the most important factors for the success of the wildlife hazard management program, is that the staff is trained in wildlife deterrent techniques and aware of the wildlife utilizing the airport.

Overall, the Denton Municipal Airport does a sufficient job at implementing a wildlife control program. We encourage the airport to continue the use of their wildlife control program and to implement the various recommendations that we have provided in this preliminary findings report. These recommendations will allow the airport to be proactive and begin implementation of any needed wildlife management activities beyond the current practices. With the completion of the wildlife hazard assessment in November 2013, a wildlife hazard management plan will be established specific to the Denton Municipal Airport that will further develop and define the airport wildlife control program.

CLOSING

We appreciate the opportunity to submit these preliminary findings and look forward to working with you in the months to come. If you have any questions or need additional information, please contact Rick Jones at (719) 491-5344.

Respectfully submitted,

KLEINFELDER, INC



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