LOOMACRES
Wildlife Management

EXHIBIT
PWC-9
exhibitsticker.com

LAKESHORE RECYCLING SERVICES

WILDLIFE HAZARD SITE VISIT

June 2019

Prepared by:
Clayton Faidley, Airport Wildlife Biologist
Cody Bacuiska, Airport Wildlife Biologist

LOOMACRES
Wildlife Management

Introduction

Loomacres Wildlife Management (Loomacres) was contracted by Lakeshore Recycling Systems to conduct a wildlife hazard evaluation at Lakeshore Recycling System's (LRS) West DuPage Recycling and Transfer facility located at 1655 Powis Road in West Chicago, IL (Site). A site visit was conducted from June 17th to June 19th 2019.

The operations at the Site include a construction and demolition (C&D) materials recycling and transfer station. The main building handling the C&D material is a steel structure approximately 40 feet tall with two main doors. The C&D material is sorted and recycled or is transferred onto a truck to be taken to another facility. We understand that LRS has plans to expand its services and incorporate a municipal solid waste (MSW) transfer building next to its C&D building. The MSW will be handled in the new building (Figure 1).

Federal Aviation Administration (FAA) guidance indicates that MSW transfer stations on or near public-use airports have the potential to attract hazardous wildlife. The Site is located near the DuPage Airport. A map of the facility in relation to the DuPage Airport is included below (Figure 1).

Figure 1: The star is the location of the future MSW transfer station building, inside the LRS boundary.

The wildlife hazard evaluation performed by Loomacres included observations of wildlife hazard attractants and surveying wildlife at multiple locations. The results of each are provided below. Recommendation to minimize wildlife hazard attractants and mitigate the presence of wildlife is also provided.

Observations of Wildlife Hazard Attractants

Buildings and Equipment

Inside the sorting building, rock pigeons were observed inside the building. Figure 2 shows the birds loafing around in the rafters of the building. Below is another photo of an invasive species, the European starling and a location where nesting activities were observed on the outside of the C&D transfer building (Figure 3).

Figure 2: In the main support beams, rock pigeons can be seen roosting.

Figure 3: The brown/white-wash coming down below the gutter, classic sign of European starling nest.

Water Bodies

Onsite wildlife attractants are primarily the two water bodies located on the property. There is a small pond at the front of the facility that is surrounded by manicured grass, small trees and shrubs (Figure 4).

Figure 4: Location of front pond and surrounding vegetation.

At the back of the property is another pond and drainage ditches. However, unlike the front pond this back pond is larger, has more cover vegetation, and large trees that can be used as perching or nesting locations for birds (Figure 5).

Figure 5: The tall vegetation surrounding the rear pond obstructs views easily

During the site visit, all drainage ditches and ponds contained water. The drainage ditch at the back of the property contained aquatic vegetation that can only be found if water can sit in an area for a long time (Figure 6). Ensuing proper water drainage will ensure limited water, food, and cover sources for wildlife.

Figure 6: The vegetation contained in the ditch easily can hide wading birds or even waterfowl

Brush and Trees

Trees and brush can provide wildlife a variety of habitats for perching, nesting and potential food sources. There are some large trees such as cottonwood, growing around the rear pond. Fruiting trees such as mulberry can also be found along the small road that leads to the back of the pond.Outside of a large cottonwood trees at the back pond, few trees are found within the LRS facility boundary. There are several trees that are located outside the fence line surrounding the LRS facility (Figure 7). The trees and associated brush provide cover and food sources for small mammals and perching locations for birds. Many of the trees surrounding the facility had small perching and blackbirds utilizing the trees. At the back of the facility there are some large cottonwood trees (Figure 8). During one of the observation times, great egrets flew out of the largest tree behind the pond. There are also a few trees on the property boundary between the pond and railroad tracks. If these are on LRS property, they should be removed to reduce preferred habitat/perching locations.

Figure 7: Trees along the LRS property line

Figure 8: Large cottonwood tree by the rear pond

Vegetation Management

The majority of the Site is paved and has no vegetation present. However, detention ponds with surrounding vegetation are present at the front (west) and back (east) of the Site. At the front of the Site, the vegetation is maintained towards an ornamental style surrounding a small pond (Figure 9). The grass is cut to a short height, the bushes and trees are pruned and well maintained. At the time of the site visit, maintained grasses surrounding the front pond were at an average height of three inches.

Figure 9: The front pond with well-manicured grass, shrubs, and trees.

The pond at the back of the Site is much larger than the front one. The vegetation around this pond is not as well maintained as the front pond (Figure 10). The grass has been allowed to grow very tall, obstructing many of the views of the pond.

Figure 10: The rear pond showing the tall grasses and other vegetation.

Wildlife Surveys

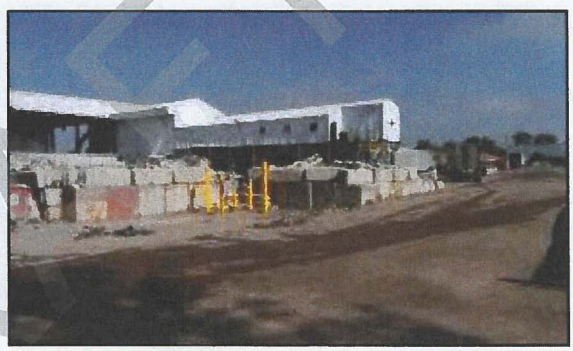
During the site visit, Loomacres staff conducted a total of four (4) onsite avian surveys. Surveys were conducted at four (4) varying times of the day (dawn, mid-morning, afternoon, and dusk), at three (3) different locations on the Site (Figure 11). Species were grouped into guilds that are based on taxonomical and behavioral characteristics. This approach allows species that are not related to be grouped based on traits most important to wildlife hazard management. Species that exhibit similar traits may respond to similar control methods.

Figure 11: Onsite survey points.

Survey Points

Survey point 1 is located at the front of the Site. The area has maintained grass, small bushes and trees. There is a small pond that is surrounded by gravel. The pond itself is difficult to see from the road as there is a berm on three sides and a fence between the pond and the Site operational areas. Small perching birds, columbids and blackbirds were the main wildlife observed at this point. There also appeared to be small fish in the pond. Employees had placed devices designed to scare wildlife around the pond. A coyote and two swan decoys are located around the pond.


Survey point 2 is located at the back of the Site. The area overlooks a large stormwater detention pond. The pond is surrounded with road millings and overgrown reed grass on all sides of the pond. There are some large cottonwood trees located at the back of the pond. There are railroad tracks east of the Site boundary. A drainage ditch extends north to south between the back fence and the maintenance road that goes towards the back of the pond. A few wading birds were seen here but it was dominated by blackbirds.

Survey point 3 is located on the southern edge of the Site between the C&D transfer building and the portable toilet storage area. The property fence on the south side has many trees, some of them are fruit-bearing trees. Many of the trees are taller than 30 feet. The small woodlot east of the survey point provided cover and perching locations for wildlife such as European starlings.

Results

A total of 14 species and 130 individual birds were observed during surveys at the Site. Blackbirds were the most commonly observed guild during surveys (37.5% of total observations); and the most individuals, accounting for 52% of the total individuals (67 individuals recorded) (Figures 5). Blackbirds were comprised mostly of European starlings (*Sturnus vulgaris*) and red-winged blackbirds (*Agelaius phoeniceus*) with the largest flock observed consisting of 10 and 20 respectively. Blackbirds can pose a significant hazard to aircraft due to their tendencies to form moderate to large sized flocks. Flock sizes are generally the greatest during the fall and winter months, as they concentrate in large numbers around abundant food sources. European starlings have a varied diet throughout the year. During the spring and summer, they often seek out insects due to the higher protein demands to raise young. In the fall and winter, they forage on seeds and grains that are rich in carbohydrates to help maintain energy for warmth. Blackbirds observed

during the site visit were relatively low in number; however, due to the presence of food sources and nesting sites, their numbers can be expected to increase into the future. The European starling is an invasive blackbird species commonly found in well maintained grass fields. Starlings are attracted to open fields to forage on seeds and insects and buildings because they provide excellent nesting locations. They are frequently observed creating nests within cavities inside hangars, warehouses, out-buildings and stagnant vehicles. Due to their body size and commonality on airfields, European starlings are ranked the 25th most hazardous species to aviation by the FAA (FAA AC 150/5200-32 current edition).

Flocking and small perching were the second and third most abundant guilds observed during onsite surveys (24% & 13% of observations, respectively). The flocking guild was comprised of mostly barn swallows (*Hirundo rusica,*) and American robins (*Turdus migratorius*). Both species can pose a significant hazard to aircraft due to their moderate body size and flocking tendencies. Flocking birds will form dense flocks during migration seasons which increase the chance for a strike. These birds are drawn to the airport for the insects living in the grass. Barn swallow is ranked 43rd most hazardous species to aircraft (FAA AC 150/5200-32 current edition).

The small perching guild (songbirds) had a total of 17 individuals, mostly house sparrows (*Passer domesticus*). There were more house sparrows seen during non-survey times. Many of them were seen loafing around the front pond in the grass or on the wooden security fence that separates the pond from the Site operational areas.

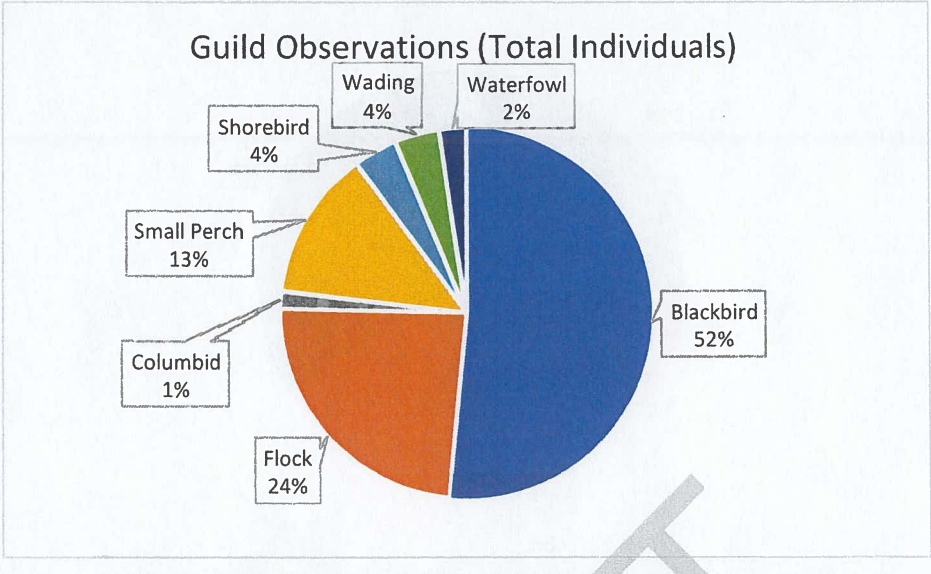


Figure 12: Total observations based on individuals during onsite surveys

Only three waterfowl species were documented during surveys at the Site. Waterfowl species such as Canada geese (*Branta canadensis*) have the potential to occur on and around the Site due to the large pond in the back of the property. During a meeting with an employee at LRS it was stated that Canada geese or some form of waterfowl can be periodically found on the large pond at the back of the Site. Canada geese are large bodied birds, weighing up to 18 pounds and can form large flocks during migration. Geese will undergo seasonal migrations during the fall, winter and spring. During the spring, geese will typically break their flock sizes as they begin to pair off for nesting season. Canada geese typically pair up around waterbodies and wetland complexes for nesting.

Bird counts varied around the Site. The greatest number of total individuals were observed near survey point #2 (Figure 13). Numbers at this location are most likely explained by the pond and the vegetation surrounding the pond. Blackbirds and small perching birds were commonly seen at this location and may be feeding, loafing, or nesting because of the tall vegetation. This location poses a higher hazard than the surrounding areas because of the easy access to water and the vegetation.

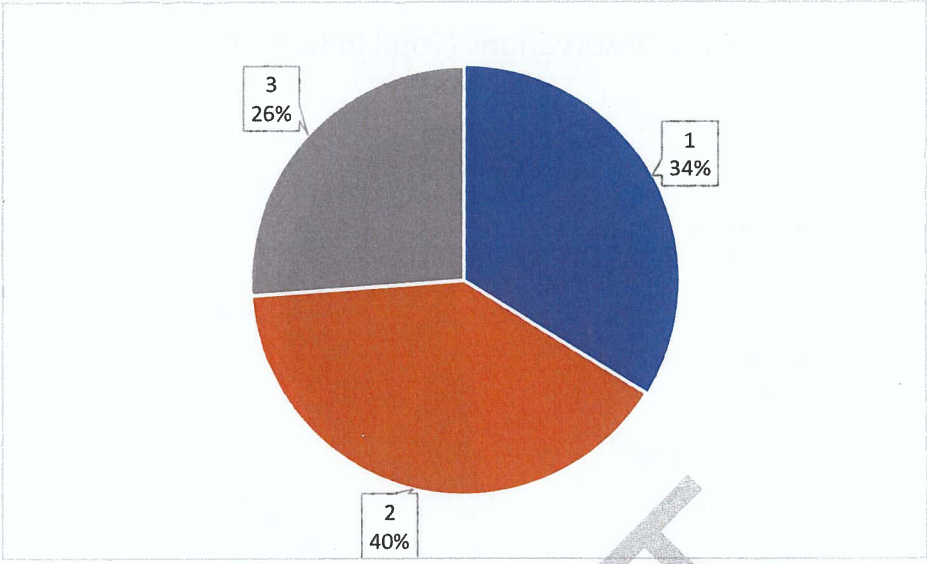


Figure 13: Onsite survey locations and total percentage of observations

Survey point 1 had the second greatest counts of individual birds during the site visit. House sparrows (15 individuals) were documented the most of any bird at this location. This location also had two of the three waterfowls observed during onsite surveys. Many of the birds at this location were loafing in the grass and feeding. This location provides a lot of foraging and loafing opportunities with the trees, shrubs and pond.

Recommendations to Minimize Potential Wildlife Hazards

In order to reduce the potential wildlife utilizing areas within the Site, Loomacres recommends the following.

Ponds

The following is recommended to reduce the amount of wildlife in the area of the front pond.

- Extend rip-rap - The rip-rap that is currently surrounding the pond is preventing birds such as waterfowl from walking into or out of the pond. However, this feature can be extended further into the grass, widening the buffer between the water and grass.
- Vary harassment - The coyote and swan decoys have both proven they can reduce the birds in the area, to a point. These features have been in place for an extended period of time and the birds in the area are accustomed to them. To keep the birds from becoming accustomed to harassment tactics, LRS must designate an employee or employees to periodically patrol the front pond and harass any birds observed.
- Monitor wildlife - An easy way to monitor wildlife at the front pond would be to install game cameras. This will capture any wildlife utilizing the pond and from there, LRS can mitigate the hazards as needed. Installation of game cameras will allow for monitoring when employees are unavailable. Checking the cameras periodically will give an idea of what and when wildlife are using the pond.

The rear stormwater detention pond is a much larger waterbody with a greater potential to attract wildlife. This pond is the highest priority based on current observations. The following is recommended to reduce the amount of wildlife in the area of the rear pond.

- Maintain grass height – The tall grass around the pond pose a high risk to hide wildlife. The tall grass must be maintained at a height that affords an easy sight picture. The FAA recommends that grass heights at airports be maintained between 6 and 12 inches. Grass maintenance at the back pond will allow for easy inspection of the pond so that any wildlife may be harassed to leave to area. Cutting the grass closer to 12 inches will deter many species from utilizing it such as Canada geese. This will also allow for LRS staff to visually inspect the pond for birds that may be attempting to hide. During the site visit, much of the grass surrounding the rear pond was over 5 feet in height. This is too tall and any wildlife that would have been in the grass would most likely avoid detection.
- Remove cottonwood tree – East of the large stormwater detention pond, near a small vehicle turn-around, there is a large cottonwood tree. While some of the trees on the eastern property edge can serve as a visual blocker, this large tree was being used as a roosting location for a few great egrets (*Ardea alba*). It is recommended that the large cottonwood tree standing

alone be removed.

- Install grid-wire system – Installation of a grid-wire system will prove to keep most waterfowl and wading birds from utilizing the pond. Before this can be installed, the current vegetation surrounding the pond must be kept short. If the vegetation is allowed to grow taller than the grid-wire, it will not work as intended. The grid-wire exclusion device can be installed easily with minimal tools. To keep larger birds from using the water, a checkerboard pattern is recommended. This involves running cables from one side to another in one direction (North to South) and then running a second set of wires perpendicular. Having the cables close together, approximately 8.3 meters apart greatly reduces the ability Canada geese to use as a water source. The following paper discusses the methods and installation of a grid-wire system as well as examples and building. (*Excluding Non-migratory Canada Geese With Overhead Wire Grids*, 1993, Lowney.)
- The installation of game cameras around the rear pond can also serve as a way to monitor wildlife around on the pond. However, unlike the front pond with one or two cameras, the rear pond must have more. Four to five cameras placed around the rear pond will help with monitoring the wildlife.

Buildings

- Regularly inspect buildings and equipment - During the site visit, the Loomacres biologist noted a few rock pigeons flying around the current transfer building (Figure 2). These birds are non-native invasive species. LRS can legally remove these birds without permit. There was also a location on the outside of the transfer building where European starlings were observed nesting. On the outside of the C&D building there is a white-wash from droppings by birds entering and exiting the building (Figure 3). Closing these locations will reduce the areas starlings can nest. Each building and piece of equipment that has not moved or been used in one months' time should be inspected once a month for any bird nest. Buildings and equipment at LRS can provide shelter and roosting/nesting habitat to European starlings and rock pigeons. LRS staff should inspect buildings and equipment on a regular basis.
- Remove observed nests - LRS management should request that employees maintain buildings and equipment to reduce potential nesting habitats. If nesting is occurring within buildings, LRS staff should assist with removal of the nests. Nests of invasive species, such as European starlings, rock pigeons, and house sparrows are not protected by the Migratory Bird Treaty Act and can be removed at any time. Migratory bird nests are protected by the Migratory Bird Treaty Act and cannot be removed when active (eggs or young present). A depredation permit is required to remove any active migratory bird nest. Old nests should be removed as soon as possible. Installation of hardware cloth or expanding foam can eliminate nesting areas for birds.
- Install exclusion devices - To prevent nesting within buildings, exclusion devices should be installed to limit access. Door seals and entry ways should be monitored and repaired as

necessary to limit access for birds. Building doors should be closed when possible to reduce the potential for wildlife to enter them. Anti-perching devices should be installed along building edges so no ledges are exposed. An example can be seen in Figure 15.

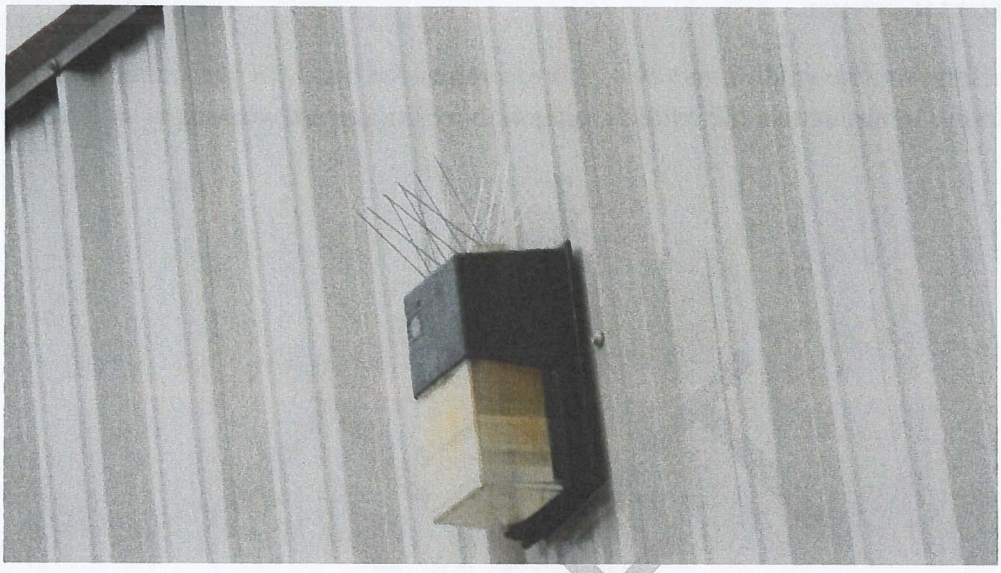


Figure 15: Anti-perching devices on top of a light. Bird spikes can be placed on top of any surface, glued/screwed into place.

- Another form of exclusion is the installation of Methyl anthranilate (MA) misters. These devices can be purchased and installed in locations inside the facility to deter birds from entering the buildings. The MA spray is an extract from Concord grapes and when applied to the air has a grape scent. It is approved for the use of bird harassment and is also an FDA approved food additive. The spray when applied to air, acts as an irritant to the birds and will cause them to seek out safer environments away from the source.

Personnel

- Create wildlife hazard management plan and train employees - LRS should create their own wildlife hazard management plan which will state how LRS will monitor and deter certain wildlife species and assign titles and responsibilities to individuals whom will be responsible for wildlife control activities. LRS management should train assigned facility employees on the role they will play to reduce wildlife hazards (e.g., use of pyrotechnic harassments). It will also be a guide for DuPage airport if they should have any questions about the activities LRS will be doing to discourage and prevent wildlife from using the facility. If any questions about the formation, implementation or general questions about the contents of the management plan ever occur, a qualified airport wildlife biologist will be consulted.

- Establish line of communication with DuPage Airport - DuPage Airport has a wildlife hazard management plan (WHMP) and operations staff. The WHMP and the staff present at the airport can assist with wildlife issues LRS may encounter. It is recommended that

LRS form a line of communication with DuPage Airport and inform them when wildlife (waterfowl, large flocks of birds) are present on the Site. LRS should also be open to the idea of allowing DuPage Airport staff access onsite to harass any wildlife that pose a hazard to aviation.

- Perform routine wildlife surveys - It is recommended that LRS perform quarterly wildlife surveys to ensure that the wildlife mitigation techniques are working as intended.

General Recommendations for Wildlife Harassments

In addition to the above recommendations for wildlife exclusion and harassment, the following statements are a guideline for anyone conducting wildlife harassment.

- If anyone on the LRS facility needs to harass wildlife anywhere on the LRS facility, it is recommended that they survey their surroundings first. This will help them determine the level of harassment they need to conduct based on activity at the LRS facility and the DuPage Airport. The following is a list from least obtrusive to most obtrusive.
    - Walking towards wildlife
    - Clapping
    - Banging sticks together
    - Using a truck horn
    - Using an air horn
    - Using pyrotechnics (this requires training and proper storage)
        - Bird bangers/bombs, screamer sirens/whistlers
    - Lethal removal

LOOMACRES
Wildlife Management

"Bringing wildlife management to a higher level" ™

Background Experience

.....

LOOMACRES COMPANY HISTORY& EXPERIENCE:

Loomacres Wildlife Management was the first private company to be approved by the FAA to perform Wildlife Hazard Management services on airports. For the past 11 years Loomacres Wildlife has been providing 14 C.F.R. Part 139 certificated airports with the highest quality of wildlife management services available. Loomacres Inc. was created by Airport Wildlife Biologists and thus focuses solely on Airport Wildlife Hazard Management.

-List of clients that Loomacres Inc. has provided Wildlife Management Services, Consulting and/or Training;

Fairchild Airforce Base, Ohio State University Airport, Holmes Airport, Miami University, Seneca County Airport, Lakefield Airport, Monroe County Airport, Madison County Airport, Philip Billard Municipal Airport, Tulsa International, Bartlesville Municipal, Stillwater Regional, Ponca City Regional, Lawton-Fort Sill Regional Airport, Enid-Woodring Regional Airport, Wiley Post Airport, Cannon Airforce Base, JFK International, Stewart International, LaGuardia International, Charlotte-Douglass International, Buffalo International, Niagara Falls International, Mahlon-Sweet Field Eugene, North Platte Regional Airport-Lee Bird Field, Nashville International, Mcghee Tyson International, Chennault International, Newport Airport, Canyonlands Airport, Joslin Field-Magic Valley Regional, Hagerstown Airport, Frederick Municipal Airport, Montgomery County Airpark, Trenton Mercer Municipal, Raleigh County Memorial Airport, North Central West Virginia Mid-Ohio Valley Regional, Salisbury-Ocean City Wicomico Regional, Delaware River and Bay Authority, Shenandoah Valley Regional, Columbia Metropolitan Airport, Anniston Metropolitan, Huntsville International, Little Rock International, Gulfport-Biloxi, Havre Municipal, Riverton Regional, Rogers Municipal, Mena Intermountain, Teterboro International, Middle Georgia Regional, Republic, Saranac Lake Regional, Hancock County Bar Harbor, Sullivan County Municipal, Princess Juliana International Airport-St. Maarten, Jamestown International, Poconos Regional, Plattsburgh International, Massena International, Ogdensburg International, Binghamton Regional, Elmira-Corning Regional, Ithaca-Tompkins Regional, Warren T. Eaton, Palm Beach County, Lantana, Lebanon Regional, Manchester-Boston International, South Lafouche Airport, Houma Terrebone Airport, Hammond Northshore Regional Airport, Searcy Municipal, Stuttgart Municipal, Russellville Municipal Guntersville Airport, Fort Worth-Meacham, Cleveland Municipal, Temple Airport, Northwest Alabama Airport, Syracuse International, Northwest Arkansas Regional Airport, Greenville-Spartanburg International Airport, Fayetteville-Drake Field Airport, Fort Smith Regional Airport, Owensboro-Daviess County Regional Airport, Dallas Love Field, Columbia Regional Airport, East Texas Regional Airport, Johnstown-Cambria County, Altoona Blair County, Erie International, Bradford Regional, Guam International Airport, Changi International Airport
and many more.

WILDLIFE HAZARD ASSESSMENT EXPERIENCE:

Loomacres' staff have experience conducting over 75 wildlife hazard assessments thought the US and worldwide. Our projects assess the wildlife threats to people and property. This includes providing airport wildlife mitigation services to private, general aviation, municipal, regional, international airfields and DOD installations, landfills, large corporations and municipalities. In addition to information gathered through onsite visits, surveys, personnel interviews and existing records, Loomacres reviews all historical operations, data, published research, area breeding bird survey and similar biological survey data, and other relevant documentation. This ensures accurate and site-specific recommendations are included in our hazard assessment reports. We also reach out to all federal, state, tribal, and local agencies that may have a role or effect on the wildlife populations and movement in the vicinity of the site. We ensure that our recommendations are in compliance with federal and state environmental laws including, but not limited; to the Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Act, Federal Insecticide Fungicide and Rodenticide Act, National Environmental Policy Act, **(NEPA)** Clean Water Act, and the SIKES Act.

We often find that our clients are able to implement many of the habitat and procedural changes recommended in our wildlife hazard assessments on their property with ease. However, the hazards that occur offsite are often much more difficult to address. When this happens, we are often relied upon to identify and coordinate with offsite property owners and stake holders to reduce the hazard of a particular location or prevent the introduction of new hazards. We have had success eliminating or reducing the encroachment of hazardous land uses around airfields for both military and civilian clients. We have successfully worked with federal agencies such as the ACE, USDA, and USFWS, State fish and game agencies and local municipalities to implement zoning regulations and policies that restrict hazardous land use policies.

Following the completion of our projects, whether the project is a one-week site assessment or a year-long hazard assessment, we are often required to brief managerial staff or high ranking military officials. Most often, the focus of the meetings pertains to the results of our wildlife hazard risk assessment and the recommended strategies to reduce any risks.

The following is a list of just some of the Airfields that we have conducted Wildlife Hazard Assessments projects for during the last 5 years that **have been FAA Approved**. These include both 139 certificated airports as well as GA airports. Additionally, all these projects included either the development or updating of the airport's Wildlife Hazard Management Plan/BASH Plan.

Charlotte-Douglass International, NC
Tulsa International Airport, OK
Nashville International Airport, TN
Little Rock National, AR
Owensboro-Daviess County, KY
Chennault International, LA
Republic Airport, NY
Hancock County Bar Harbor, ME
Sullivan County Airport, NY
Altoona-Blair County, PA
Ithaca-Tompkins Regional, NY
Niagara Falls International, NY
Lebanon Municipal, NH
Syracuse-Hancock, NY
Greenville-Spartanburg International, SC
Northwest Arkansas Regional, AR
Saranac Lake Regional, NY
Ogdensburg International, NY
Watertown International, NY
Fort Smith Regional, AR
North Central West Virginia Regional, WV
Mid-Ohio Valley Regional, WV
East Texas Regional, TX
Plattsburgh International, NY
Columbia Regional, MO
Houghton County Municipal, MI
Mcghee Tyson Knoxville, TN
Huntsville International Airport, AL
North County Airport (F45), FL
Lantana Airport (LNA), FL
Fayetteville Executive Airport, AR
Enid-Woodring, OK
Tunica Municipal, MS
Fort Worth Meacham, TX
Raleigh County Memorial Airport, WV
Trenton Municipal, NJ
Mahlon Sweet Field-Eugene, OR
Havre Municipal, MT
Riverton Regional Airport, WY
Rogers Municipal Airport, AR
Newport Airport, OR
Canyonlands Airport, UT
Cannon AFB, NM
Shenandoah Valley Regional, VA
Rapid City Regional, SD
Fairchild AFB, WA

We are currently completing the following Wildlife Hazard Assessments:

Phillip Billard Airport, KS
Bloomsburg Airport, PA
Frederick Municipal Airport, MD
Montgomery County Airpark, MD
Quincy Regional, IL
North Platte Regional, NE
Guam International Airport, GU
Southwest Washington Regional Airport, WA

WILDLIFE HAZARD MANAGEMENT PLAN EXPERIENCE:

Nearly all the airfields for which we conducted Wildlife Hazard Assessments have had Loomacres complete Wildlife Hazard Management Plans. We have created or updated WHMPs for Commercial, General Aviation, and DOD airfields. All of our plans have been developed in accordance with relevant FAA/ICAO/DOD regulations and guidance. It is important to note that the plans we have developed have been accepted or approved by both the client and the agency overseeing the plan.

We take pride in our ability to develop a plan that not only meets current regulations but to develop a plan that is unique to the airport's specific conditions and resources. We ensure our plans our developed to fit seamlessly into and airport's SMS program. We feel the best plans are straightforward and easy to implement. We work with the airport to ensure that the goals and procedures that are outlined in the plan can be carried out with the resources and personnel that are available.

TRAINING EXPERIENCE:

Loomacres prides itself on its ability to train wildlife management personnel, airport personnel and consultants in the industry. In addition to conducting training for military and civilian personnel, Loomacres is currently the only private company provider of Wildlife Hazard Management Training that is acceptable to the FAA administrator for the training of biologists who wish to conduct Wildlife Hazard Assessments as per AC 150/5200-36A.

Furthermore, Loomacres offers an array of training courses including: live fire pyrotechnics training, NRA certified firearms training, and BAM/AHAS training. Loomacres staff trains over 950 aviation professionals on an annual basis. Please see the Appendix I for a letter from the FAA confirming Loomacres' training qualifications.

WILDLIFE MITIGATION EXPERIENCE:

What makes us stand out against our competitors, in addition to conducting research, analyzing data and providing guidance, we put our recommendations into action. Loomacres' staff is fully trained and experienced in wildlife mitigation methods. Our staff implements preventative, passive, and active methods encompassed in Integrated Wildlife Management. Loomacres' biologists are able to quickly identify and respond to wildlife hazards as they are identified. Loomacres has several on-call and full-time wildlife mitigation service contracts in which we are responsible for coordinating and carrying out all wildlife management activities and act as a liaison between local landowners, government entities and the client to ensure success. Our staff has experience with a vast range of mitigation techniques, including falconry, pyrotechnics, bioacoustics, trapping, firearms, trained dogs, RC boats and aircraft etc. We continually research new preventative measures, tools and techniques to be sure your facility will have access to the most current and innovative mitigation practices.

Many of our activities involve public relations and outreach including coordination with offsite property owners and media inquiries/interviews. We have successfully completed many projects that involve complex public relations and outreach programs. These have ranged from obtaining permission to conduct wildlife control to convincing property owners to implement their own wildlife mitigation programs.

Kristin M. Baciuska
Loomacres Wildlife Management Inc.

EDUCATION: **State University of New York College at Oneonta**
Oneonta, NY 13820
MS *Graduate Program in Biology*
State University of New York, College of Agriculture and Technology at Cobleskill,
Cobleskill, NY 12043
Bachelor of Technology Degree in Plant Science- Conc. Environmental Studies

PROFESSIONAL WORK EXPERIENCE:

- **Loomacres Wildlife Management Inc.**
  July 2005-Current
  Co-owner and FAA Qualified Airport Wildlife Biologist working primarily on Airport Wildlife Hazard Assessments, Wildlife Hazard Management Plans, Training, Data Collection and Vegetation Surveys.
- **State University of New York- Oneonta, NY**
  October 2008-August 2010
  Part time Research Assistant. Worked on a FAA funded grant project titled "Native & Naturalized Turf Species Suitable for Use on Airports Managed for Wildlife Hazards"
- **State University of New York –Oneonta, NY**
  September 2007-February 2009
  Part time Research Assistant. Part time Research Assistant. Plant collection for NYS Flora Study for underreported counties. Organized collected plant specimens in college herbarium and prepared them for mounting and submission to the NYS Museum and other collections. Plant collection, ID and database creation and entry.
- **USDA Animal Plant Health Inspection Service Wildlife Services- Castleton, NY**
  October 2004 to July 2005
  GS-05 Biological Science Technician Wildlife. Used techniques including pyrotechnics to haze avian species on airports, landfills and in urban areas. Avian and Mammalian Surveys, trapping and database entry. Operated West Nile Virus Hotline. Administrative assistance.

PRESENTATIONS:
- Joint Conference Southern Chapter AAAE, Oklahoma Airport Operators Association 2012, 2016 (Speaker)
- USA/Canada Birdstrike Conference 2010 Salt Lake City, Utah (Speaker)
- Wildlife Management Workshop, Saratoga NY (Poster Presentation)
- USA/Canada Birdstrike Conference 2007,2008 & 2009 (Poster Presentation)

PUBLICATIONS:
- Baciuska, K. (2010) Native and Naturalized Turf Species Suitable for Use on Airports Managed for Wildlife in the Northeastern US. *State University of New York College at Oneonta. Master's Thesis*

CERTIFICATES/LICENCES:
- FAA Qualified Airport Wildlife Biologist
- NYS Pistol Permit Holder
- NYSDEC Commercial Pesticide Applicator
- Embry Riddle Wildlife Hazard Management Workshop
- Rutgers Wetland Delineation Certificate Series

Cody Baciuska
Loomacres Wildlife Management, Inc.

EDUCATION:

- **State University of New York, College of Agriculture and Technology at Cobleskill**
  Bachelor of Technology Degree in Animal Science- Concentration Wildlife Management
  Associate of Applied Science Degree- Concentration Fisheries and Wildlife Technology

- **State University of New York at Oneonta**
  Graduate Coursework in Biology
  Bachelor of Science Coursework in Business Finance

WORK EXPERIENCE:

- **Loomacres Wildlife Management, Inc. 2005-Present**

Co-Owner of Loomacres Wildlife Management. Loomacres provides wildlife and environmental consulting to the aviation industry, government agencies, municipalities, corporations and private individuals. Services range from wildlife and vegetation surveys to development and implementation of wildlife management plans. Loomacres also provides education and training to airport personnel involved in wildlife management.

- **United States Department of Agriculture, Wildlife Services 2003-2005**

Conducting wildlife surveys, habitat assessments, and wildlife hazard assessments on a number of airports throughout New York. Data collection, entry, analysis, presentation. Assisting in the development of wildlife management plans. Identifying and addressing, damage, disease, and potential human health and safety issues created by wildlife. Use of pyrotechnics, firearms and traps to haze and remove hazardous wildlife. Public relations and outreach and education.

- **National Audubon Society May-Aug 2003**

Operated 7 MAPS Bird Banding Stations, responsible for net setup, extracting birds, aging, sexing, banding, data recording and entry, and overall welfare of the birds captured in the nets. Also conducted point counts, breeding bird surveys, nest searching, and vegetation surveys.

LICENCES, TRAINING & CERTIFICATIONS:

- FAA Qualified Airport Wildlife Biologist, NRA Certified Firearms Instructor -Airport Driving Cert., FAA Approved Wildlife Biologist Training, - NYS Pistol Permit, -NYS Wildlife Control Permit, -NYS Hunting and Trapping License, Boater Safety Cert

PROFESSIONAL MEMBERSHIPS:

- 2013-present, Steering Committee Chair, Birdstrike-USA
- *2009-present*, President of NYS Wildlife Management Association
- *2007- 2009*, Director of NYS Wildlife Management Association
- *September 2002- January 2003*, Secretary of the SUNY Cobleskill chapter of The Wildlife Society
- *January 2003- May 2003,* Vice President of the SUNY Cobleskill chapter of The Wildlife Society
- *2005-present, Member of National Wildlife Control Operators Association*