

## D. Environmental Coordination



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
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<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

November 01, 2019

Consultation Code: 05E1NY00-2020-SLI-0384

Event Code: 05E1NY00-2020-E-01283

Project Name: Master Plan Update

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>

[eagle\\_guidance.html](#)). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**

3817 Luker Road

Cortland, NY 13045-9385

(607) 753-9334

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## Project Summary

Consultation Code: 05E1NY00-2020-SLI-0384

Event Code: 05E1NY00-2020-E-01283

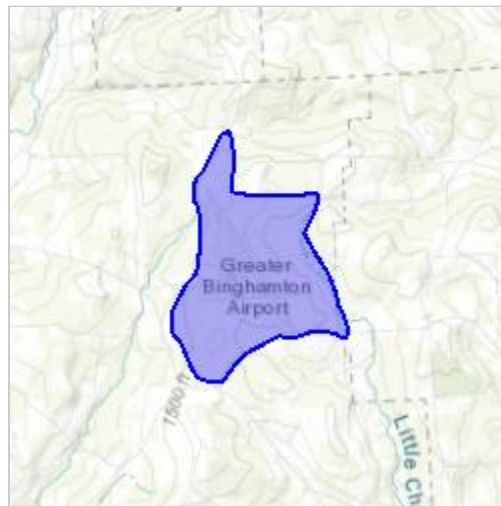
Project Name: Master Plan Update

Project Type: Guidance

Project Description: The Greater Binghamton Airport is currently undergoing a Master Plan Update. The Official Species List will be referenced in the Master Plan for consideration when proposing projects for future development at the Airport.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.21065369410256N75.97821146388631W>



Counties: Broome, NY

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## Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

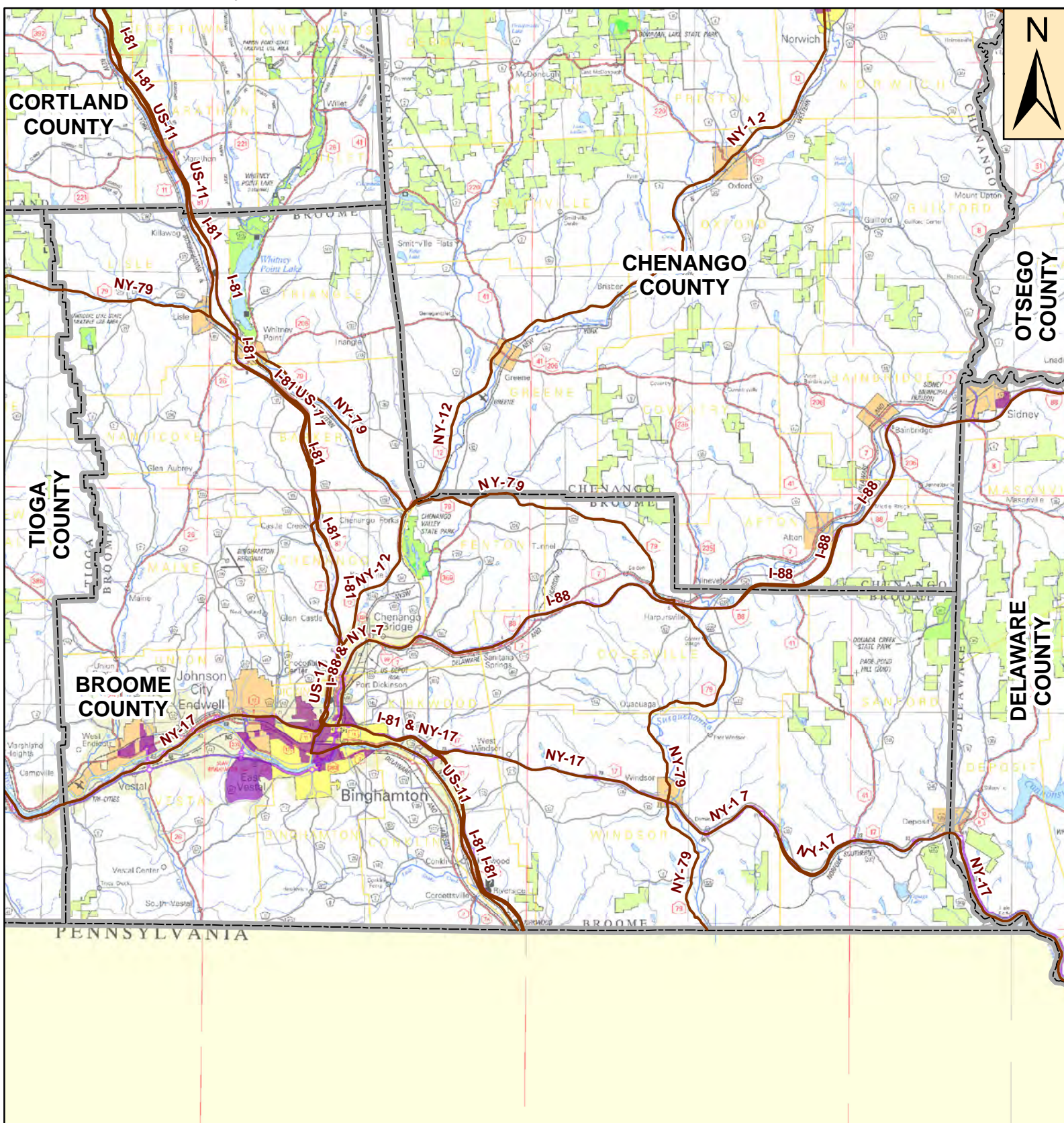
## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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Click on any Potential EJ Area outlined in blue for a detailed map





This computer representation has been compiled from supplied data or information that has not been verified by NYSDEC. The data is offered here as a general representation only and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information.

NYSDEC does not guarantee the accuracy, completeness, or timeliness of the information shown and shall not be liable for any loss or injury resulting from reliance.

Data Source for Potential Environmental Justice Areas:  
U.S. Census Bureau, 2000 U.S. Census

## Legend

-  Potential EJ Area
-  County Boundary

A horizontal number line is shown with tick marks at 0, 2, 4, 6, 8, and 10. The word "Miles" is written at the right end of the line. Two segments of the line are highlighted with thick black bars: one segment from 2 to 4, and another segment from 6 to 8.

SCALE: 1:325,000

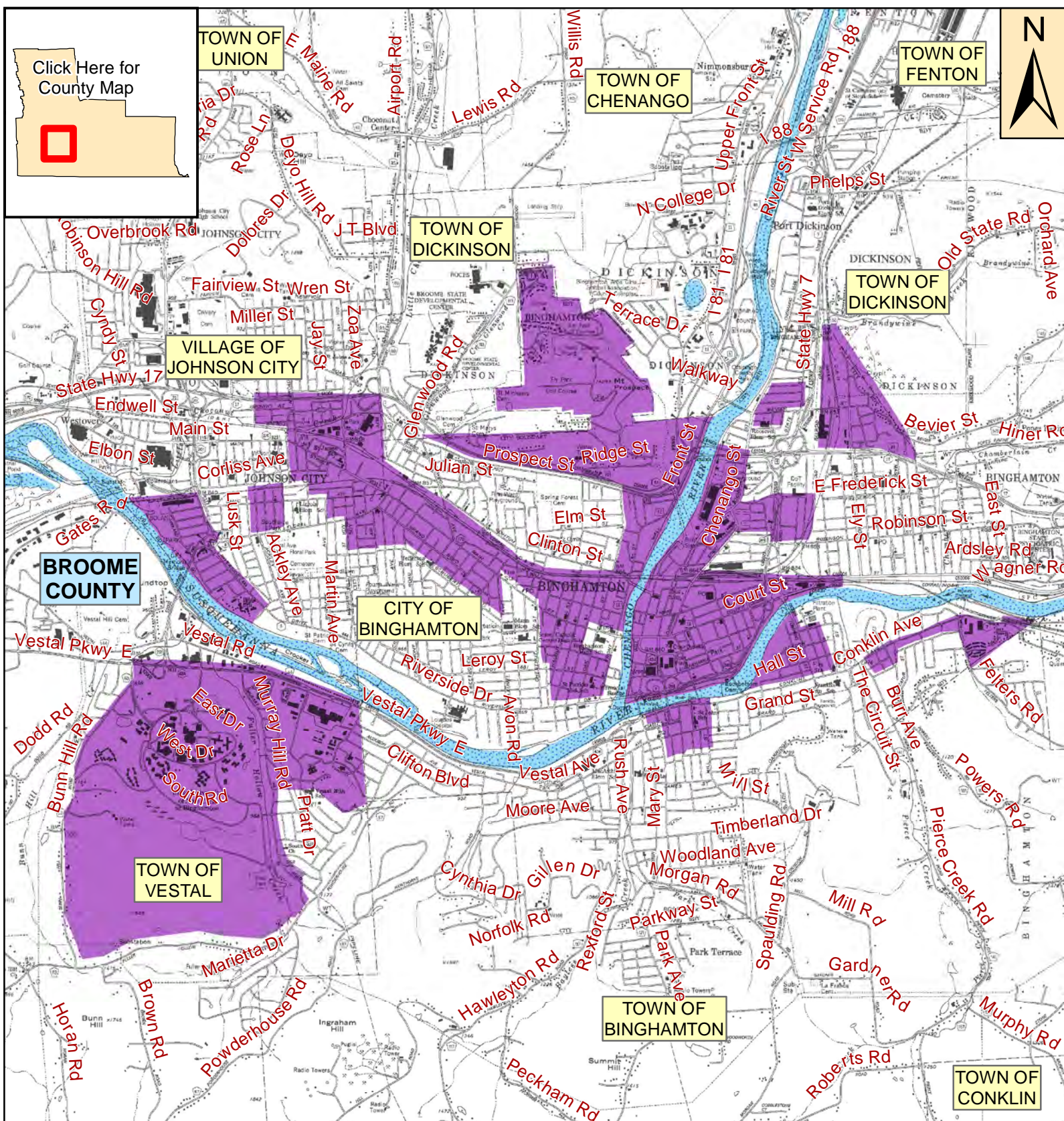
For questions about this map contact:  
New York State Department of  
Environmental Conservation  
Office of Environmental Justice  
625 Broadway, 14th Floor  
Albany, New York 12233-1500  
(518) 402-8556  
ej@gw.dec.state.ny.us





# Potential Environmental Justice Areas in the Binghamton Area

## Broome County, New York






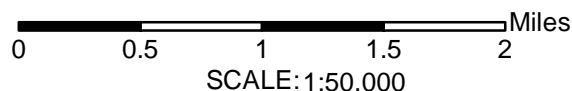
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Data Source for Potential Environmental Justice Areas:  
U.S. Census Bureau, 2000 U.S. Census

## Legend

-  Potential EJ Area  
 County Boundary  
 Waterbodies

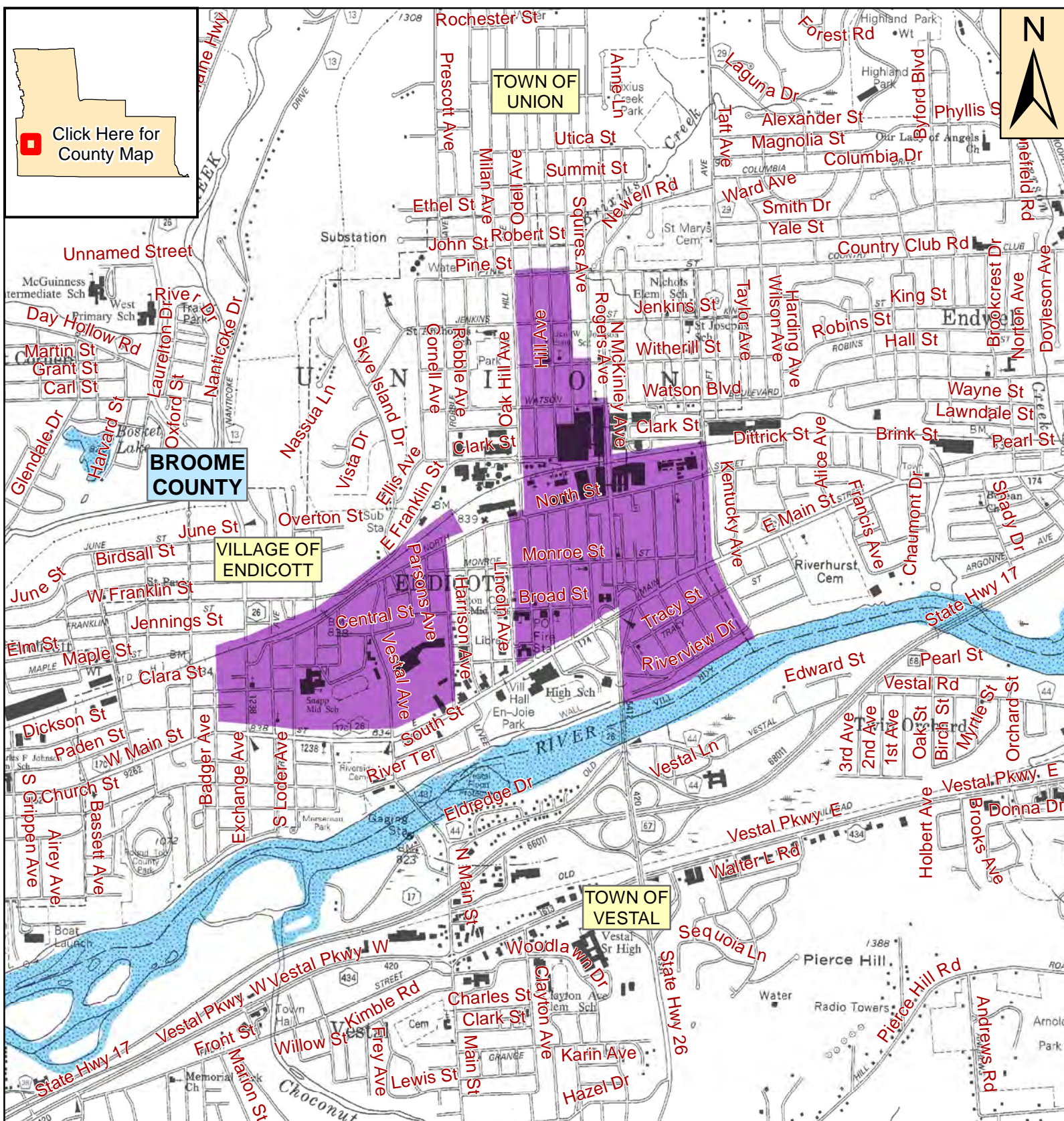


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# Potential Environmental Justice Areas in the Village of Endicott Broome County, New York



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Data Source for Potential Environmental Justice Areas:  
U.S. Census Bureau, 2000 U.S. Census

## Legend

- Potential EJ Area
- County Boundary
- Waterbodies

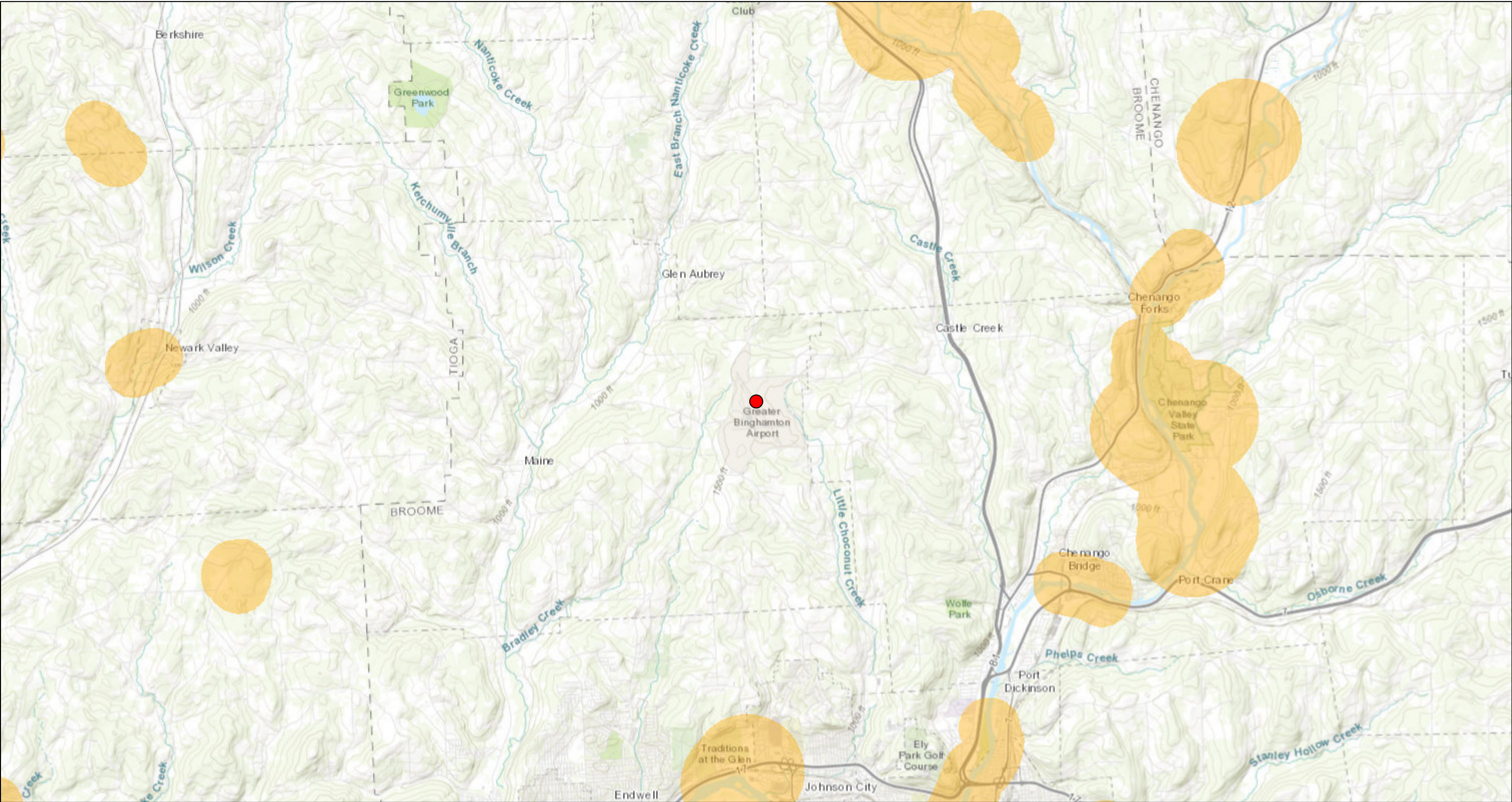
0 0.2 0.4 0.6 0.8 1 Miles  
SCALE: 1:24,000

For questions about this map contact:  
New York State Department of  
Environmental Conservation  
Office of Environmental Justice  
625 Broadway, 14th Floor  
Albany, New York 12233-1500  
(518) 402-8556  
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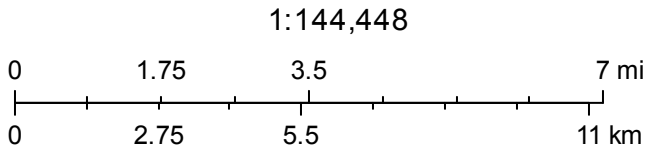




# BGM Master Plan Update



December 18, 2017



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



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## Introduction

From 1990 to 2004, 59,196 wildlife-aircraft strikes in the U.S. were reported to the Federal Aviation Administration (FAA) (Cleary et al. 2005) with an estimated cost of more than \$495 million to civil aviation annually. Of these strikes, 3,295 (6.4%) occurred in New York State (Cleary et al. 2005). Further, Barras and Dolbeer (2000) estimate that as few as 13% of all bird strikes are reported. Worldwide, over 300 people have been killed from wildlife strikes (Dolbeer et al. 2000). Due to an increasing presence of wildlife at airports and to an increased awareness of the potential damage caused by wildlife, the FAA has implemented procedures to mitigate damage to aircraft by wildlife.

Federal Aviation Regulations Part 139.337(b) requires that a Wildlife Hazard Assessment be conducted when an air carrier aircraft experiences a multiple wildlife strike; an engine ingestion of wildlife; substantial damage from striking wildlife; or wildlife of a size, or in numbers, capable of causing an event described above is observed to have access to any airport flight pattern or aircraft movement area. If the airport notes wildlife hazards on or near the airport in the Airport Facility Directory (AFD), on Notice to Airman (NOTAM) or on the Automated Terminal Information Service (ATIS), the airport may be required to conduct a Wildlife Hazard Assessment. FAR Part 139 requires that Wildlife Hazard Assessments be conducted over a 1-year period to capture seasonal and daily patterns of wildlife (Cleary and Dolbeer 1999). FAA Advisory Circulars entitled, "Hazardous Wildlife Attractants On or Near Airports" (AC 150/5200-33) and "Airport Landscaping for Noise Control Purposes" (AC 150/5320-14) and the FAA manual entitled, "Wildlife Hazard Management at Airports," (Cleary and Dolbeer 1999) pertain to wildlife hazards and should be consulted.

According to our records, correspondence between Wildlife Services (WS) (formerly "Animal Damage Control") and Binghamton Region Airport (BGM) occurred in 1979 in the form of a letter and permit application to kill gulls and other birds to reduce hazards to aircraft (Appendix A). The initial consultation pertaining to this Wildlife Hazard Assessment (WHA) between WS and the management of BGM occurred in June 2003. A meeting and site visit were conducted on June 23, 2003.

Based on the site visit, discussions with airport personnel, proximity of the Broome County Landfill, and in consideration of FAA requirements, WS recommended that a 1-year WHA be conducted at BGM. The Cooperative Service Agreement to perform Wildlife Hazard Assessments at Binghamton Regional Airport and Broome County Landfill was finalized on August 30, 2004. The field portion of the WHA started in September 2004 and was completed in September 2005.

## Legal Authority of Wildlife Service

The United States Department of Agriculture (USDA) is directed by law to protect American agriculture and other resources from damage associated with wildlife. Animal Plant and Health Inspection Services (APHIS) WS has statutory authority under the Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C.426-426b) as amended, and the Act of December 22, 1987 (101Stat. 1329-331, 7 U.S.C. 426c), to cooperate with States, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a



program of wildlife services involving mammal and bird species that are reservoirs for zoonotic diseases, or animal species that are injurious and/or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health and safety.

WS Directive 2.305, *Wildlife Hazards to Aviation*, provides guidance for WS wildlife biologists in providing technical assistance or direct control to airport managers, State aviation agencies, the aviation industry, the FAA, and the Department of Defense regarding hazards caused by wildlife to airport safety. Wildlife Services activities are conducted in cooperation with other federal, state and local agencies, and with private organizations and individuals.

The WS program is a non-regulatory, federal cooperative wildlife management program whose mission is to provide leadership in reducing conflicts between people and wildlife. Wildlife Services has the primary responsibility for responding to threats caused by migratory birds. A growing focus of WS is to help promote the safe operation of aircraft by working with airport management to document, assess and manage wildlife hazards at airports throughout the country.

FAA Cert. Alert No. 97-02, “Relationship between FAA and WS” (Appendix B), defines the respective roles of the agencies in resolving wildlife hazards on airports. It references a Memorandum of Understanding between FAA and USDA, Wildlife Services (formally Animal Damage Control) that establishes a cooperative relationship between these two agencies to resolve hazards to aviation by wildlife (Appendix C). This MOU recognizes that WS has the professional and technical knowledge to reduce wildlife hazards on or near airports, and it acknowledges that most airports do not possess this expertise. FAR Part 139.337 requires each airport operator to develop a wildlife hazard management plan. Even though the operator may work with WS to develop this plan or use a wildlife hazard assessment to support the plan, it is the responsibility of the airport operator (not WS) for the development, approval and implementation of the plan. FAA Cert Alert No. 97-09, “Wildlife Hazard Management Plan Outline” (Appendix D), provides guidance on the formulation and content of a FAA-approved wildlife hazard management plan for an airport.



Ring-billed gull (*Larus delawarensis*)

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## Objectives

The objectives of this wildlife hazard assessment were to:

1. identify the species, numbers, locations, local movements, and daily and seasonal occurrences of wildlife observed,
2. identify and locate features on and near the airport that attract wildlife,
3. describe existing wildlife hazards to air carrier operations,
4. review available wildlife strike records, and
5. provide recommendations for reducing wildlife hazards at BGM.



## **Strike Reporting**

### **Wildlife Strikes**

Bird Strike Committee Canada (Transport Canada 1992) developed a bird strike definition that has since been revised by the FAA effective 10 February 2004 and adopted by the International Civil Aviation Organization (ICAO), Bird Strike Committee USA, International Bird Strike Committee, and the U.S. Air Force. Under this definition, a wildlife strike is considered to have occurred if:

1. an air carrier aircraft experiences multiple wildlife strikes,
2. an air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component,
3. an air carrier aircraft experiences an engine ingestion of wildlife; or
4. wildlife of a size, or in numbers, capable of causing an event described in (1), (2), or (3) of this section is observed to have access to any airport flight pattern or aircraft movement area.

The number of civilian wildlife-aircraft strikes reported annually in the United States has increased from 1,743 in 1990 to 6,511 strikes reported in 2004 (Cleary et al. 2005). This increase could be the result of several factors: an increase in wildlife-aircraft strike issue awareness, an increase in air traffic, or an increase in some populations of hazardous wildlife species.

From 1980 to 2004 commercial aircraft movements in the U.S. increased from 17.8 million to 29 million (Cleary et al. 2005). This rise in air traffic coincides with increasing wildlife populations. In New York, the resident (non-migratory) Canada goose population increased from about 19,000 in 1981 to an estimated 220,000 today (Swift 2006). Nationally, the resident Canada goose population increased at a mean annual rate of 9.6% from 1980-2001; the ring-billed gull population increased at a mean annual rate of 2.2%, the red-tailed hawk population by 2.4%, and the turkey vulture population by a mean annual rate of 2.2% (Sauer et al. 2003). The white-tailed deer population in the United States increased from 350,000 in 1900 to about 24 million in 1994 (Jacobson and Kroll 1994). Increasing plane movements and increasing urban wildlife populations creates risks that are greater than ever before for wildlife-aircraft strikes (Dolbeer & P. Eschenfelder 2002).

### **Collecting and Reporting Wildlife Strike Data**

Diligent collection of bird strike data should be a priority for airport operations personnel. The number of strikes per 10,000 aircraft movements is used to assess the severity of wildlife hazards at an airport and to evaluate current wildlife management plans. Bird strike statistics based solely on pilot reports are unreliable and unrepresentative because most strikes go unreported. Through regular carcass searches on the runways at a major international airport, Barras and Dolbeer (2000) estimated that as few as 13% of all bird strikes were reported.



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The FAA and the National Wildlife Research Center (NWRC—the research division of USDA, Wildlife Services) manage a national wildlife strike database (NWSD) with records dating from January 1990. Pilots, tower personnel, and airport staff should be encouraged to be aware of bird strikes and the importance of reporting them to the FAA. It is critical for the integrity of a strike record database, both locally and nationally, to receive as much information as possible through the FAA Strike Report Form 5200-7 (Appendix E); the strike report can also be submitted online. Advisory Circular 150/5200-32A explains the importance of diligently reporting strikes to the database (Appendix E).

If any of the four criteria listed on page 4 is met, a Strike Report Form should be completed with as much information as possible and submitted to the FAA. If a carcass is found that cannot be identified, specified feathers or parts of these carcasses should be submitted to the Smithsonian Institute Feather Lab (Appendix F). Or if a strike is reported but no carcass recovered, any feathers or parts remaining on the plane should also be removed and submitted to the Feather Lab. *Bird identification is provided at no expense to airports.*

The FAA and the NWRC provide a comprehensive analysis of the national wildlife strike database each year in the annual report “Wildlife Strikes to Civil Aircraft in the United States.” This document and the FAA Strike Report Form 5200-7 can be downloaded at <http://wildlife-mitigation.tc.faa.gov/>.

## **BGM and Adjacent Property**

BGM is located in the Town of Maine approximately 5.2 miles north of the Village of Johnson City in Broome County, N.Y. The airport is situated east of NY State Route 69 (Airport Road). The airport is surrounded by woodlands with scattered residential homes. Broome County Landfill is located approximately 1.3 miles northeast from the end of runway 16.

During the WHA we considered wildlife activity on BGM property and within a 5-mile radius of the airport. BGM has two intersecting runways: runway 10/28 (5,002 x 150 ft.) and runway 16/34 (7,100 x 150 ft.). Aircraft movements average 91 per day: 47% commercial; 33% transient general aviation; 17% local general aviation; and 3% military (Source: [www.airnav.com/airport/KBGM](http://www.airnav.com/airport/KBGM)).

## **Wildlife**

Deer are the greatest threat to aviation (Dolbeer et al. 2000), while large flocking birds such as gulls and waterfowl are usually considered the greatest avian threat to aviation. However, smaller starlings and blackbirds can also present significant hazards because of their propensity to form tight flocks comprised of thousands of individuals. Turkeys also present significant hazards due to their size and some solitary birds such as raptors present a concern because of their size and aerial hunting behavior.

Appendix G lists all the species of wildlife observed at BGM during the WHA. Mammals observed include the Eastern cottontail rabbit (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes fulva*) and woodchuck (*Marmota monax*). Mammals indigenous to this area that were not observed inside the security fence during the WHA

include the white-tailed deer (*Odocoileus virginianus*), beaver (*Castor canadensis*), opossum (*Didelphis marsupialis*), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), black bear (*Ursus americanus*) and many species of rodents. This list is an excellent representation of the larger bird species common to southern New York; however, there are many species of passerines (smaller birds) that were not observed. Although several species of amphibians and reptiles are common to the area, none were recorded during the WHA.

## **Habitat Description**

The BGM property is 1,199 acres in size comprised of paved or concrete surfaces, permanent buildings, woods and grassy areas. Because the airport was built on Mt. Ettrick, the elevation of the airport is higher than the immediate surrounding terrain. The airfield is enclosed in an eight foot chain link security fence with three strands of barbed wire. Woodlands, wetlands and residential areas surround airport property.

## **Current Wildlife Hazard Management Plan**

BGM presently views wildlife hazard management as a priority with approximately 7 operations staff (including one operations supervisor) trained to assist in managing problem wildlife at the airport. Current wildlife management practices include:

- short-grass management immediately adjacent to the runways and taxiways, and areas situated within the taxiways,
- contract with NY State licensed NWCO (nuisance wildlife control operator) to remove fox and beaver when necessary,
- current state and federal permits for killing migratory birds (Canada geese & gulls, plus non Threatened and Endangered species during emergency takes),
- non-lethal control: the use of hand-launched pyrotechnic devices,
- wildlife-aircraft strike reporting

## **Legal Status of Wildlife Species**

Federal, state, or municipal laws protect most forms of wildlife and their habitats. Before administering any control action at BGM, whether lethal or non lethal, the identification and legal status of the target species should be determined. Regulatory agencies governing wildlife issue permits to trap or kill wild animals depending on the species and method of control involved. A permit is also usually required to harass species of special concern (i.e., threatened and endangered species). BGM is responsible for adhering to the current regulations regarding wildlife control and for obtaining the appropriate permits to take or harass specific types of wildlife. Potential non-target animals should be identified, as well, to aid in determining the appropriate control methods that would avoid killing or harassing these species.

## **Federal Regulations**

The U.S. Government has passed several acts for the protection of wildlife including the Migratory Bird Treaty Act (MBTA), the Lacey Act, the Endangered Species Act, Eagle Protection Act, the National Environmental Policy Act, and the Federal Insecticide,

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Fungicide, and Rodenticide Act (FIFRA). These are the basis of most wildlife regulations that have been issued in the Codes of Federal Regulations (CFR). Several agencies are responsible for implementing these regulations and many of these regulations affect wildlife management at airports. Federal wildlife laws are administered by the U.S. Fish and Wildlife Service (USFWS) and primarily involve migratory birds protected under the MBTA and all species protected under the Threatened and Endangered (T&E) Species Act (Appendix H). Permits from the USFWS must be updated annually unless otherwise stated on the permit.

BGM is currently managing wildlife under Federal Fish and Wildlife Service Depredation Permit Number MB672121-0 (Appendix I). This permit authorizes BGM to kill “non-endangered and non-threatened species of migratory birds when they are creating or about to create a hazard to aircraft, only after non-lethal techniques have been tried.” This permit expires on 09/30/2006. To avoid lapses in permits, BGM should “submit a written application at least 30 days prior to the expiration date of the permit.” Depredation permits are also subject to the conditions put stated in 50 CFR § 21.27: Special Purpose Permits (Appendix J). Under these guidelines BGM is required to document the permitted activity including type of action, species and numbers involved, and disposition of carcasses. These records should be available for inspection if necessary.

### **State and Local Regulations**

New York State law follows the Federal regulations for migratory bird species and further regulates actions concerning mammals and game birds (Environmental Conservation Law of New York, Article 11) (Appendix K). The New York State Department of Environmental Conservation (NYSDEC) is responsible for issuing state depredation permits (permits that allow birds and mammals to be taken to protect property, agriculture, and human health and safety) (see page 8). The DEC publishes these regulations annually as the Environmental Conservation Law of New York. A copy of these regulations is available through DEC upon request. The airport is currently operating under a NYSDEC Depredation License Number 23 (Appendix I) that supports their Federal Fish and Wildlife Permit discussed above.



**A reference list of birds and mammals commonly found in New York and the permits required for depredation control.**

<b><u>Category</u></b>	<b>Species</b>	<b>State Permit</b>	<b>Federal Permit</b>
<b>Resident game birds</b>	Turkey, ruffed grouse, bobwhite quail, pheasants	YES	NO
<b>Resident nongame birds</b>	Starlings, house sparrows, pigeons	NO	NO
<b>Migratory game birds<sup>1</sup></b>	Geese, ducks, snipe, woodcocks, rails, gallinules	YES	YES
<b>Migratory nongame birds<sup>1</sup></b>	Raptors, doves, gulls, jays, songbirds, swifts, swallows, shorebirds, and wading birds	YES	YES
<b>Depredation order birds<sup>2</sup></b>	Crows, red-winged blackbirds, brown-headed cowbirds, and grackles	NO	NO
<b><i>Mammals</i></b>	Deer, bear, red fox, gray fox, Eastern cottontail rabbits, squirrels, coyotes, bobcats, raccoons, skunks, possums, muskrats, beavers	YES	NO
<b>Unprotected species</b>	Woodchucks, porcupines, red squirrels, snapping turtles	NO <sup>3</sup>	NO
<b>Threatened &amp; Endangered Species (lethal &amp; nonlethal control)</b>	See Appendix I	YES	YES
<b>Feral domestic mammals</b>	Dogs, cats, livestock	NO— call local animal control	NO

<sup>1</sup> For a complete list of migratory birds see 50 CFR § 10.13 (Appendix J).

<sup>2</sup> A federal permit is not required “when concentrated in such numbers and manner as to constitute a health hazard or other nuisance,” see 50 CFR § 21.43 (Appendix J).

<sup>3</sup> Unprotected species may be taken at any time without limit.

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## Methods

### Bird Survey

From September 2004 to September 2005 bird surveys were conducted at BGM four times each month. The surveys used a time-area sampling design based on a modified version of the U.S. Fish and Wildlife Service's Breeding Bird Survey. This survey is designed to capture temporal (seasonal and diurnal) and spatial use of the airport property by birds as well as behavior, abundance, and diversity of species (Appendix L). In addition to providing a report on the current use of the airport by birds, this assessment provides a baseline of information by which airport operations can evaluate the effectiveness of their program in the future.

An assumption of this survey method is that all birds present are seen and identified. This assumption was undoubtedly violated due to the presence of small, solitary species that occasionally went unnoticed or birds that were unidentified. However, this violation is acceptable because the intent of this survey is to capture an index of the presence and behavior of larger-bodied or flocking birds as these birds pose a greater risk to aircraft (Dolbeer et al. 2000).

Seven permanent observation stations were selected to monitor all areas of the airfield (especially runways and approach and departure lanes) or a potential attractant (e.g., pond or stream area). During each survey, an observer monitored these permanent observation stations on the property (Appendix M). Data were collected at each station for three minutes and in 360 degrees. Binoculars were used to identify species and obtain counts, but not to search for birds. Start times for the surveys were randomly selected to begin between dawn and dusk; each survey required about 1.5 hours.

At each station WS recorded each species observed, and for each species we recorded the number of individuals and the type of behavior in which that group was engaged. To determine a species' hazard level to aircraft, we assigned each behavior a level of risk. These behaviors are listed and defined in the table on page 11. Occasionally, important wildlife sightings were made which fell outside the timed structure of the bird survey. These incidental sightings and events were documented in addition to the survey.

### Mammal Surveys

#### Large mammal survey

Most large mammals are nocturnal and are generally most active just after sunset or just before sunrise. Once per month WS conducted a survey after sunset using a spotlight and FLIR (forward looking infra-red) to search for large mammals. The survey driving route covered both the airfield and lower road. The species, number, and location of each observation were recorded (Appendix L).

### Small mammal survey

A survey of small mammal abundance was conducted during the WHA. These surveys allowed us to monitor the presence and relative abundance of small mammals (i.e., mice, voles, shrews) that serve as a prey base and attractant for raptors and large mammals such as coyotes and foxes (Appendix L). Surveys were conducted in the spring and the fall, when small mammals are most active. The plots were selected in three locations based on the location of runways and types of habitat.


One hundred forty-four (144) traps were set for 3 evenings in May and September for a possible total of 864 trap-nights. Three types of traps were set: mouse snap traps, rat snap traps, and Sherman live traps. The traps were checked daily, and all mammals caught were positively identified. The number of actual trap-nights was adjusted during each survey to account for sprung traps and non-target catches.

### **Analysis of Survey Data**

WS used descriptive statistics to analyze the data from the three types of surveys and to represent the situation at BGM relevant to the time the surveys were made. Because there was no hypothesis being tested, other statistical analysis was not necessary.

To analyze the bird survey data, bird species were organized into guilds. Guilds are groupings of birds based on similar behavior, especially foraging behavior, and not necessarily on species relatedness. For example, red-winged blackbirds, common grackle, eastern meadowlark and European starlings, are combined into the guild “starlings and blackbirds.” Tracking birds of similar behavioral characteristics is important in determining which species of birds are most likely to be involved in bird-aircraft strikes. Also, birds of similar behavior tend to respond to the same control methods such as habitat modification, hazing, or types of exclusion.

WS analyzed the temporal, spatial, and behavioral use of the airport by bird guild. Data obtained from the WHA is presented in various tables and graphs. Tables show the number of observations (*an “observation” means that a species was observed and does not imply group size, whereas “individuals counted” is the actual number of individual animals recorded*) and total number of birds documented during each month, survey station, and behavior category. Graphs include the number of observations and number of birds counted per month, observations and number of birds counted per survey station, and the percentage of birds documented in each behavior category. The behavior categories in the graphs appear as a percentage of total observations with the most observed behavior (top of graph) to the least observed (bottom of graph) with the most hazardous behavior (crossing over runway) highlighted in red.

Hazard Level	Behavior	Description
<i>Least hazardous</i>  <i>Most hazardous</i>	Sitting	loafing on ground outside of runway
	Swimming	loafing on water
	Feeding	feeding on the ground outside of the runway
	Perching	perched on manmade structure
	Perching	perched on vegetation
	Flyover	flying over the observation area
	Hunting	aerial hunting
	In runway	on ground in or adjacent to runway
	<b>Incursion</b>	<b>Crossing over a runway</b>

## Wildlife Attractants

Wildlife has four basic needs: food, water, cover, and loafing areas. Removing these elements on an airport is the first defense against wildlife strikes. Even when these elements of wildlife management are carefully considered, events can occur which cause the attractiveness of the airport to certain species to increase. Seldom used areas may revert to brush and tall grass, soil may settle creating collection points for water, and piled materials such as construction remnants or soil can serve as shelter for wildlife. Land adjacent to airports may become developed, causing wildlife to seek habitats at an airport that meets their needs. For example, raised landing lights, trees, and snags (standing, dead trees) may be used as a perch by raptors to search for small mammals.

Food sources for wildlife may include overflowing dumpsters, handouts from people, vegetation, mast, seeds (including grass seeds), berries, insects, rabbits, rodents, and earthworms. Water sources can include streams, impoundments, puddles, sprinklers, dripping faucets, lakes, ponds, and rivers. Cover and nesting habitat may include hangars for doves and pigeons; brushy or grassy areas in ditches, fields, and along fences; towers and signs; urban structures; trees; or abandoned machinery and materials. Fields at airports may also provide shelter for burrowing animals.

Modifying or managing airport habitat is an effective and economical deterrent to wildlife because these methods tend to be longer lasting than short term methods that remove individual animals. The goal is to render BGM property as unattractive to hazardous wildlife species as possible. The best way to accomplish this goal is to limit food, water, and cover for wildlife by creating a monotypic (uniform) environment throughout the airport. During the WHA, WS documented several of the above attractants and potential attractants to wildlife which will be addressed in this document.

## **Wildlife-aircraft Strike Analysis**

WS analyzed BGM's 16-year history of wildlife-aircraft strikes (from January 1990 to March 2006) by year, guild, and month. A species hazard ranking for BGM is also presented, based on the strike record. In addition, WS performed a runway and phase of flight analysis that shows which runways and which phases of flight (approach, landing roll, take-off roll, or climb) are most susceptible to wildlife strikes.





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## Wildlife Attractants at BGM

The following attractants were identified during the WHA at BGM from September 2004 through September 2005. Both airports and wildlife are dynamic entities, and attractants may change over time. Therefore, this section should be viewed as a report of the situation at BGM during the time of the WHA and not as a permanent identification of the wildlife situation at BGM. Future modifications to airport property or property surrounding the airport should take into consideration ramifications they may have on wildlife.

### On site Attractants

Grass. Grassy areas throughout airport property can be a major attractant to several species, and grass height will determine which species will use a given area. Grass height at BGM should be homogeneous, which will help in controlling wildlife use.

Wooded Areas. The wooded areas on BGM property provides good habitat for many wildlife species. The woody, scrubby, dense vegetation found on the slopes leading down from the airfield to the lower road provide food and cover for several species of wildlife.

Wildlife prey. Eastern cottontail rabbits, woodchucks, and skunks are common at BGM and can be found throughout airport property. These species serve as prey for hawks, owls, other raptors, foxes and coyotes.

Perching areas. The woods surrounding the runways and taxiways provide a multitude of perching locations. Abandoned structures, isolated trees on the airfield, security fence, hangars, buildings, and FAA equipment also provide perching structures throughout airport property. The lighting structure extending from runway 16 is both a perching and nesting attractant to several species of birds. The dense pine tree area found south of runway 10 provides an ideal roosting location for crows and starlings.

### Off site Attractants

Great blue heron rookery. This well established rookery is found on private property approximately 0.5 miles west of runway 16. WS biologists have observed > 30 active nests during the spring. Because the airfield plateau is higher than the rookery, herons leaving the nest to forage east of the airfield fly at a dangerous altitude over the airport, increasing the risk of bird strikes.

Broome County landfill. The landfill is located approximately 1.3 miles northeast of runway 16 and is a major attractant to hazardous bird species. This landfill provides food, cover and water to species such as gulls, Canada geese, turkey vultures, crows, starlings, and great blue herons.

## Results of Surveys

BGM and surrounding area contain a large diversity of wildlife. Only a few species are primarily responsible for creating wildlife hazards at BGM. During the WHA, we identified 36 species of birds, and 4 species of mammals that use BGM (Appendix G).

### All Bird Species Combined

Thirty-six bird species were documented during 360 observations (48 visits) on the airfield at BGM during the WHA, September 2004 through September 2005 (Appendix G). WS documented the greatest diversity of bird species during the month of July and the least diversity in November (Figure 1).

**Figure 1.** Monthly bird species diversity documented at BGM during the WHA.

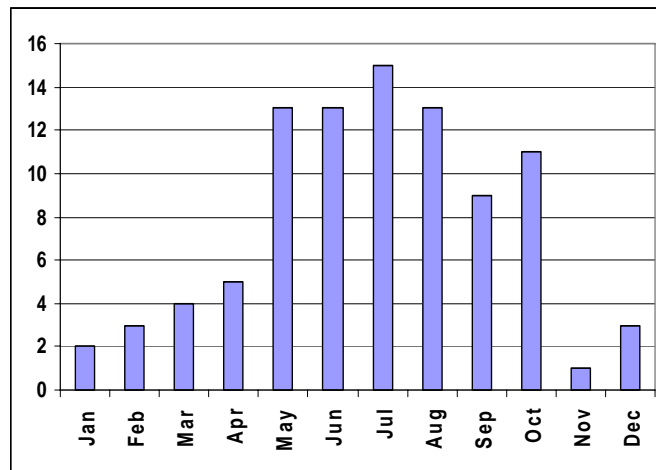
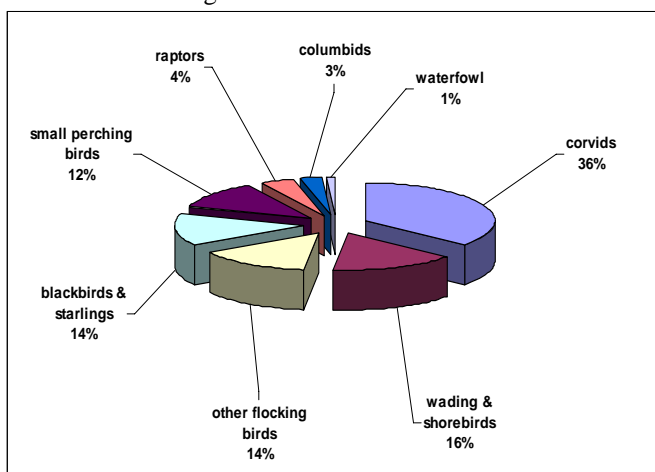


Figure 2 indicates how often we observed each guild as a proportion of total observations made on-site during the WHA. “Corvids” accounted for the largest percentage of observations followed by “wading and shorebirds,” “other flocking birds,” and “blackbirds & starlings.” Of the “corvids,” 98% of all observations and 98% of all individual birds counted were crows. “Wading and shorebirds” observations were represented most often by killdeer at 82% followed by great blue herons at 16% and upland sandpipers at 2%. The two most prevalent species observed in the guild “other flocking birds” were barn swallows at 54% and tree swallows at 27%; other species observed from this guild include snow buntings, horned larks, and cedar waxwings. Starlings accounted for 94% of all observations from the guild “blackbirds & starlings.” Birds such as starlings and blackbirds feed and move in large flocks so they generally pose a greater threat to aircrafts than do solitary birds such as songbirds.

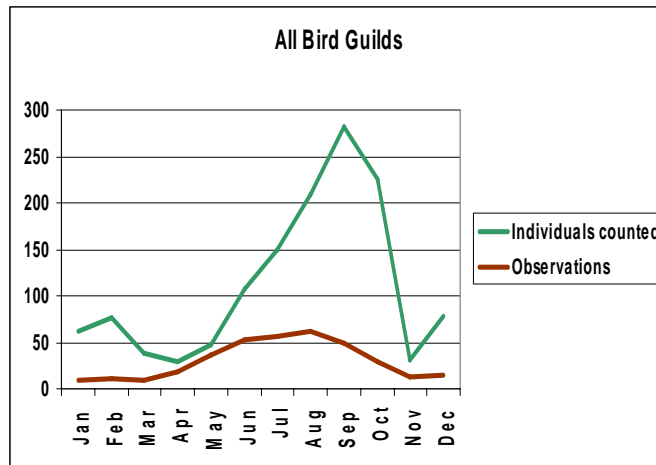
**Figure 2.** Bird guilds as a proportion of total observations documented during WHA.



“Small perching birds” observations were represented by several species (Appendix G); however, the species most often observed include savannah sparrows at 33%, song sparrows at 17%, and American robins at 10%. “Raptors” observations were represented most often by American kestrels at 47%; other species observed from this guild include red-tailed hawks, turkey vultures, northern goshawks, peregrine falcons and sharp-shinned hawks. “Columbids” observations were represented by two species, mourning doves at 80% and pigeons at 20%. Canada geese were the only species from the guild “waterfowl” documented on the airfield. WS biologists did not document any “gulls” on the airfield during the WHA.

The month of August had the highest number of observations, while the highest number of individual birds counted occurred during the month of September (Table 1, Figure 3). Both of the guilds “other flocking birds” and “wading & shorebirds” each accounted for 32% of all observations during the month of August; of these observations, 48% were killdeer and 40% were barn swallows. Observations in June were represented most often by the guilds “blackbirds and starlings,” at 34% and “small perching birds” at 21%. “Blackbirds and starlings” accounted for 65% of all individual birds counted in June; of these birds, 99% were starlings. Savannah sparrows represented 55% of the observations and 58% of individual birds counted in the guild “small perching birds” during the month of June.

**Figure 3.** All bird species observations and number individual birds counted each month during the WHA.



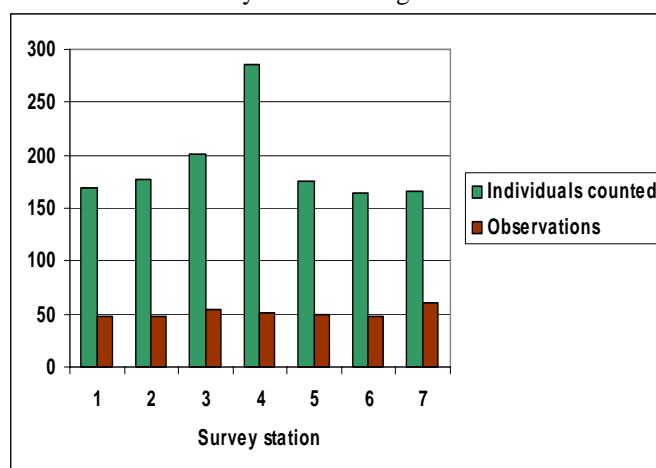
The peak in the number of individual birds counted in September was represented by the guilds “blackbirds and starlings” at 46%, “corvids” at 17%, and both “wading & shorebirds” and “waterfowl” at 15%. Of these, starlings accounted for all birds in the “blackbirds & starlings” guild and crows accounted for 98% of the “corvid” guild, while Canada geese accounted for all birds in the “waterfowl” guild and killdeers represented all birds in the “wading & shorebirds” guild.

Starlings represent a significant threat to aircraft due to their flocking behavior and Canada geese represent a major threat due to both their size and flocking behavior. Starling average flock size during the month of September was 14 birds, while the average flock size for Canada geese was 43 birds. The average flock size for starlings and Canada geese throughout the year was 10 birds and 26 birds, respectively.

#### Survey station

During the WHA, the number of bird observations at each survey station ranged from 48 to 61 (Table 2, Figure 4). Most observations occurred at survey station 7 (east end of t/w Long H at the approach end of r/w 28), while the fewest occurred at survey stations 1 (intersection of t/w’s A & D), 2 (north end of t/w A at the approach of r/w 16) and 6 (south end of t/w G at the approach of r/w 34). The guilds most often observed at survey station 7 were “corvids” at 43% and “small perching birds” at 18%.

**Figure 4.** All bird species observations and individuals counted at each survey station during the WHA.

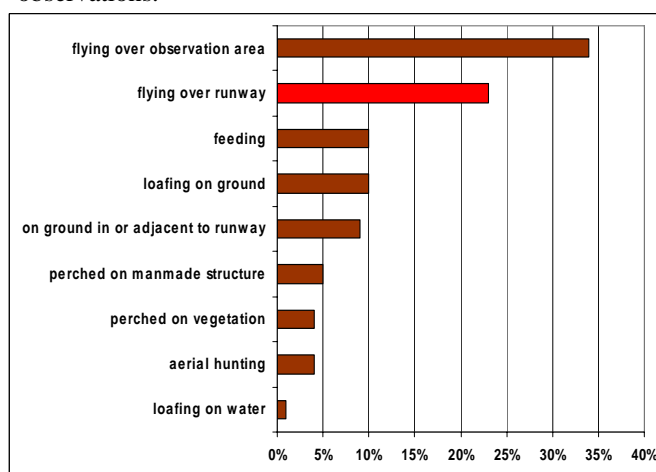


The number of individual birds counted ranged from 164 at survey station 6 to 285 at survey station 4 (intersection of t/w's F & K). Of the individual birds counted at survey station 4, 55% were starlings and 19% were killdeers.

### Behavior

Behavior is an important consideration because flocking birds such as starlings, geese, horned larks, and swallows pose a greater threat to aircraft than solitary birds as stated above. In addition to behavior, these observational data should also be reviewed in conjunction with a species' (or guild's) strike history to determine a species' importance in terms of risk level to aircraft (Dolbeer and P. Eschenfelder 2002). All nine behavior categories were documented during the survey (Figure 5). The behavior "flying over the observation area" was observed 122 times, which accounted for 34% of all observed behaviors (Table 3, Figure 5)

**Figure 5.** All bird species behaviors as a percentage of total observations.





The most dangerous behavior, “flying over runway” was observed 84 times, which accounted for 23% of all observed behaviors. The 3 behaviors with the least observations included “loafing on water,” “aerial hunting,” and “perched on vegetation” with 2, 14, and 15 observations, respectively.

## **Bird Guilds**

### **Corvids (Crows and Jays)**



**Description.** Crows and jays are generally known for their raucousness, intelligence (relative to other birds), and highly social behavior. Most corvids are black but jays, which are included in this group, are usually blue. Both sexes in corvids look alike. Crows are omnivorous, feeding on a wide range of food items including crops, insects, and refuse at landfills. They tend to be less wary and are more likely to be found at airfields than other corvids. Crows are often described as “too smart to be struck by aircraft.” This belief is not true. Any bird on an airport is likely to cross a runway and is therefore a threat to aircraft safety. Crows often travel in flocks and congregate in large roosts, traveling from daily feeding areas to nighttime roosts in long flight lines across airports.

**Attractants.** Crows commonly feed in open areas, especially when there is dense cover nearby such as trees or brush. Corvids are opportunistic feeders and will feed on a wide variety of food including fruits, nuts, small animals, insects, refuse, and carrion. Activities such as mowing or soil excavation (as during construction) expose insects which attract crows.

**Risks.** Three hundred and sixty-nine crows have been reported to the FAA database between 1990 and 2005 as struck by aircraft in the U.S. (Cleary et al. 2005). Nationally, crows represent 1.5% and jays represent < 0.1% of all bird-aircraft strikes (Cleary et al. 2005). Corvids rank 18<sup>th</sup> out of the 21 most hazardous wildlife species to aircraft (Dolbeer et al. 2000).

**Legal status.** Corvids are protected by the Migratory Bird Treaty Act, but certain species under this act may be taken under the Federal blackbird depredation order. American crows are included in the blackbird depredation order and “may be taken when causing or about to commit damage to ...or when concentrated in numbers or in a manner as to constitute a health hazard or nuisance” (Appendix J, 50 CFR 21.43). There is no reporting requirement under the blackbird depredation order. If birds, including blue jays, must be shot on an airport, a USFWS depredation permit must be obtained. American crows may be hunted with a valid NYS hunting license from September 1 – March 31 (Fridays, Saturdays, Sundays, and Mondays only) throughout the state with the exception of New York City.

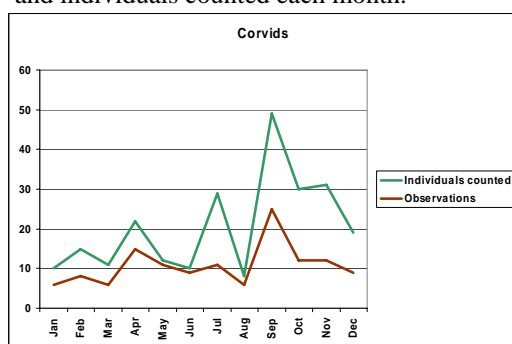
**Control measures.** The most effective method to prevent crows from using an airport is habitat modification. This method includes allowing the grass to grow taller than 7 inches, removing trees used for roosting and structures used for perching. If crows continue to use the airport, they should be dispersed with pyrotechnics and reinforced with live

ammunition. Australian crow traps may be used in some cases, but care must be taken to prevent attracting additional crows to the bait in the trap.

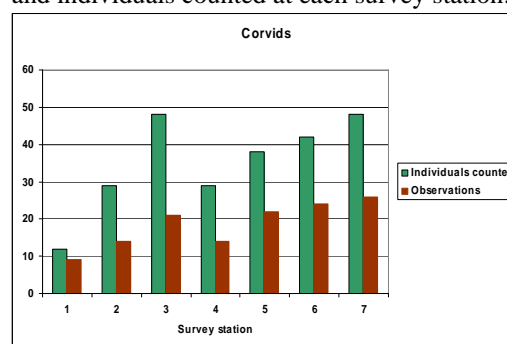
## Risk Analysis

**Prevalence.** Corvids were observed 130 times during the WHA with crows accounting for 98% of both observations and individual birds counted. Peak observations for this guild occurred in September, while January, March, and August had the lowest (Table 1, Figure 6). September also had the highest count of individual birds and August had the lowest. Crows were observed on the airfield throughout the year.

**Figure 6.** Number of corvid observations and individuals counted each month.



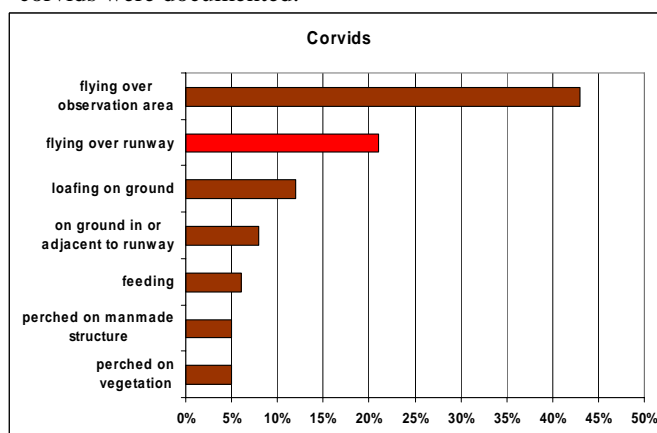
**Figure 7.** Number of corvid observations and individuals counted at each survey station.



Corvid observations were well distributed throughout all the survey stations with the highest number occurring at survey station 7 (Table 2, Figure 7), while the lowest number of observations occurred at survey station 1. The highest number of individual birds counted occurred at survey stations 3 (intersection of t/w's H & G) and 7, while survey station 1 had the lowest.

**Behavior.** The behavior most often observed was “flying over the observation area” at 43% followed by “flying over runway” at 21% (Table 3, Figure 8). Crows were responsible for 32% of all runway flyovers observed for all species during the WHA.

**Figure 8.** Percentage of behavioral observations in which corvids were documented.



Strikes. According to the NWSD, four strikes involving crows have been reported at BGM. Two strikes occurred on runway 34, one strike occurred on runway 16, and one strike report provided no runway information.

### **Wading Birds and Shorebirds**



Description. The wading birds guild is usually divided into “long-legged” and “smaller” wading birds. Long-legged wading birds are comprised of egrets and herons while smaller wading birds include plovers, sandpipers, killdeer, etc. Smaller wading birds are often referred to as shorebirds. Some of the birds observed in this group at BGM include killdeers and great blue herons.

Attractants. These birds are attracted to shallow water or shorelines where they can hunt for small to medium-sized fish, amphibians, small marine life, and insects. Upland shorebirds such as killdeers and upland sandpipers are attracted to open grassland habitat found on most airports.

Risks. Nationally, wading birds and shorebirds represent 7.4% of all known bird-aircraft strikes (Cleary et al. 2005). Herons are ranked 12<sup>th</sup> and smaller shorebirds such as killdeer and common snipes are ranked 17<sup>th</sup> out of the 21 most hazardous wildlife species to aircraft (egrets were not ranked) (Dolbeer et al. 2000). Egrets and herons pose a more serious threat to aircraft than their smaller kin. These long-legged wading birds are larger and can, therefore, cause greater impact damage to aircraft. They are also slower and more lumbering in flight than the smaller birds. The smaller birds tend to nest close to where they feed, and they forage and travel along shorelines. The larger birds may travel farther, in comparison, between foraging areas and their roost, crossing various types of terrain.

Legal status. Wading birds are classified as migratory nongame birds and are protected under the Migratory Bird Treaty Act. They may be killed with a USFWS depredation permit and a concurrent state depredation permit.

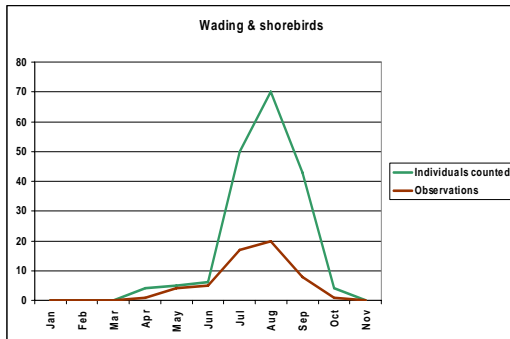
Control measures. The areas that attract wading birds are generally areas adjacent to airports, and they are often regulated as wetlands; therefore, management for these birds can be difficult. If drainage ditches are on the airport, they should be kept free of aquatic vegetation and tall grass. Standing water should be drained from ditches to reduce attractiveness to wading birds. Egrets and herons should be deterred from crossing the airport by hazing them with pyrotechnics. Hazing with pyrotechnics should also occur if these birds are observed foraging, roosting, or loafing on the airport. It may be necessary to kill one or two individuals that persist on the airfield.

### **Risk Analysis**

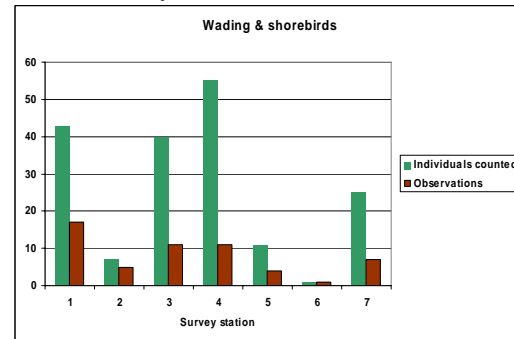
Prevalence. Wildlife Services made 56 observations of wading and shorebirds consisting of 182 individual birds (Table 1). All observations consisted of three species, killdeers at 82%, great blue herons at 16% and upland sandpipers at 2%. Wading birds were not present at BGM during the months of January, February, March, November and December

(Table 1, Figure 9). The highest number of observations and individuals counted occurred during the month of August. Of the individual birds documented in August, 97% were killdeer.

**Figure 9.** Number of wading and shorebird observations and individual birds counted each month.



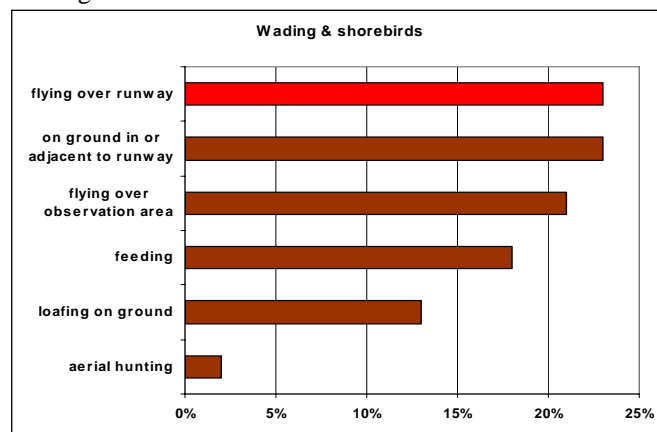
**Figure 10.** Number of wading and shorebird observations and individual birds counted at each survey station.



Survey station 1 had the highest number of observations with killdeer accounting for 76% and great blue herons accounting for 24% (Table 2, Figure 10). Due to the location of the rookery just west of runway 16, survey station 1 incurred both the highest number of observations and individual great blue herons counted.

**Behavior.** The two behaviors most often observed for the guild wading and shorebirds were “flying over runway” and “on ground in or adjacent to runway” both accounting for 23% of all observations for this guild (Table 3, Figure 11). Killdeer accounted for 76%, while great blue herons accounted for 24% of the behavior “flying over runway.” Fifty-four percent of all runway flyovers for this guild occurred at survey station 1 (intersection of t/w’s A & D).

**Figure 11.** Percentage of behavioral observations in which wading and shorebirds were documented.



**Strikes.** According to the NWSD, 19 birds from this guild have been reported struck at BGM. The species reported struck included 17 killdeer (seven strikes on runway 16, nine

strikes on runway 34 and one strike on runway 28) , one plover (runway 10), and one upland sandpiper (runway 16).

### **Other Flocking Birds**



**Description.** This group includes birds that move in flocks other than the blackbirds and starlings. Examples of these birds that were observed at BGM during the WHA are barn swallows, horned larks, tree swallows, cedar waxwings and snow buntings. Swallows are migratory species and are not present at BGM in the winter. Horned larks and cedar waxwings also migrate, but can be found in New York State year-round. Snow buntings spend the summer in the Arctic Region then migrate to the United States during the winter. Both swallows and horned larks travel in flocks and fly erratically across an airport in search of food. This behavior makes them a commonly struck bird at certain times of the year.

**Attractants.** Swallows and cedar waxwings feed upon flying insects and are often seen in flocks over fields. Because the number of insects is greater in tall grass, more swallows will be observed when the grass is allowed to grow taller than recommended on airports. Swallows also feed on bayberries while migrating. Horned larks and snow buntings prefer dirt fields and gravel ridges for loafing or feeding, and their diet consists of insects, snails, and seeds.

**Risks.** Nationally, swallows, larks, and swifts represent 5.2% of known birds struck by aircraft between 1990 and 2004 in the U.S. (Cleary et al. 2005). Swallows are the 11<sup>th</sup> ranked species most often struck by aircraft but because of their small size, they are not in the top 20 bird species reported struck and causing damage to civil aircraft (Dolbeer et al. 2000).

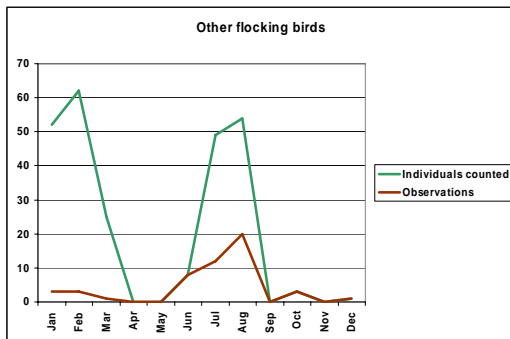
**Control measures.** Swallows and horned larks may be best managed through an integrated program that includes habitat management, insect control, harassment and shooting. The habitat should be managed so that the grass is a uniform composition and density with a height between 7 and 10 inches. This uniformity limits the availability of insects, which will attract fewer birds. If insect populations spike, insecticides are a possible management option. A U.S. Fish and Wildlife Service depredation permit is required to shoot swallows, horned larks, or swifts.

### **Risk Analysis**

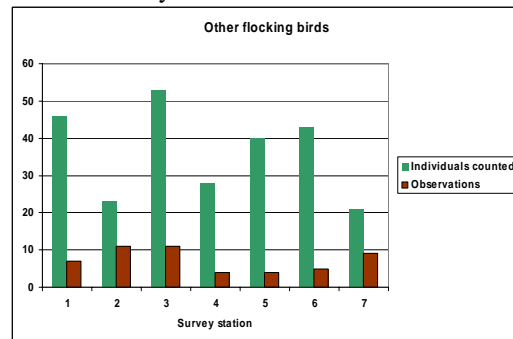
**Prevalence.** Other flocking birds were observed 51 times by WS biologists with the highest number of observations and individuals counted occurring during the summer and winter months (Table 1, Figure 12). Barn swallows accounted for 67% and tree swallows accounted for 33% of observations during the summer months, while snow buntings and horned larks accounted for all observations during the winter months.



**Figure 12.** Number of other flocking bird observations and individual birds counted each month.



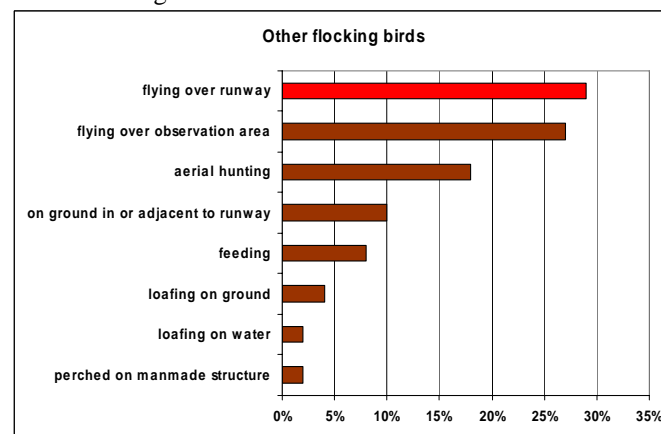
**Figure 13.** Number of other flocking bird observations and individual birds counted at each survey station.



Survey stations 2 and 3 had the highest number of observations (Table 2, Figure 13). Survey station 3 also had the highest number of individual birds counted followed by survey station 1. Of the individual birds counted at survey station 3, most consisted of barn swallows at 57% followed by snow buntings at 32%.

**Behavior.** The behavior most often observed was “flying over runway” at 29%, followed by “flying over the observation area” at 27% (Table 3, Figure 14). Of the behavior “flying over runway,” 41% occurred at survey station 7 and 31% occurred at survey station 2. All nine behaviors were documented with the exception of “perched on vegetation.”

**Figure 14.** Percentage of behavioral observations in which other flocking birds were documented.



**Strikes.** According to the NWSD, three birds from this guild have been reported struck at BGM since 1990. Of these strikes, two were barn swallows and one an unidentified species of swallow.

## European Starlings and Blackbirds



**Description.** The term *blackbird* loosely refers to about 10 different species of North American birds. The species most common to New York include the brown-headed cowbird, red-winged blackbird, and common grackle. Meadowlarks, bobolinks, and blackbirds are a varied group possessing conical, sharp-pointed bills and rather flat profiles. Some are black with iridescence, others are highly colored. Starlings are similar in size, but appear stockier with a shorter tail and are heavily speckled in winter. Although starlings are not technically blackbirds, the two groups are often considered together due to behavioral and morphological similarities and because they are often found in mixed flocks.

All blackbirds and starlings are gregarious, especially in winter when thousands may roost together, often of mixed species, sometimes including American robins. In BGM's geographic area, large flocks of blackbirds and starlings begin to form roosts for winter as early as August and begin disbanding in February. Starlings will remain in the area, while red-winged blackbirds, cowbirds, bobolinks, and Eastern meadowlarks migrate south for the winter. Starlings and blackbirds are active during daylight hours.

**Attractants.** Starlings and blackbirds are omnivorous, feeding on grains, weed seeds, fruits, and insects. Both starlings and blackbirds are found in urban areas, airports, grassy or weedy fields, and fallow croplands. Trees planted on or adjacent to airports serve as potential roosting sites for starlings. Starlings are cavity nesters and will nest in woodpecker holes, buildings, airport structures and even out of service airplanes. Red-winged blackbirds prefer croplands and weedy fields, and they roost and nest in marshy areas with tall vegetation such as cattails or phragmites.

**Risks.** Starlings and blackbirds are considered a serious threat to aviation because of the large flocks they form. Nationally, starlings account for 5.4% and blackbirds account for 4.5% of all bird-aircraft strikes of known species (Cleary et al. 2005). Starlings and blackbirds rank 2<sup>nd</sup> out of the 21 wildlife species most often reported struck by aircraft, but because of their small size are rated 19<sup>th</sup> as the most hazardous species (Dolbeer et al. 2000). There have been two significant incidents involving human fatalities in aviation history involving starlings and brown-headed cowbirds. The first incident was in 1960 when a Lockheed Electra turbo-prop ingested starlings into all engines during takeoff and crashed into Boston Harbor, resulting in 62 human fatalities. The second documented incident occurred in 1973 when a Lear jet struck a flock of cowbirds on departure from Peachtree Airport in Dekalb, Georgia. Engine failure resulted in a crash and eight human fatalities. Other incidents involving starlings damaging aircraft have been documented (Cleary et al. 2005).

In addition, winter roosts present a nuisance because of the noise and associated droppings that corrode and damage buildings and property. If allowed to accumulate, droppings can become a source of diseases that can infect humans and domestic animals. Also, nesting starlings can create a fire hazard in combustible structures because they continually deposit nesting materials (primarily dried grasses and twigs) in the same nesting place year after year.

**Legal status.** Starlings are an introduced species and are not protected by federal or state laws. They may be killed at any time without permit. However, the use of certain methods such as toxicants or traps may be regulated by New York State. Blackbirds are classified as migratory non-game birds, but can be killed when concentrated in a manner that constitutes a threat to human health and safety under both federal and New York State depredation orders (Appendix K). The presence of a flock of starlings or blackbirds in or adjacent to an AOA should be interpreted as a direct threat to human health and safety.

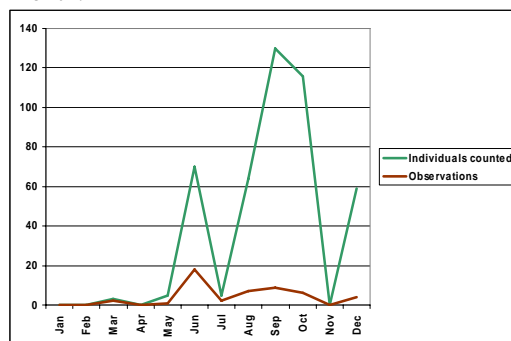
**Control measures.** Habitat management (i.e., grass management, roost removal, etc.) is usually the most cost effective management because it serves as a long term deterrent. Grass height management has proven helpful in keeping starlings and blackbirds from feeding on airfields. The best grass height for an airport depends largely on local conditions such as grass stem density, grass variety, alternative food sources, weed species and density, etc. However, it is absolutely necessary to minimize seed head production in grass and weeds. This practice is wise management for all mower-accessible areas of the airport. The management of roosting sites on or adjacent to an airport will also reduce starling and blackbird presence.

Habitat management alone may not be enough to discourage bird presence. When starlings and blackbirds are present, pyrotechnics should be used to haze them and move them from the airport. Flocks of birds can be dispersed with pyrotechnics and visual repellants. Often birds simply move to another location on the airfield so it is important to be persistent in hazing any bird species. Shooting or trapping may be necessary if the birds become habituated to pyrotechnics or other non-lethal methods.

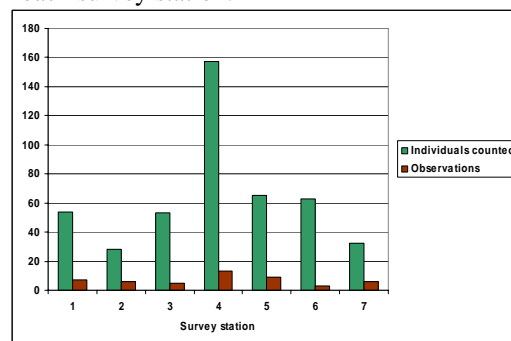
## Risk Analysis

**Prevalence.** Starlings and blackbirds were observed 49 times consisting of 452 individual birds during the WHA (Table 1). Ninety-four percent of all observations and 99% of all individual birds counted in this guild consisted of starlings. This guild had the highest number of observations during the month of June, while September incurred the highest number of individuals counted (Table 1, Figure 15). The peak observed in September is likely due to fledglings leaving the nest and joining local flocks.

**Figure 15.** Number of blackbird & starling observations and individuals counted per month.



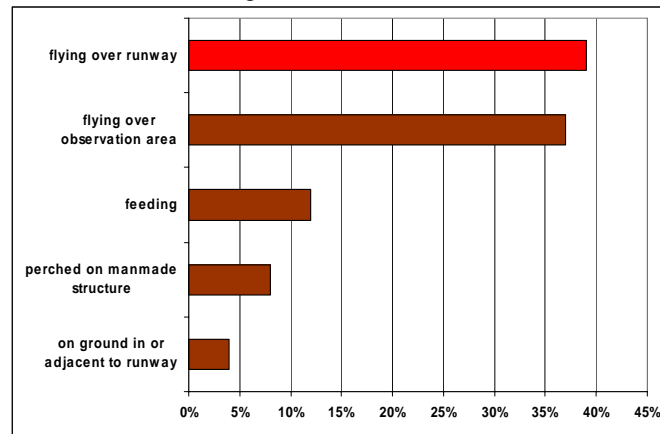
**Figure 16.** Number of blackbird & starling observations and individuals counted at each survey station.



This guild had the highest number of observations and individual birds counted at survey station 4 followed by survey stations 5 and 6 (Table 2, Figure 16). These three survey stations are found on the south side of the airfield and accounted for 63% of all individual starlings documented.

**Behavior.** The most common behaviors observed was “flying over runway” followed by “flying over observation area” (Table 3, Figure 17). Of the runway flyovers, 56% occurred at survey stations 3 and 4.

**Figure 17.** Percentage of behavioral observations in which blackbirds and starlings were documented.



**Strikes.** According to the NWSD, four birds from the blackbirds and starlings guild have been reported struck at BGM between January 1990 and March 2006. Three birds were identified as starlings and one as an unidentified blackbird.

### Small perching birds



**Description.** Small perching birds are a diverse guild of small to medium sized passerines, which eat a variety of foods and inhabit a variety of habitats. In this analysis, perching birds include American robins, northern mockingbirds, house sparrows, eastern kingbirds, song sparrows, northern flickers, chipping sparrows, and several other small passerines.

**Attractants.** Members of this guild are diverse in the types of habitat they occupy, but they are often attracted to buildings, brush piles, trees, shrubs, weedy fields, grasslands, and cultivated fields. Many species are common in urban areas, especially during the breeding season. Although these species primarily eat seeds, they may also feed on fruits, grains, earthworms, and insects.

**Risks.** Nationally, small perching birds represent about 9% of all bird-aircraft strikes in the U.S. (Cleary et al. 2005). Most species in this guild stay close to shrubs, trees, and structures where they are afforded protection from predators; therefore they are infrequently struck by aircraft. Because members of this guild are small in size, they rarely result in damage to an aircraft when they are struck. Due to their small size and strike

history, they are not considered a significant hazard at BGM. This finding does not, however, mean their hazard potential can be dismissed altogether. In addition to bird strike hazards, these species can cause structural damage and create a nuisance with their droppings.

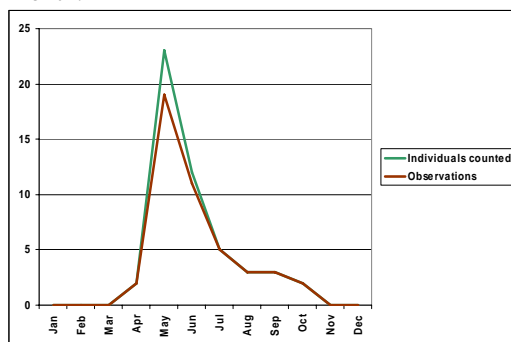
**Legal status.** House sparrows are an introduced species and do not receive any legal protection. However, all other species characterized as “small perching birds” are protected under the MBTA and New York State Law.

**Control Measures.** Management of tall, non-seeding grass and the removal of brush piles, unwanted structures, and weeds will reduce the presence of these species. Pyrotechnics combined with visual repellents and periodic shooting can be used to disperse flocks from runways. However, these species tend to adapt to these methods quickly, especially around structures. Exclusion netting can be used to prevent these birds from nesting in specific areas such as in idle aircraft engines and in building structures.

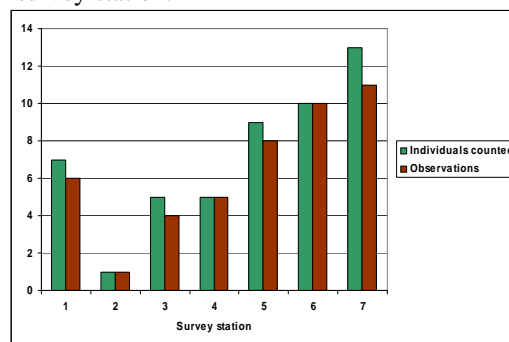
## Risk Analysis

**Prevalence.** Small perching birds were observed 45 times during the WHA with a total of 50 individual birds documented. Fifty-four percent of all individual birds counted consisted of sparrows, savannah sparrows at 36% and song sparrows at 18%. The month of May had both the highest number of observations and individual birds counted (Table 1, Figure 18). Of the individual birds counted for the months of May and June, 46% consisted of savannah sparrows.

**Figure 18.** Number of small perching bird observations and individuals counted per month.



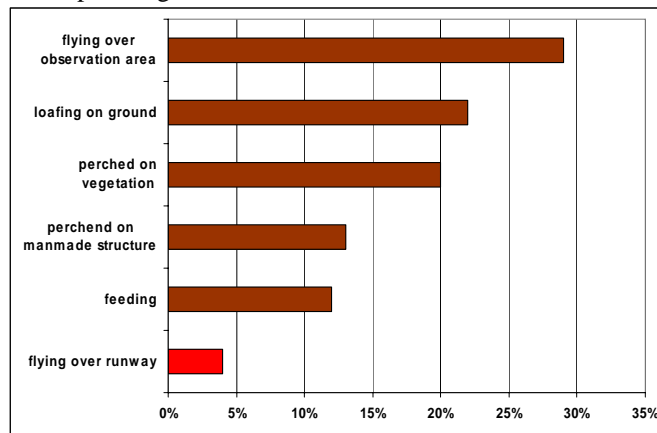
**Figure 19.** Number of small perching bird observations and individuals counted at each survey station.



The majority of observations (63%) and individual birds counted (64%) occurred at survey stations 5, 6, and 7 (Table 2, Figure 19). All species documented from this guild were represented at these three survey stations.

**Behavior.** When observed, small perching birds were most commonly seen “flying over the observation area” followed by “loafing on ground” (Table 3 & Figure 20). The behavior “flying over runway” was the least of the observed behaviors at 4%.

**Figure 20.** Percentage of behavioral observations in which small perching birds were documented.



**Strikes.** According to the NWSD, four unidentified species of sparrow have been reported struck at BGM since 1990.

## Raptors



**Description.** Raptors are predatory birds and scavengers that feed upon prey animal species. Raptors include vultures, eagles, hawks (kites, harriers, accipiters, and buteos), falcons (including kestrels), ospreys, and owls. They range in size from the 7-inch screech owl to the 43-inch bald eagle. Most species have characteristic hunting styles such as soaring (vultures, eagles, red-tailed hawks), flying low (harriers), dense forest ambush (accipiters), hovering (kites and kestrels), and watching from perches (buteos and owls). Raptors observed at BGM during the WHA include American kestrels, peregrine falcons, red-tailed hawks, turkey vultures, sharp-shinned hawks and northern goshawks.

**Attractants.** Raptors are attracted to habitats that have an abundant supply of prey species. For raptors such as rough legged hawks, red-tailed hawks, northern harriers, sharp-shinned hawks and American kestrels, prey species include rabbits, small rodents, birds, reptiles and insects, while larger owls are attracted to rabbits and hares. In order to hunt effectively, many raptors need large trees or snags at the edge of fields in which to perch as they watch for prey. Large trees are also used for nesting. Turkey vultures are attracted to carrion. They are often attracted to airports because of the strong thermals needed to soar that are created as the ground is warmed. Because of their propensity of soaring over open spaces, turkey vultures are especially hazardous on airports.

**Risks.** Raptors represent a significant hazard to aircraft since they are typically large in size, and their hunting behavior predisposes them to collisions with aircraft. Nationally, raptors account for 13% of known species bird-aircraft strikes in the U.S. (Cleary et al. 2005). Hawks and owls are more commonly struck on airports while hunting, whereas vultures tend to be struck while soaring at higher altitudes. Two species in this guild have had a marked population increases in the past few decades. The red-tailed hawk population has increased annually at a 3% rate, and the turkey vulture population has increased annually at a rate of 1% (Sauer et al. 2004).



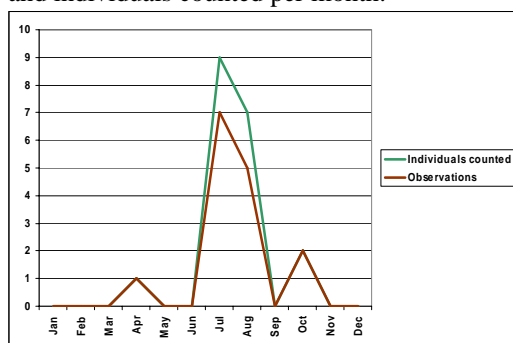
**Legal status.** All raptors are protected by the MBTA and may only be killed, trapped or relocated with a U.S. Fish and Wildlife Service depredation permit and a NYSDEC permit. Further, bald and golden eagles are afforded additional protection under both federal and state regulations, wherein it is illegal to possess either of these birds, alive or dead, in whole or in part (including eggs and nests). The golden eagle and peregrine falcon are also listed as endangered species in New York State.

**Control measures.** Raptors may be best managed through an integrated program that includes habitat management, rodent and insect control, relocation and shooting. The habitat should be managed so that the grass is a uniform composition, density and height of between 7 and 10 inches. This limits the available prey-base of rodents and insects, and, consequently, reduces the number of raptors. Any dead snags or tall trees at the edge of the AOA, which raptors are observed using, should be removed. If rodent and insect populations increase, rodenticides and insecticides may be applied. If specific raptors habitually frequent an area, they should be routinely dispersed with pyrotechnics. If the bird continues to remain in the area, it should be trapped and relocated or killed. A U.S. Fish and Wildlife Service depredation permit is required to handle or kill a non-endangered or threatened raptor.

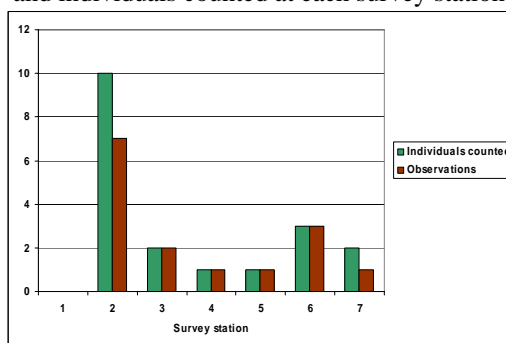
## Risk Analysis

**Prevalence.** Raptors were observed 15 times by WS during the WHA. American kestrels accounted for 47% of all raptor observations. Eighty percent of raptor observations occurred during the months of July and August (Table 1, Figure 21). No raptors were recorded from November through March on BGM during the WHA.

**Figure 21.** Number of raptor observations and individuals counted per month.



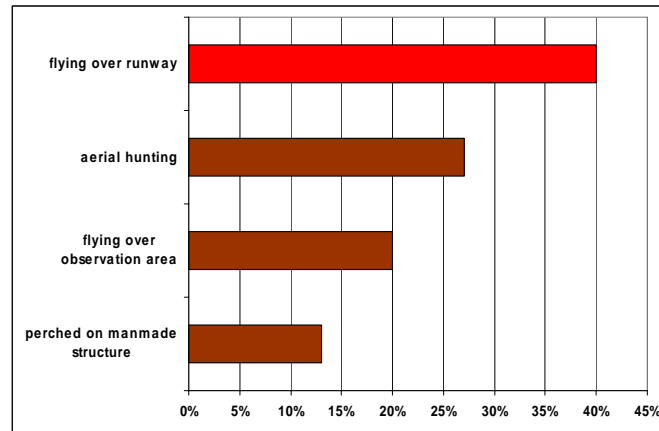
**Figure 22.** Number of raptor observations and individuals counted at each survey station.



Raptor observations were most often observed at survey station 2 followed by survey station 6 (Table 2, Figure 22). Observations at survey station 2 consisted of six American kestrels and one turkey vulture.

**Behavior.** “Flying over runway” was the behavior most often observed from this guild at 40% (Table 3, Figure 23). Other behaviors documented included “aerial hunting,” “flying over observation area,” and “perched on manmade structure.”

**Figure 23.** Percentage of behavioral observations in which raptors were documented.



**Strikes.** According to the NWSD, six raptors have been reported struck at BGM. Strikes reported involved three hawks (2 red-tailed hawks and 1 unidentified hawk species) and three falcons (1 American kestrel, 1 gyrfalcon, and 1 peregrine falcon).

### Columbids (Pigeons and Doves)



**Description.** Feral pigeons, commonly referred to as pigeons or rock doves, are familiar birds that are abundant in cities and farms throughout New York State. Mourning doves are also widespread throughout New York, and are especially abundant in the more open rural settings. Doves are powerful fliers with robust bodies, small heads, and short beaks. Mourning doves flock most of the year and typically fly close to the ground near cover as they travel between feeding and roosting areas, whereas feral pigeons tend to fly at higher altitudes, descending to their destinations in a rapid circling pattern with wings spread back. Although both species are primarily granivorous, they will occasionally consume protein-rich animal material such as insect larvae. Pigeons are known for readily accepting handouts from humans.

**Attractants.** Mourning doves are common near wooded streams, in agricultural and weedy fields, and in urban areas. Freshly seeded bare ground and grassy areas that are allowed to go to seed are strong attractants for doves. Feral pigeons, on the other hand, are found in urban and agricultural areas, generally in close association with people. Large, open buildings, such as hangars, often provide desirable nesting areas (e.g., flat surfaces and ledges, metal I-beams, etc.).

**Risks.** Although pigeons are not as large-bodied as many species considered dangerous to air safety (i.e., waterfowl, gulls, and raptors), they are still a concern because of their loose flocking behavior, which increases their risk of collision with aircraft. Nationally, columbids represent 13.6% of known species bird-aircraft strikes in the U.S. (Cleary et al. 2005). Pigeons rank 10<sup>th</sup> and mourning doves rank 13<sup>th</sup> out of the top 21 species of wildlife hazardous to aviation (Dolbeer et al. 2000). Because pigeons nest in structures at airports and use airport property to search for food and nesting materials, they tend to spend more

of their time on airports, relative to other species. This amount of time spent at airports exposes pigeons to a greater risk of being struck by aircraft.

**Legal status.** Outside of New York City, feral pigeons are not regulated by federal or state laws and can be killed at any time. Mourning doves, however, are migratory game birds and are regulated by federal and state regulations; permits are required for lethal control measures. No hunting seasons have been established for managing doves in New York.

**Control measures.** Habitat modification helps reduce the numbers of doves directly using the airfield. Weedy fields should be cut and/or replaced with grass. Paved surfaces and drainages should be kept free of standing water.

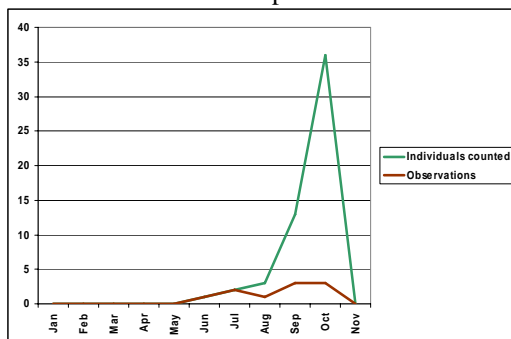
In structures where pigeons are already nesting, nest removal and/or shooting are both effective means for removing offending animals. If nest removal is employed, the nest may need to be removed several times before a pigeon abandons a nesting area. Once the birds are removed, exclusion netting or other barriers should be installed.

New structures should be constructed to deter pigeons from nesting by installing exclusion netting or reducing exposed ledges. Nixalite or other mechanical repellents can be attached to flat areas to deter perching.

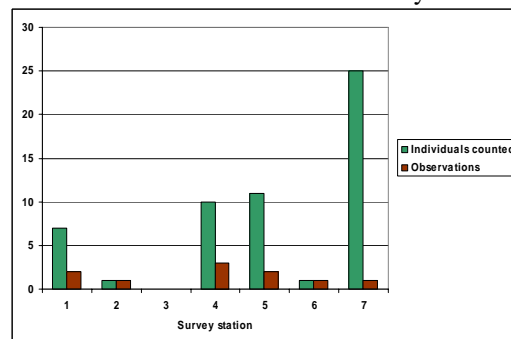
## Risk Analysis

**Prevalence.** Mourning doves represented most of the observations (80%) and individual birds counted (96%) for this guild during the WHA. The month of October had the highest number of observations and individuals counted from this guild (Table 1, Figure 24) consisting of all mourning doves.

**Figure 24.** Number of columbid observations and individuals counted per month.



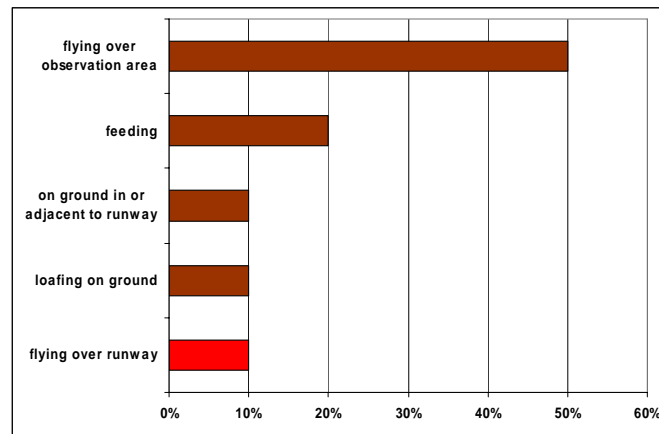
**Figure 25.** Number of columbid observations and individuals counted at each survey station.



Survey station 4 had the highest number of observations, while survey station 7 had the highest number of individual birds counted (Table 2, Figure 25). Birds from this guild were recorded at all survey stations with the exception of station 3.

**Behavior.** The most observed columbid behavior observed was “flying over the observation area” at 50% followed by feeding at 20% (Table 3, Figure 26). Each of the three remaining behaviors accounted for 10% of all observations for this guild.

**Figure 26.** Percentage of behavioral observations in which columbids were documented.



**Strikes.** According to the NWSD, nine mourning doves have been reported struck by aircraft at BGM, two occurred on runway 16 and five on runway 34.

### Waterfowl (Ducks, Geese, Brant, and Swans)



**Description.** Due to their larger body sizes, waterfowl (particularly geese) pose serious risks to aircraft. Ducks are rarely seen feeding, loafing, or roosting away from water, even if it is only a puddle. Geese, however, will land on nearly any sizeable field or lawn where they can watch for predators while feeding. Geese pose a greater risk to aircraft not only because of their larger size, but also because they tend to travel in flocks. Both like to roost on larger bodies of water to escape predation or other risks. Geese and ducks tend to leave their roosts near sunrise to locate a feeding area. They return to their roosts during or just after sunset. However, Canada geese will sometimes be seen foraging at night.

Resident Canada geese are those that nest and reside predominately in the U.S. and do not migrate like the rest of the populations of Canada geese. They are able to tolerate human and other disturbances, while proliferating in an urban/suburban environment. Many Canada geese populations are at or just below desired levels; however, the resident population in New York is well above desired levels. Resident Canada geese are essentially a non-native bird species in New York.

**Attractants.** During the day, Canada geese search for areas where they can feed and loaf. These areas include expanses of lawn where they can easily see approaching predators or areas with a pond where they can quickly escape in the event of danger. The grassy fields at BGM make attractive places for geese to feed and loaf, while the nearby ponds provide protection. An important aspect of managing geese is to not let them feel safe. As soon as they arrive, it is imperative that they are harassed until it is certain that they have left the airport, and not merely moved to another area on the airport.



Risks. Waterfowl can be particularly hazardous to aircraft because of their large size, weight, flocking behavior, and relative abundance. Nationally, waterfowl represent 9.9% of known species bird-aircraft strikes in the U.S. (Cleary et al. 2005). Canada geese and mallards rank 4<sup>th</sup> and 10<sup>th</sup>, respectively, out of the top 20 bird species reported as struck by civil aircraft in the U.S. between 1990 and 1998 (Dolbeer et al. 2000). Geese are ranked 1<sup>st</sup> among all species groups as being the most costly species for an aircraft to strike (Dolbeer et al. 2000). The potential for damage by Canada geese was tragically illustrated in September 1995 when an Air Force AWACS plane crashed in Alaska after striking a flock of Canada geese on takeoff, killing all 24 crew members. In 1995, a Concorde landing at JFK International Airport ingested a Canada goose into an engine causing two engines to fail. The damage cost was over \$9 million. On September 9, 2003, 5 geese were struck at LaGuardia Airport causing an uncontained engine failure. The FK-100 made an emergency landing at JFK Airport. Fortunately there were no injuries or fatalities in either of these latter incidents.

The USFWS defines a resident Canada goose as one that nests or resides on a year-round basis within the conterminous United States (Ankey 1996). In 1981, it was estimated that there were about 19,000 resident Canada geese in New York. During 1997-1999 resident geese populations in New York averaged 137,000 statewide, with 18,000 (2.0 geese / km<sup>2</sup>) in the Lower Hudson Valley and Long Island (Atlantic Flyway Council 1999). Today, there are estimated to be 195,000 resident geese in New York (Swift 2004). According to the NWSD, there have been 85 goose-aircraft strikes reported in New York State, 41 of which were damaging. Of these damaging strikes, 19% reported substantial damage and 29% reported minor damage.

Legal status. Waterfowl are protected as migratory game birds by federal and state laws, but most may be hunted during the fall and winter. However, there are constraints that limit the feasibility of hunting as a viable control technique for urban Canada geese, such as seasonal restrictions, bag limits, and municipal ordinances. Federal and state depredation permits are required to remove waterfowl out of season or in excess of the legal bag limit during hunting season. Currently, BGM has both of these permits.

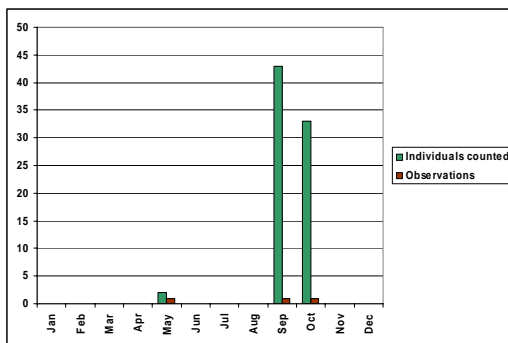
Control measures. The best method of control for waterfowl is the removal and exclusion of attractive wetland habitat and agricultural crops. Wire grids are effective at 10-20 foot intervals over ponds and other wetlands. Mylar tape stretched between two stakes, 50-100 feet apart at 25-foot intervals may be temporarily effective for feeding areas. Using long grass management (8-12 inches) or an unpalatable ground cover can effectively preclude a wide variety of birds (Linnell et al. 1997), including geese, from feeding on airfields. Pyrotechnics work well for most waterfowl. If they habituate to hazing efforts, it may become necessary to shoot a few individuals to reinforce these methods. Habituation to hazing techniques is most often noticeable with resident birds, but may also occur in migrants a few weeks after the regular hunting season closes. Waterfowl are also affected by the use of visual repellents in conjunction with pyrotechnics.

In addition to implementing direct control actions, ground personnel responsible for reducing wildlife hazards and pilots should be made aware of potential hazards at BGM, especially during the fall and spring migration periods when waterfowl are plentiful.

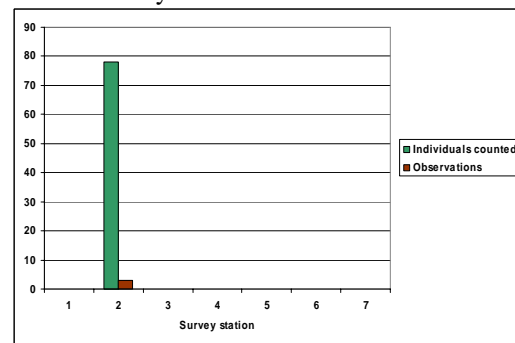
## Risk Analysis

**Prevalence.** Waterfowl were observed 3 times during the WHA consisting of 78 individual birds (Table 1). Of these, Canada geese accounted for all individual birds from this guild during the year-long assessment at BGM. Canada geese were observed on or over airport property during the months of May, September, and October. However, Canada geese were always in close proximity to the airport at the Broome County Landfill. Each of the three months had only one observation, but the number of individuals counted ranged from 2 – 43 birds (Table 1, Figure 27). These three months coincide with the spring and fall migration periods. All goose observations occurred at survey station 2 (Table 2 & Figure 28).

**Figure 27.** Number of waterfowl observations and individual counted per month.

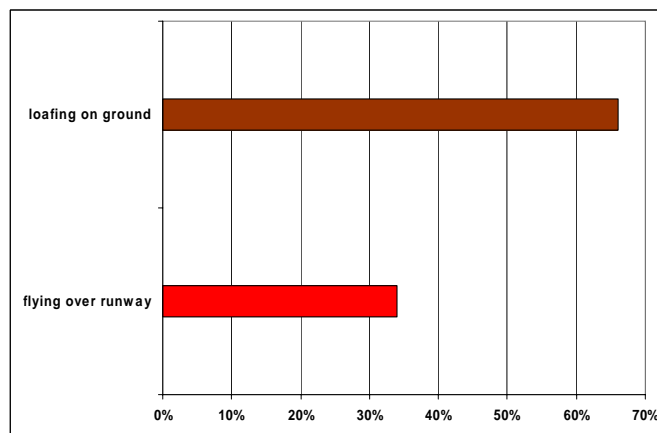


**Figure 28.** Number of waterfowl observations and individual birds counted at each survey station



**Behavior.** The most observed goose behavior on BGM was “loafing on ground,” followed by “flying over the runway” (Table 3, Figure 29).

**Figure 29.** Percentage of behavioral observations in which waterfowl were documented.



**Strikes.** According to the NWSD, no birds from this guild have been reported struck at BGM since 1990.

## Large Mammal Survey

The large mammals of most concern at BGM are fox, coyotes, and cottontail rabbits. Other species observed included striped skunks and woodchucks.

### Red Fox (*Vulpes vulpes*)



**Description.** The red fox is the most common fox native to North America. It is dog-like in appearance, with a light orange-red coat, black legs, lighter-colored underfur, and a white-tipped tail. The red fox is found throughout New York State. It is a crepuscular animal, moving primarily during the early morning hours. Red foxes are solitary except from the winter breeding season through midsummer when mates and their young associate closely.

**Attractants.** This fox is an adaptable animal, occurring often in urban habitats. It usually prefers open areas with moderate cover. Red foxes are opportunistic feeders, hunting mostly rabbits, mice, bird eggs, insects, and native fruits, most of which occur at or adjacent to BGM. They are adept at using ditches and swales to conceal their movements. Foxes may dig their own den or they may use an abandoned woodchuck burrow.

**Risks.** Nationally, red foxes account for 2% of all reported mammal strikes in the U.S. (Cleary et al. 2005). Red foxes are predators and are seldom hunted as prey by other animals, with the exception of coyotes occasionally. The primary risk they present to airports is as a strike hazard or FOD. It would be easy for a fox to cross a runway in front of a plane during take-off or landing roll and for the pilot to suddenly brake or swerve to avoid hitting an unidentifiable target.

**Legal status.** Red fox are furbearing animals and are, thus, regulated by the state. However, they may be killed out of season under a depredation permit (New York Environmental Conservation Law, Section 11-0521). Also, under Section 11-0523, BGM may kill a red fox without a permit if that fox “is injuring their property or has become a nuisance thereon.”

**Control measures.** Foxes adapt quickly to frightening devices such as propane cannons, tape recordings, or pyrotechnics. However, these methods may be used to temporarily reduce fox activity in an area. Trapping can be an effective and selective control method, and should be conducted by an experienced trapper. Unsuccessful attempts at trapping may serve to “educate” the fox, thus making them more difficult to trap. Shooting is also an effective and selective method to remove fox. When shooting fox on an airport, safety is of paramount importance. Care should be taken that there is always an adequate backstop for the bullet.

### Risk Analysis

**Prevalence.** WS personnel observed fox on the airfield twice and several times just outside the security fence. One fox was observed on the lower perimeter road between runways 28 and 34 in June of 2005, and two fox were observed in July of 2005, one at the approach of runway 34 and one on the lower perimeter road at the approach end of runway 34.

**Strikes.** According to the NWSD, one red fox has been reported struck at BGM. The strike occurred during the evening of July 4, 1997 when a DASH-8 struck a fox during a landing roll on runway 28. No damage from the strike was reported.

### **Striped Skunk (*Mephitis mephitis*)**



**Description.** The striped skunk is probably one of the best known mammals in North America. It is about the size of a house cat and is known for its strong scent glands and black body with a white stripe starting on the forehead and dividing into two stripes down its back.

Skunks are chiefly nocturnal and can be identified by a deep amber eye shine. They do not hibernate and may appear on warm nights in the middle of winter. Skunks mate between February and March and 5 to 6 young are born in early May.

**Attractants.** Skunks prefer semi-open country, mixed woods, brush land and open prairie, normally within 2 miles of water. Skunks are omnivorous and feed upon mice, eggs, insects, grubs, berries, and carrion. They den in ground burrows, beneath abandoned buildings, boulders, or wood or rock piles.

**Risks.** Skunks commonly roam airports at night and often cross runways. Nationally, striped skunks account for 3.1% of all known terrestrial mammal strikes and they seldom cause serious damage because of their small size (Cleary et al. 2005). Skunks can also be carriers of rabies.

**Legal status.** Skunks are a valuable fur resource and are regulated by the NYSDEC as a furbearer. The 2005/06 legal trapping season for skunk occurs from October 25 until February 15. Skunks may also be taken when causing damage to property according to NY DEC Regulation 11-0523.

**Control measures.** Skunks are easily trapped in a box trap with cat food, chicken bones or other meat products. The trap should be covered with canvas to reduce the chances of the trapped skunk to discharge its scent. The canvas creates a dark, secure environment for the animal. They must be approached carefully and disposed of by a method in which the scent gland will not discharge. If the skunk is to be killed, the US Department of Agriculture recommends shooting or euthanization with CO<sub>2</sub>. Eliminating food sources such as rodents and grubs will force skunks to relocate elsewhere.

### **Risk Analysis**

**Prevalence.** Six skunks were observed during spotlight surveys at BGM. One skunk was observed in the safety area of runway 10-28, one at the approach of runway 28, three north of runway 28 and one on the lower perimeter road at the approach end of runway 28.

**Strikes.** According to the NWSD, no skunks have been reported struck by aircraft at BGM.

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## Eastern Cottontails (*Sylvilagus floridanus*)



Description. Rabbits tend to live in brushy areas or brush piles, using burrows to escape predators. They feed on a variety of vegetation including grass, flowers, young trees, shrub stems, and many garden crops.

Attractants. Cottontail rabbits nest and hide in thick, brushy areas that provide shelter from inclement weather, protection from predators, and food.

Risks. Nationally cottontail rabbits account for 2.5% of all known mammal aircraft strikes (Cleary et al. 2005). Rabbits themselves do not generally represent a direct threat to aircraft because of their small size and tendency to avoid open areas such as runways. However, they serve as an attractant to raptors and coyotes which do pose a threat to aircraft.

Legal status. Rabbits are considered a game animal and are afforded protection under New York state law. A state permit is required before any lethal management is undertaken at BGM. Cottontail rabbits may also be taken without a permit when causing damage to property or occupied farm lands.

Control measures. Habitat modification is an effective deterrent to rabbits. By removing brushy areas and brush piles, especially along fences and stream banks, the rabbits will seek new places for cover. It is prudent to keep the number of rabbits to a minimum to reduce attraction of larger mammals and raptors to the airport.

## Risk Analysis

Prevalence. Three rabbits were seen during the spotlight surveys. All three rabbits were observed in November on taxiway K.

Strikes. According to the NWSD, no cottontail rabbits have been reported struck at BGM.



### Small Mammal Survey

A small mammal survey was conducted with trapping periods occurring in the spring of 2005 (May 10-12) and fall of 2005 (September 7 – 9). During the survey, no small mammals were captured on the airfield. However, many small mammal populations cycle from high to low over a period of several years, which in turn can dictate the number of predators using BGM property.



A mouse trap (left) and a Sherman live trap (right), used in the small mammal survey.

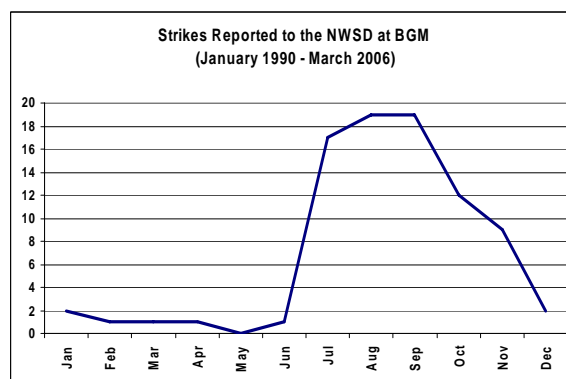
### BGM Airport's Strike Record, 1990-2006

From January 1990 through March 2006, 84 wildlife strikes (5.16 strikes per year) were reported to the FAA National Wildlife Strike Database. Assuming similar reporting rates, this number of strikes equals 1.55 strikes/10,000 movements, below the national average, which is estimated at 2.20 strikes/10,000 movements. However, as mentioned earlier, research has shown that as few as 13% of all bird strikes are reported (Barras and Dolbeer 2000), which implies that as many as 39 strikes per year could be occurring at BGM.

It is difficult to explain differences in the number of strikes among years, since many human, meteorological, and biological factors exist. Some factors include an increased awareness of the wildlife strike issue, weather conditions such as fog and wind, and an increase in populations of several species of birds and mammals.

Species Composition. Of the known species struck, killdeer and gulls accounted for most of the strikes at 20% and 13%, respectively. However, the highest percentage of all strikes went unidentified at 26%. During the WHA (September 2004 – September 2005), 5 strikes were reported to the strike database consisting of one swallow, two American crows and two unidentified species.

Seasonal Strike Distribution. Knowing which season incurs the most wildlife strikes helps airport operations managers know when they need to adjust or increase their wildlife vigilance and management efforts. The graph below shows that the majority of reported strikes occur during the summer and early fall months. Eighty percent of all reported strikes occurred during months of July through October. Of the known species reported, strikes consisted of killdeer at 25%, gulls at 13%, and mourning doves at 6%.



**Runway and Phase of Flight Analysis.** Analyzing which runway and phase of flight incurs the most wildlife strikes helps airport wildlife managers prioritize areas to manage. This type of analysis helps pinpoint where most strikes occur, thus assisting in the development of wildlife hazard management plans. Nationally, most bird strikes reported to the FAA (42%) occurred on either descent or approach of an airport, whereas, over half of the mammal strikes (53%) occurred on a landing roll (Cleary et al. 2005). As seen below, the highest percentage of bird strikes at BGM occurred during the landing roll, followed by the approach, take-off run, and climb. However, as valuable as this data may be, not all strike reports contain the phase of flight. The one mammal strike reported to the NWSD (red fox) occurred during a landing roll on runway 28.

Phase of Flight	Number of Bird Strikes
Landing roll	25 (36%)
Approach	22 (31%)
Take-off run	20 (26%)
Climb	3 (4%)

Of the known strike locations, runway 34 accounted for 49%, runway 16 accounted for 45%, runway 28 accounted for 4% and runway 10 accounted for 1%. This data should be considered in terms of how often each runway is used.

Runway	Strikes During Arriving Flights			Strikes During Departing Flights		
	Desc/appr.	Landing roll	Total	Take-off run	Climb	Total
16	9	9	18	10	0	10
34	9	11	20	6	1	7
10	0	1	0	0	0	1
28	1	2	3	1	0	1

The species of birds most often reported struck on runway 34 were killdeer (35%) and mourning doves (19%), while gulls and killdeer represented the species most often struck on runway 16, both at 24%.

Analyzing runway and phase of flight information for bird strikes aids airport operations managers by indicating which areas to concentrate wildlife control measures, what type of control methods to use, how and when to best disseminate wildlife hazard information to pilots, where to expect to locate bird carcasses, etc. These data also assist managers and researchers in understanding conditions unique to each runway and additional factors contributing to wildlife-aircraft collisions.

## **Recommendations for Managing Wildlife Hazards at BGM**

USDA, Wildlife Services Program promotes an Integrated Wildlife Damage Management (IWDM) approach (sometimes referred to as “Integrated Pest Management” or IPM) in which a series of methods may be used or recommended to reduce wildlife damage. IWDM is described in Chapter 1, 1-7 of the ADC Program Final Environmental Impact Statement. These methods include altering cultural practices as well as habitat and behavioral modification to prevent damage. However, controlling wildlife damage may require that the offending animal(s) be killed or that populations of the species be reduced.

The following recommendations are presented as a means to begin the process of reducing or eliminating wildlife hazards observed at BGM during the WHA. They provide some initial context based on the WHA that should be detailed and adapted into the Wildlife Management Plan. If followed, these recommendations should result in a significant reduction of current wildlife hazards at BGM, *but they do not replace the need to continue to monitor for new hazards*. Specific action recommendations are presented from most important concerns to least important concerns in terms of the potential hazard to aircraft. Following these recommendations are administrative recommendations that complement the specific-action recommendations by offering organizational advice for a well-rounded wildlife management program.

### **Specific Action Recommendations**

#### **1. Remove great blue heron rookery**

Remove the great blue heron rookery located approximately ¼ mile east of runway 16. Biologists observed in excess of 30 active nests during the spring of 2005. Adult birds leave the nests several times a day traveling across runways in search of food for nestlings. The altitude of these runway crossings, along with the slow flight speed of the herons, increases the potential of a strike. Since 1990, reported economic loss due to damaging strikes caused by great blue herons in the U.S. is in excess of \$2,500,000. The rookery should be altered during a period when the nests are inactive (Appendix N).

#### **2. Maintain Communications with Broome County Landfill**

Due to the close proximity of the landfill and its attractiveness to a variety of hazardous wildlife species towards aircraft (vultures, geese, and gulls) (Appendix O), BGM

operations personnel must maintain a working relationship and communications with the landfill supervisor. The landfill supervisor will inform airport operations personnel before any bird hazing or removal efforts are undertaken. This communication will decrease the likelihood of scaring birds toward the airfield while aircraft are departing or landing at BGM.

### **3. Be More Aggressive in Dispersing Birds, Particularly Canada Geese, Crows, and Gulls.**

Geese are a concern to aviation because of their large size, flocking behavior which increases the likelihood of multiple bird strikes, attraction to airports for grazing, and year-round presence in urban environments surrounding airports (Dolbeer and Seubert 2004). Canada geese should be considered a species of zero-tolerance at any airport. Nationally, gulls are the most frequently struck bird group and are responsible for the greatest number of bird strikes having a negative effect on flight (Dolbeer et al. 2000). Crows were responsible for 32% of all runway crossings observed during the field portion of the assessment. The hazards that geese, crows, and gulls present at BGM are significant due to the flocking behavior and body size of the birds.

Patrols should be conducted several times each day during periods when geese, crows, and gulls are likely to be present. Instruct tower personnel to inform operations personnel when bird activity is observed on the airfield. BGM personnel should aggressively use pyrotechnics so the birds will feel uncomfortable at BGM. All patrols should be documented in a log, along with any actions taken.

All wildlife eventually becomes habituated to the noise of pyrotechnics and propane cannons. To maintain the discomfort level of birds, it is recommended that pyrotechnics be supported by occasionally shooting an individual bird of the target species.

### **4. Maintain and Modify a Deer and Coyote Proof Security Fence**

Because deer and coyotes are the primary large mammal wildlife concerns for airports in the State of New York, the perimeter fence must be maintained or modified to exclude these species. Deer can be excluded from the airport by installing an 8 foot chain link fence with 3 strands of barbed wire angled outward at 45 degrees. Fences need to follow the topography of the landscape to prevent gaps along the ground. A 4-foot skirt of chain-link fence material, attached to the bottom of the fence and buried at a 45 degree angle on the outside of the fence will prevent animals from digging under the fence and reduce the chance of washouts. Drainage pipes, ditches, creeks and other openings under the fence must have the proper barriers installed to prevent access. In places where fencing is difficult to install because of streams or terrain or it will interfere with navigational equipment, contact WS personnel for specific recommendations. Additionally, fences need to be routinely inspected and repaired as necessary.

### **5. Remove Red Foxes on the airfield**

Remove all red foxes observed on the airfield. Although red foxes are relatively small (10-15 lbs), they do represent a strike hazard and may cause damage to some of the smaller

aircraft using BGM. The most effective and efficient way to remove foxes is by shooting at night. If the use of firearms by BGM personnel is restricted, then contract an outside agency or Nuisance Control Officer to remove red fox from the airfield. Trapping fox is also an effective way to remove fox from the airfield.

## **6. Grass Management**

Grass management is the primary wildlife hazard management tool for airports. FAA Cert Alert No. 98-05, "Grasses Attractive to Hazardous Wildlife" (Appendix P), discusses hazards associated with certain airport reseeding projects. Various heights and types of grass attract different types of wildlife. Shorter grasses attract American crows, starlings, Canada geese, and gulls. Taller grasses harbor small mammals and insects and produce seeds that in turn attract birds such as raptors, swallows, wild turkeys and many other species. Taller grasses also attract mammals such as rabbits, deer, and foxes. The recommended grass height will change depending on the time of year and species using the airport. As a general rule, airport managers are encouraged to maintain grass height at a uniform 6 to 10 inches. In addition to providing cover for wildlife, grass will mature and develop seed heads providing a food source for wildlife. To prevent grass from going to seed, the grass should be mowed regularly.

In areas away from runways and taxiways where the grass is not regularly maintained, it needs to be mowed as often as possible, at least often enough to keep the grass from developing seed heads.

Different varieties of grass have been studied in hopes of finding one that is aversive to Canada geese. There is recent evidence that some species of fescue grass are aversive to geese. However, it must form a complete ground cover to be effective as a goose deterrent.

## **7. Remove or Modify Perching Structures**

Birds use many structures on an airport for perching. While it is not feasible or advisable to treat every structure, there are some structures that are strong attractants and should be treated. To deter birds such as raptors, crows, doves, pigeons, and starlings from the airfield, WS recommends that BGM remove all unnecessary structures that birds may use as perches.

We recommend that operational structures, such as landing lights, be modified to deter birds from perching. BGM can easily make these modifications by attaching perching deterrent devices such as Nixalite ® or Cat Claw ®, or single strand wire along perch edges. Dead trees (snags) found on airport property should be removed due to the tendency of raptors to use these trees as perching locations. In open areas of the airport, solitary trees make ideal staging and loafing for birds as well as hunting perches for hawks and owls.

## **8. Remove or Thin the Stand of Pine Trees South of Runway 10.**

Due to its attractiveness to crows and other species of birds for loafing and roosting, remove or thin the stand of pine trees located on the south side of runway 10. This dense



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stand of pine trees also provides cover and protection for birds from predators (raptors) and weather.

## **9. Remove Wildlife Prey**

### Cottontail Rabbits

We recommend that BGM remove eastern cottontail rabbits on its property. Rabbits serve as an attractant to raptors, fox, and coyotes that prey on them. The most effective and efficient way to remove rabbits is by shooting at night. If the use of firearms by BGM personnel is restricted, then an outside agency or Nuisance Wildlife Control Operator should be contracted to remove rabbits.

## **Administrative Recommendations**

### **1. Zero-tolerance Policy Toward Hazardous Wildlife**

Adopt a “zero-tolerance” on the airfield toward deer, coyotes, Canada geese and gulls. A strict approach establishes an attitude for all operations personnel and helps prioritize events as they occur.

### **2. Better Bird Identification**

Of paramount importance to furthering our knowledge and understanding of bird strikes is correct species identification. Twenty-six percent of all strikes reported to the FAA from BGM was listed as an unidentified species. Whenever possible (carcass reporting, strike reporting, etc.) it is important to determine and report the correct species of bird. Operations personnel should undergo Airport Wildlife Hazards and Bird Identification training provided by WS. This will help ensure that all carcasses are correctly identified using a field identification manual. If a collected specimen is unidentifiable, appropriate parts should be sent to the Smithsonian Institution Feather Lab for proper identification (Appendix F).

Proper identification helps airports tailor their Wildlife Management Plans to more effectively reduce wildlife hazards and to keep costs low. Knowledge of the problem species also helps researchers focus on the species of concern to develop and improve hazard management techniques.

### **3. Designate a Wildlife Coordinator and Delineate Responsibilities of all Personnel Involved.**

Appoint a wildlife coordinator to respond to and monitor all wildlife-related activities. It would be the responsibility of the coordinator to see that recommendations from the WHA are implemented and the appropriate wildlife control permits and supplies are maintained. The coordinator would keep a database of wildlife strike information, and be responsible for ensuring that BGM personnel, pilots, and ground crews are familiar with the proper procedures for collecting and reporting wildlife strike information (either on the web or using the FAA Form 5200-7). The coordinator would also oversee wildlife management activities with maintenance and air traffic control personnel.

The wildlife coordinator, with the assistance of a contract biologist, would actively participate in construction and land-use projects or changes, on or off airport property that could increase wildlife hazards at BGM. For example, new buildings should be designed in a manner that discourages use by wildlife, and mitigation projects to restore habitat potentially attractive to hazardous species should be sited as far as possible from the airfield's critical zone.

#### **4. Obtain and Maintain the Necessary Permits**

Obtain an Airport Air Strike Hazard Permit from the DEC and a depredation permit from the USFWS to ensure that BGM has the ability to respond with lethal control when wildlife poses a risk to aircraft at BGM. Obtain and maintain permits for at least the following species.

##### NYSDEC only\*

Deer	Skunk	Beaver
Red Fox	Eastern Cottontail	
Coyote	Wild Turkey	

##### NYSDEC and USFWS

Ring-billed, Herring, and Greater Black-backed gulls  
Waterfowl (Canada geese and ducks)

On the permits, list the name (s) of the appropriate operations and/or maintenance personnel who will be involved in removal efforts, along with other agency personnel (if desired) as designated agents.

\* Permits for mammals should allow shooting and the use of artificial lights.

#### **5. Diligently Document Wildlife Strikes and Wildlife Management Actions**

WS recommends that BGM begin to record data in a computer database that will allow them or other individuals the ability to analyze data quickly and conveniently, along with maintaining a strike log. Direct strikes reported by pilots or the tower, wildlife remains on planes, and carcasses found should all be considered strikes and recorded in the database. A FAA Strike Report Form 5200-7 should be completed for each of these types of strikes. The Operations Manager should ensure that 5200-7's have been filed for all strikes listed on the Bird Activity Reports.

Direct strikes. Airport operations personnel should work with tower personnel to ensure that both parties are aware of all wildlife-aircraft strikes and that all strikes are submitted to the FAA in a timely and thorough manner. If there is a question as to whether or not a particular report has been filed, *it is better to mistakenly submit a report twice rather than not at all.* Reports are filtered for duplicate submissions before they are entered into the database.

Wildlife remains on planes. Another source of wildlife strike data is the planes themselves. We recommend that ground crews be required to report remains on an aircraft to airport operations personnel. Unidentifiable bird remains (feathers, feet, wings, beaks, etc.) should be collected, a strike report filed, and the remains sent to Carla Dove at the Smithsonian Institute in Washington, D.C. for identification (Appendix F). *Bird identification is provided at no expense to airports.* To ensure that remains are collected properly and efficiently it is advisable to prepare a kit with items such as scrapers, forceps (tweezers), a misting bottle to moisten dried blood and feathers, paper towels, plastic collection bags, data labels, and markers.

Carcasses found. Records from bird carcasses found during regular runway sweeps assist airport managers in developing more accurate pictures of the wildlife-aircraft strike situation at their airports. Instruct operations personnel to search in the grassy areas (up to 200 feet from the centerline) during runway sweeps, because many birds fall away from the runways after being struck. All birds found within 200 feet of the centerline and in the safety zones should be reported as a strike unless the cause of death is absolutely known not to be caused by an aircraft. These carcasses should be reported as wildlife strikes, also using FAA Strike Report Form (FAA 5200-7).

Positively identify carcasses using a bird field guide or by someone experienced in bird identification. If the carcass cannot be identified, store it in a freezer and contact WS or send the specified parts to the Smithsonian for identification. Label the carcasses with **name of person finding the carcass, date and time found, location found, and tentative species identification**, and enter all carcasses found in a wildlife log.

## **6. Maintain Appropriate Supplies**

WS recommends that operations/maintenance vehicles regularly operating on the airfield be equipped with a pyrotechnic launcher and a supply of pyrotechnics. In addition to hazing equipment, operations/maintenance vehicles should have carcass bags, data sheets, a bird identification book, and binoculars.

## **7. Continue Monitoring Wildlife Abundance and Behavior**

The intent of the WHA has been to document general presence and behavior of wildlife at BGM. It is important to recognize that the presence and behavior of wildlife on airports is very dynamic and is influenced by many variables that may change from year to year or season to season. Conclusions based on wildlife populations during this study are meant to be a guide and may or may not be consistent with subsequent years. Data from this study will provide a baseline for comparison in following years.

The survey route and method followed required about 1.5 hours to complete. BGM operations personnel should continue to perform these surveys along the same route, although, perhaps, with less frequency. BGM can use this information to monitor the current wildlife situation.

## **8. Airport Wildlife Hazard Training and Review**

Attend the Airport Bird Identification class as required by the FAA and the NYSDEC every year. This training will help airport operations personnel develop and retain familiarity with bird identification and wildlife control methods.

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# TABLES



**BGM North**

42.21891416163813, -75.98673629760705

Prepared for: McFarland Johnson

Tuesday, January 15, 2019

## ***Environmental Radius Report***



2055 E. Rio Salado Pkwy  
Tempe, AZ 85381  
480-967-6752

## Summary

National Priorities List (NPL)  
 CERCLIS List  
 CERCLIS NFRAP  
 RCRA CORRACTS Facilities  
 RCRA non-CORRACTS TSD Facilities  
 Federal Institutional Control / Engineering Control Registry  
 Emergency Response Notification System (ERNS)  
 US Toxic Release Inventory  
 US RCRA Generators (CESQG, SQG, LQG)  
 US ACRES (Brownfields)  
 US NPDES  
 US Air Facility System (AIRS / AFS)  
 NY Underground Storage Tanks  
 NY Brownfields  
 NY State Superfund Program  
 NY Voluntary Cleanup Program  
 NY Environmental Restoration Program  
 NY Leaking USTs and Spills

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		2
		2
		2
		11

## ***National Priorities List (NPL)***

**This database returned no results for your area.**

The Superfund Program, administered under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is an EPA Program to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. The NPL (National Priorities List) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. The boundaries of an NPL site are not tied to the boundaries of the property on which a facility is located. The release may be contained within a single property's boundaries or may extend across property boundaries onto other properties. The boundaries can, and often do change as further information on the extent and degree of contamination is obtained.



## ***CERCLIS List***

**This database returned no results for your area.**

The United States Environmental Protection Agency (EPA) investigates known or suspected uncontrolled or abandoned hazardous substance facilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA maintains a comprehensive list of these facilities in a database known as the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). These sites have either been investigated or are currently under investigation by the EPA for release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priority List (NPL).

CERCLIS sites designated as "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration.

## ***CERCLIS NFRAP***

**This database returned no results for your area.**

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed these NFRAP sites from CERCLIS to lift unintended barriers to the redevelopment of these properties. This policy change is part of EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

## ***RCRA CORRACTS Facilities***

**This database returned no results for your area.**

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA maintains the Corrective Action Report (CORRACTS) database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued pursuant to RCRA Section 3008(h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predated RCRA.

## ***RCRA non-CORRACTS TSD Facilities***

**This database returned no results for your area.**

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA's RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste. RCRA Permitted Treatment, Storage, Disposal Facilities (RCRA-TSD) are facilities which treat, store and/or dispose of hazardous waste.

## ***Federal Institutional Control / Engineering Control Registry***

**This database returned no results for your area.**

Federal Institutional Control / Engineering Control Registry

## ***Emergency Response Notification System (ERNS)***

**This database returned no results for your area.**

The Emergency Response Notification System (ERNS) is a national computer database used to store information on unauthorized releases of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration's John Volpe National Transportation System Center and the National Response Center. There are primarily five Federal statutes that require release reporting: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103; the Superfund Amendments and Reauthorization Act(SARA) Title III Section 304; the Clean Water Act of 1972(CWA) section 311(b)(3); and the Hazardous Material Transportation Act of 1974(HMTA section 1808(b).

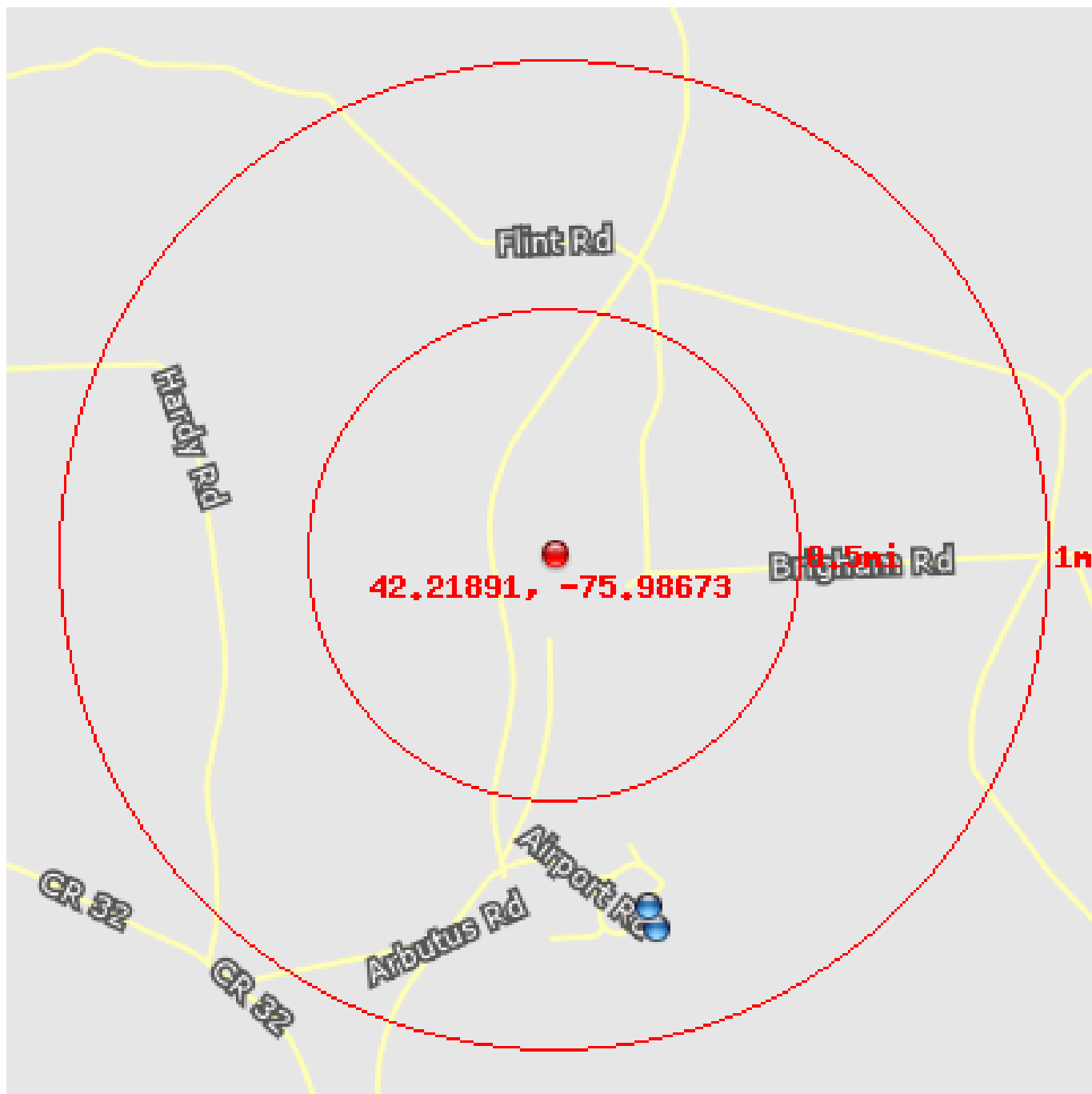


## ***US Toxic Release Inventory***

**This database returned no results for your area.**

The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. TRI reporters for all reporting years are provided in the file.

## US RCRA Generators (CESQG, SQG, LQG)



**This database returned 2 results for your area.**

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). EPA maintains a database of facilities, which generate hazardous waste or treat, store, and/or dispose of hazardous wastes.

Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste, or 1 kilogram or less per month of acutely hazardous waste.

Small Quantity Generators (SQG) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Large Quantity Generators (LQG) generate 1,000 kilograms per month or more of hazardous waste, or more than 1 kilogram per month of acutely hazardous waste.

## **US RCRA Generators (CESQG, SQG, LQG)**

<b>Location</b>	42.20853, -75.98299
<b>Distance to site</b>	3924 ft / 0.74 mi S
<b>Info URL</b>	<a href="http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004367159">http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004367159</a>
<b>EPA Identifier</b>	110004367159
<b>Primary Name</b>	FLIGHT OPTIONS
<b>Address</b>	BINGHAMTON REG AIRPORT BLDG 2
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>State</b>	NY
<b>Zipcode</b>	13790
<b>Programs</b>	RCRAINFO
<b>Program Interests</b>	SQG
<b>Updated On</b>	09-AUG-2010 10:07:44
<b>Recorded On</b>	01-MAR-2000 00:00:00

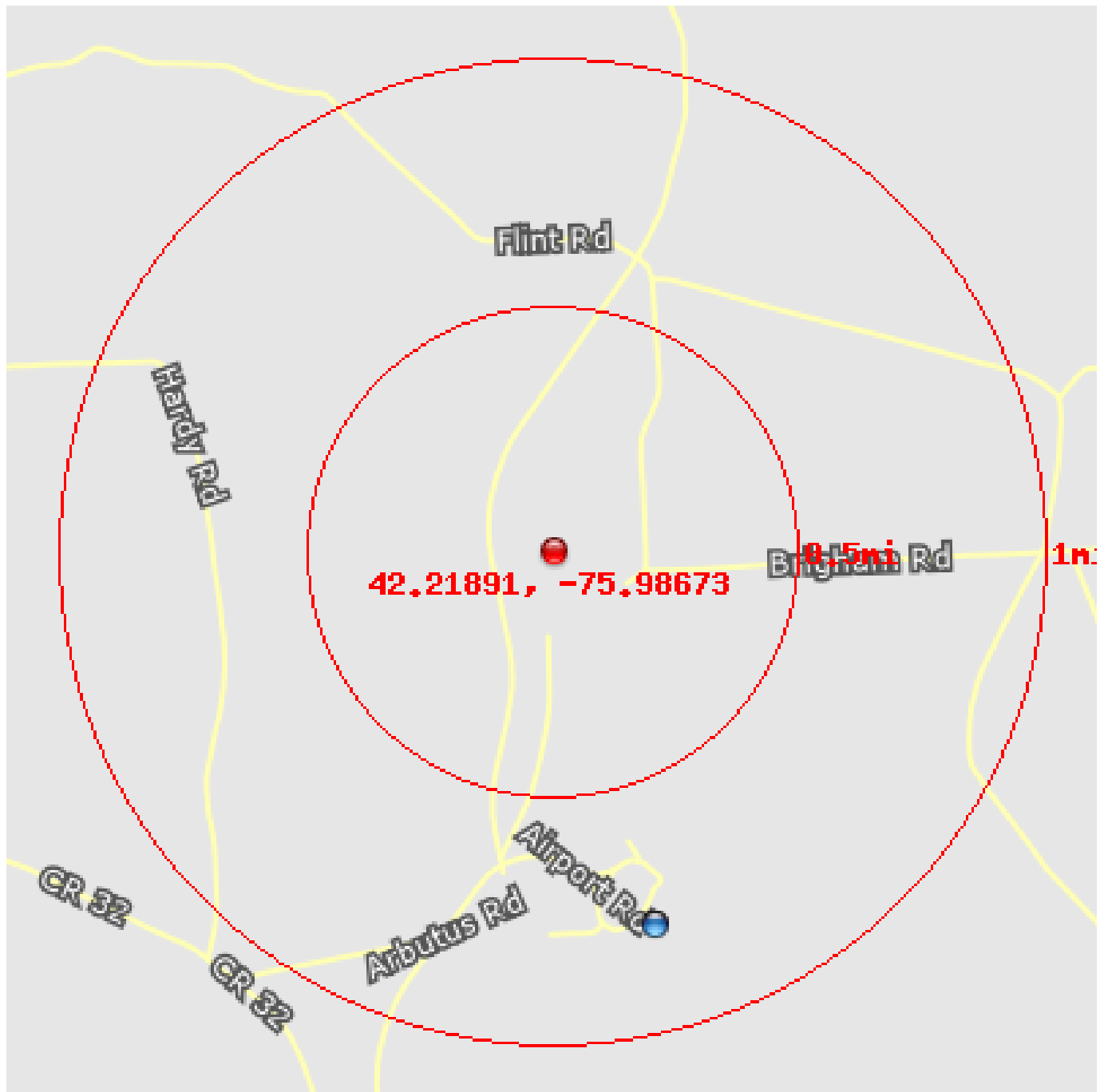
<b>Location</b>	42.20795, -75.98268
<b>Distance to site</b>	4148 ft / 0.79 mi S
<b>Info URL</b>	<a href="http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004317588">http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004317588</a>
<b>EPA Identifier</b>	110004317588
<b>Primary Name</b>	TSA AT GREATER BINGHAMTON EDWIN LINK FLD
<b>Address</b>	2534 AIRPORT BLVD BOX 16
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>State</b>	NY
<b>Zipcode</b>	13790-4100
<b>NAICS Codes</b>	488119
<b>Programs</b>	NPDES, RCRAINFO
<b>Program Interests</b>	CESQG, ICIS-NPDES UNPERMITTED
<b>Updated On</b>	11-JAN-2016 10:09:34
<b>Recorded On</b>	01-MAR-2000 00:00:00
<b>NAICS Descriptions</b>	OTHER AIRPORT OPERATIONS.

## ***US ACRES (Brownfields)***

**This database returned no results for your area.**

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. The Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an online database for Brownfields Grantees to electronically submit data directly to The United States Environmental Protection Agency (EPA)

## US NPDES



**This database returned 2 results for your area.**

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

## US NPDES

Location	42.20795, -75.98268
Distance to site	4148 ft / 0.79 mi S
Info URL	<a href="http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110019512222">http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110019512222</a>
EPA Identifier	110019512222
Primary Name	GREATER BINGHAMTON AIRPORT
Address	2534 AIRPORT RD
City	JOHNSON CITY
County	BROOME
State	NY
Zipcode	13790
SIC Codes	4581, 8999
SIC Descriptions	AIRPORTS, FLYING FIELDS, AND AIRPORT TERMINAL SERVICES, SERVICES, NOT ELSEWHERE CLASSIFIED
Programs	FIS, NPDES
Program Interests	ICIS-NPDES NON-MAJOR, STATE MASTER
Updated On	11-JAN-2016 14:44:11
Recorded On	20-NOV-2004 02:58:23

Location	42.20795, -75.98268
Distance to site	4148 ft / 0.79 mi S
Info URL	<a href="http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004317588">http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004317588</a>
EPA Identifier	110004317588
Primary Name	TSA AT GREATER BINGHAMTON EDWIN LINK FLD
Address	2534 AIRPORT BLVD BOX 16
City	JOHNSON CITY
County	BROOME
State	NY
Zipcode	13790-4100
NAICS Codes	488119
Programs	NPDES, RCRAINFO
Program Interests	CESQG, ICIS-NPDES UNPERMITTED
Updated On	11-JAN-2016 10:09:34
Recorded On	01-MAR-2000 00:00:00
NAICS Descriptions	OTHER AIRPORT OPERATIONS.

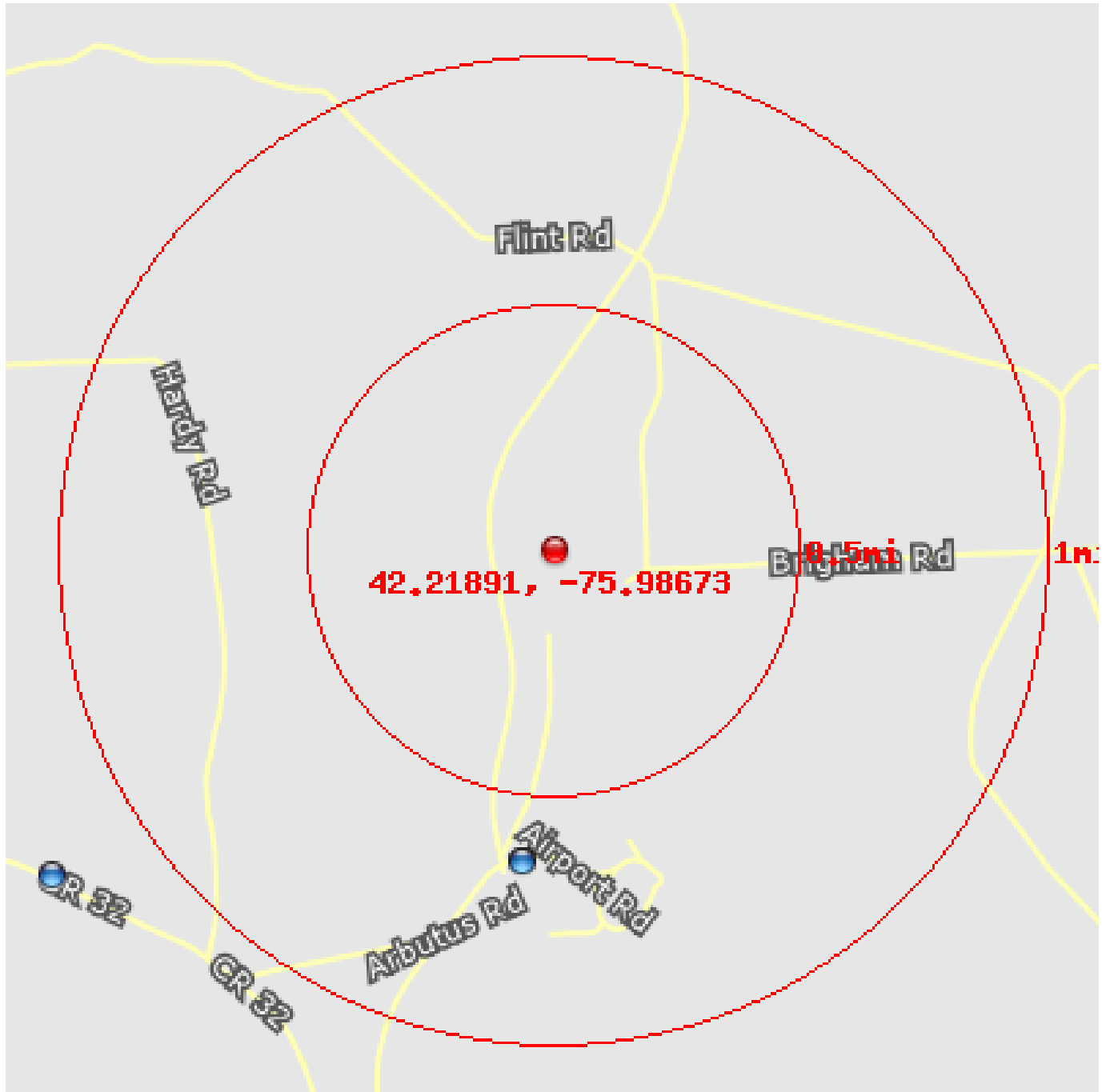


## ***US Air Facility System (AIRS / AFS)***

**This database returned no results for your area.**

The Air Facility System (AIRS / AFS) contains compliance and permit data for stationary sources of air pollution (such as electric power plants, steel mills, factories, and universities) regulated by EPA, state and local air pollution agencies. The information in AFS is used by the states to prepare State Implementation Plans (SIPs) and to track the compliance status of point sources with various regulatory programs under Clean Air Act.

## NY Underground Storage Tanks



**This database returned 2 results for your area.**

Underground Storage Tanks (UST) containing hazardous or petroleum substances are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The New York Department of Environmental Conservation Quality (DEC) maintains a list of registered USTs.

## ***NY Underground Storage Tanks***

<b>Location</b>	42.20979, -75.98793
<b>Distance to site</b>	3346 ft / 0.63 mi S
<b>Facility Status</b>	ACTIVE
<b>Address</b>	2534 AIRPORT RD
<b>Zip Code</b>	13790
<b>Expiration Date</b>	9/19/2012 12:00:00 AM
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>Facility Name</b>	GREATER BINGHAMTON AIRPORT
<b>Site Type</b>	PBS
<b>Site Number</b>	7-140368

<b>Location</b>	42.20979, -75.98793
<b>Distance to site</b>	3346 ft / 0.63 mi S
<b>Facility Status</b>	ACTIVE
<b>Address</b>	BOX 17 2534 AIRPORT RD.
<b>Zip Code</b>	13790
<b>Expiration Date</b>	6/5/2012 12:00:00 AM
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>Facility Name</b>	USDOT-FAA 83GJ
<b>Site Type</b>	PBS
<b>Site Number</b>	7-128864

## ***NY Brownfields***

**This database returned no results for your area.**

New York State Department of Environmental Conservation (DEC) maintains a database of contaminated and abandoned properties known as brownfield sites. Left untouched, brownfields pose environmental, legal and financial burdens on a community and its taxpayers. However, after cleanup, these sites can again become the powerful engines for economic vitality, jobs and community pride that they once were. Promoting site cleanups: New York offers incentives in the form of technical and financial assistance, as well as liability relief, to encourage the cleanup and reuse of contaminated sites. Incentive programs target both the public and private sector. DEC also oversees cleanups of inactive hazardous waste disposal sites and petroleum/chemical spills

## ***NY State Superfund Program***

**This database returned no results for your area.**

The State Superfund Program (also known as The Inactive Hazardous Waste Disposal Site Remedial Program) is an enforcement program whose mission is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

## ***NY Voluntary Cleanup Program***

**This database returned no results for your area.**

New York established its Voluntary Cleanup Program (VCP) to address the environmental, legal and financial barriers that often hinder the redevelopment and reuse of contaminated properties. The Voluntary Cleanup Program was developed to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfield" sites.

New York's Voluntary Cleanup Program is a cooperative approach among the New York State Department of Environmental Conservation (Department), lenders, developers and prospective purchasers to investigate and/or remediate contaminated sites and return these sites to productive use. Under the Voluntary Cleanup Program, a volunteer performs remedial activities pursuant to one or more Department approved work plans. The volunteer agrees to remediate the site to a level which is protective of public health and the environment for the present or intended use of the property. Investigation and remediation is carried out under the oversight of the Department and the New York State Department of Health (DOH) and the volunteer pays the State's oversight costs. When the volunteer completes work, a release from liability from the Department is provided with standard reservations.

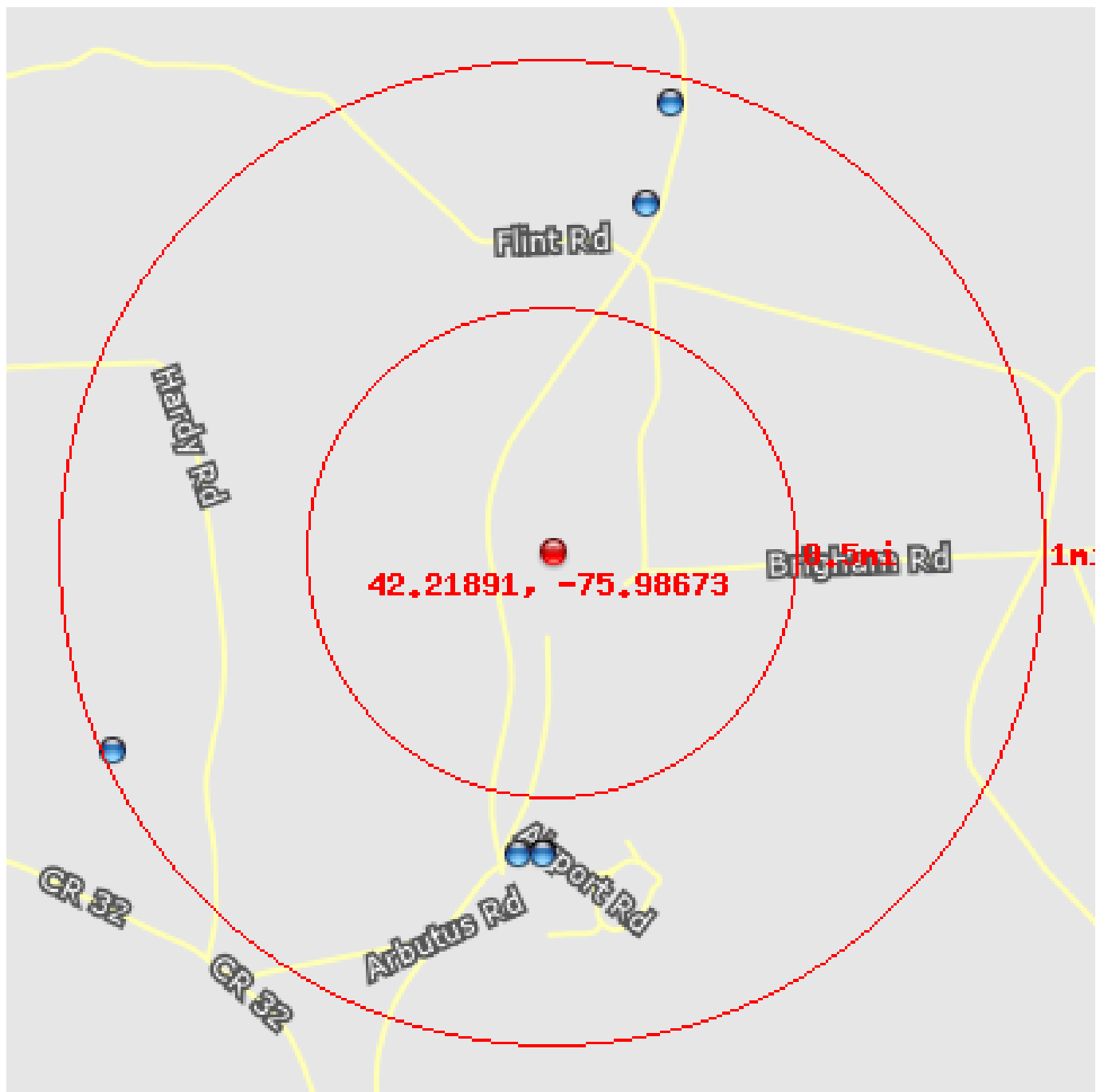
## ***NY Environmental Restoration Program***

**This database returned no results for your area.**

The Environmental Restoration Program (ERP) provides grants to municipalities to reimburse up to 90 percent of on-site eligible costs and 100 percent of off-site eligible costs for site investigation and remediation activities. Once remediated, the property may then be reused for commercial, industrial, residential or public use.



## NY Leaking USTs and Spills



**This database returned 11 results for your area.**

The New York Department of Environmental Conservation maintains a database of leaking underground storage tanks (LUST) and spills.

## ***NY Leaking USTs and Spills***

**Location** 42.20967, -75.98766  
**Distance to site** 3381 ft / 0.64 mi S  
**Spill Number** 750391  
**Date Reported** 1/22/2007  
**Spill Name** GREATER BINGHAMTON AIRPORT  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2524 AIRPORT ROAD

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 9712269  
**Date Reported** 02/03/98  
**Spill Name** HERTZ RENT A CAR  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT RD

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 302247  
**Date Reported** 06/03/03  
**Spill Name** BINGHAMTON AIRPORT  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT ROAD BOX 16

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 612347  
**Date Reported** 2/10/2007  
**Spill Name** GREATER BINGHAMTON AIRPOR  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT ROAD

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 9515089  
**Date Reported** 02/23/96  
**Spill Name** BINGHAMPTON REGIONAL AIRP  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT ROAD BOX 16

## ***NY Leaking USTs and Spills***

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 9602125  
**Date Reported** 05/13/96  
**Spill Name** BROOME CO AIRPORT  
**County** Broome  
**City** MAINE  
**Address** 2534 AIRPORT RD

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 9604585  
**Date Reported** 07/08/96  
**Spill Name** E.A. LINK FIELD  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2535 AIRPORT RD

**Location** 42.20966, -75.9874  
**Distance to site** 3382 ft / 0.64 mi S  
**Spill Number** 9604547  
**Date Reported** 07/07/96  
**Spill Name** BINGHAMTON AIRPORT  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT RD

**Location** 42.22947, -75.98278  
**Distance to site** 3996 ft / 0.76 mi N  
**Spill Number** 751144  
**Date Reported** 11/21/2007  
**Spill Name** PLANE CRASH  
**County** Broome  
**City** BINGHAMTON  
**Address** 156 KNAPP ROAD

**Location** 42.23209, -75.98199  
**Distance to site** 4977 ft / 0.94 mi N  
**Spill Number** 411966  
**Date Reported** 2/9/2005  
**Spill Name** PRIVATE RESIDENCE  
**County** Broome  
**City** BINGHAMTON  
**Address** 200 KNAPP ROAD

## ***NY Leaking USTs and Spills***

<b>Location</b>	42.21302, -76.00411
<b>Distance to site</b>	5166 ft / 0.98 mi W
<b>Spill Number</b>	313295
<b>Date Reported</b>	3/3/2004
<b>Spill Name</b>	SIMMONS RESIDENCE
<b>County</b>	Broome
<b>City</b>	JOHNSON CITY
<b>Address</b>	130 HARDY RD

**BGM South**

42.20200470767747, -75.97695541381847

Prepared for: McFarland Johnson

Tuesday, January 15, 2019

## ***Environmental Radius Report***



2055 E. Rio Salado Pkwy  
Tempe, AZ 85381  
480-967-6752

## Summary

National Priorities List (NPL)  
 CERCLIS List  
 CERCLIS NFRAP  
 RCRA CORRACTS Facilities  
 RCRA non-CORRACTS TSD Facilities  
 Federal Institutional Control / Engineering Control Registry  
 Emergency Response Notification System (ERNS)  
 US Toxic Release Inventory  
 US RCRA Generators (CESQG, SQG, LQG)  
 US ACRES (Brownfields)  
 US NPDES  
 US Air Facility System (AIRS / AFS)  
 NY Underground Storage Tanks  
 NY Brownfields  
 NY State Superfund Program  
 NY Voluntary Cleanup Program  
 NY Environmental Restoration Program  
 NY Leaking USTs and Spills

< 1/4	1/4 - 1/2	1/2 - 1
		2
		2
		4
		12

## ***National Priorities List (NPL)***

**This database returned no results for your area.**

The Superfund Program, administered under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is an EPA Program to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. The NPL (National Priorities List) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. The boundaries of an NPL site are not tied to the boundaries of the property on which a facility is located. The release may be contained within a single property's boundaries or may extend across property boundaries onto other properties. The boundaries can, and often do change as further information on the extent and degree of contamination is obtained.



## ***CERCLIS List***

**This database returned no results for your area.**

The United States Environmental Protection Agency (EPA) investigates known or suspected uncontrolled or abandoned hazardous substance facilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA maintains a comprehensive list of these facilities in a database known as the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). These sites have either been investigated or are currently under investigation by the EPA for release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priority List (NPL).

CERCLIS sites designated as "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration.

## ***CERCLIS NFRAP***

**This database returned no results for your area.**

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed these NFRAP sites from CERCLIS to lift unintended barriers to the redevelopment of these properties. This policy change is part of EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

## ***RCRA CORRACTS Facilities***

**This database returned no results for your area.**

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA maintains the Corrective Action Report (CORRACTS) database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued pursuant to RCRA Section 3008(h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predated RCRA.

## ***RCRA non-CORRACTS TSD Facilities***

**This database returned no results for your area.**

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA's RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste. RCRA Permitted Treatment, Storage, Disposal Facilities (RCRA-TSD) are facilities which treat, store and/or dispose of hazardous waste.

## ***Federal Institutional Control / Engineering Control Registry***

**This database returned no results for your area.**

Federal Institutional Control / Engineering Control Registry

## ***Emergency Response Notification System (ERNS)***

**This database returned no results for your area.**

The Emergency Response Notification System (ERNS) is a national computer database used to store information on unauthorized releases of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration's John Volpe National Transportation System Center and the National Response Center. There are primarily five Federal statutes that require release reporting: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103; the Superfund Amendments and Reauthorization Act(SARA) Title III Section 304; the Clean Water Act of 1972(CWA) section 311(b)(3); and the Hazardous Material Transportation Act of 1974(HMTA section 1808(b).

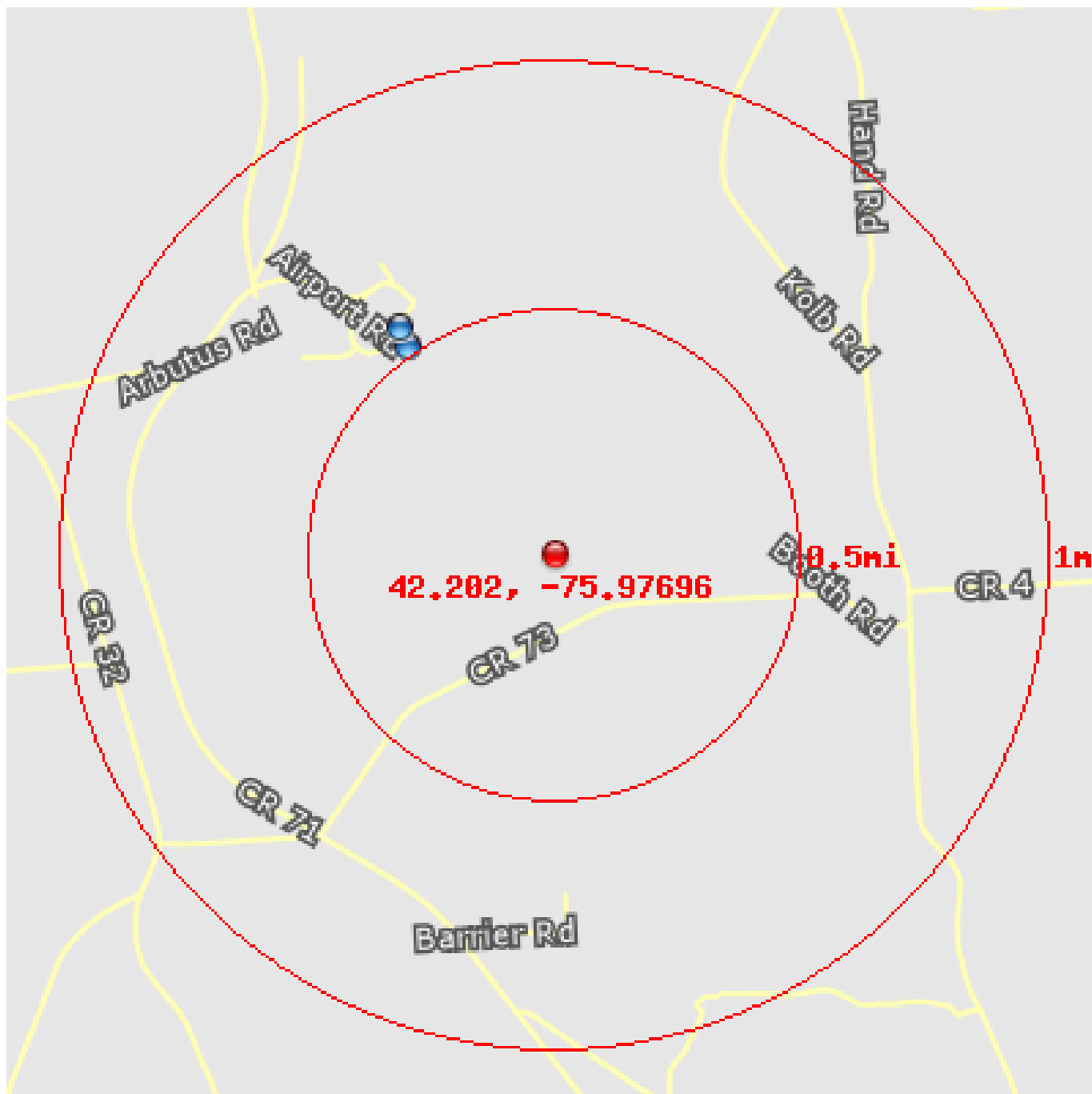
## ***US Toxic Release Inventory***

**This database returned no results for your area.**

The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. TRI reporters for all reporting years are provided in the file.



## US RCRA Generators (CESQG, SQG, LQG)



**This database returned 2 results for your area.**

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). EPA maintains a database of facilities, which generate hazardous waste or treat, store, and/or dispose of hazardous wastes.

Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste, or 1 kilogram or less per month of acutely hazardous waste.

Small Quantity Generators (SQG) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Large Quantity Generators (LQG) generate 1,000 kilograms per month or more of hazardous waste, or more than 1 kilogram per month of acutely hazardous waste.

## **US RCRA Generators (CESQG, SQG, LQG)**

<b>Location</b>	42.20795, -75.98268
<b>Distance to site</b>	2665 ft / 0.5 mi NW
<b>Info URL</b>	<a href="http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004317588">http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004317588</a>
<b>EPA Identifier</b>	110004317588
<b>Primary Name</b>	TSA AT GREATER BINGHAMTON EDWIN LINK FLD
<b>Address</b>	2534 AIRPORT BLVD BOX 16
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>State</b>	NY
<b>Zipcode</b>	13790-4100
<b>NAICS Codes</b>	488119
<b>Programs</b>	NPDES, RCRAINFO
<b>Program Interests</b>	CESQG, ICIS-NPDES UNPERMITTED
<b>Updated On</b>	11-JAN-2016 10:09:34
<b>Recorded On</b>	01-MAR-2000 00:00:00
<b>NAICS Descriptions</b>	OTHER AIRPORT OPERATIONS.

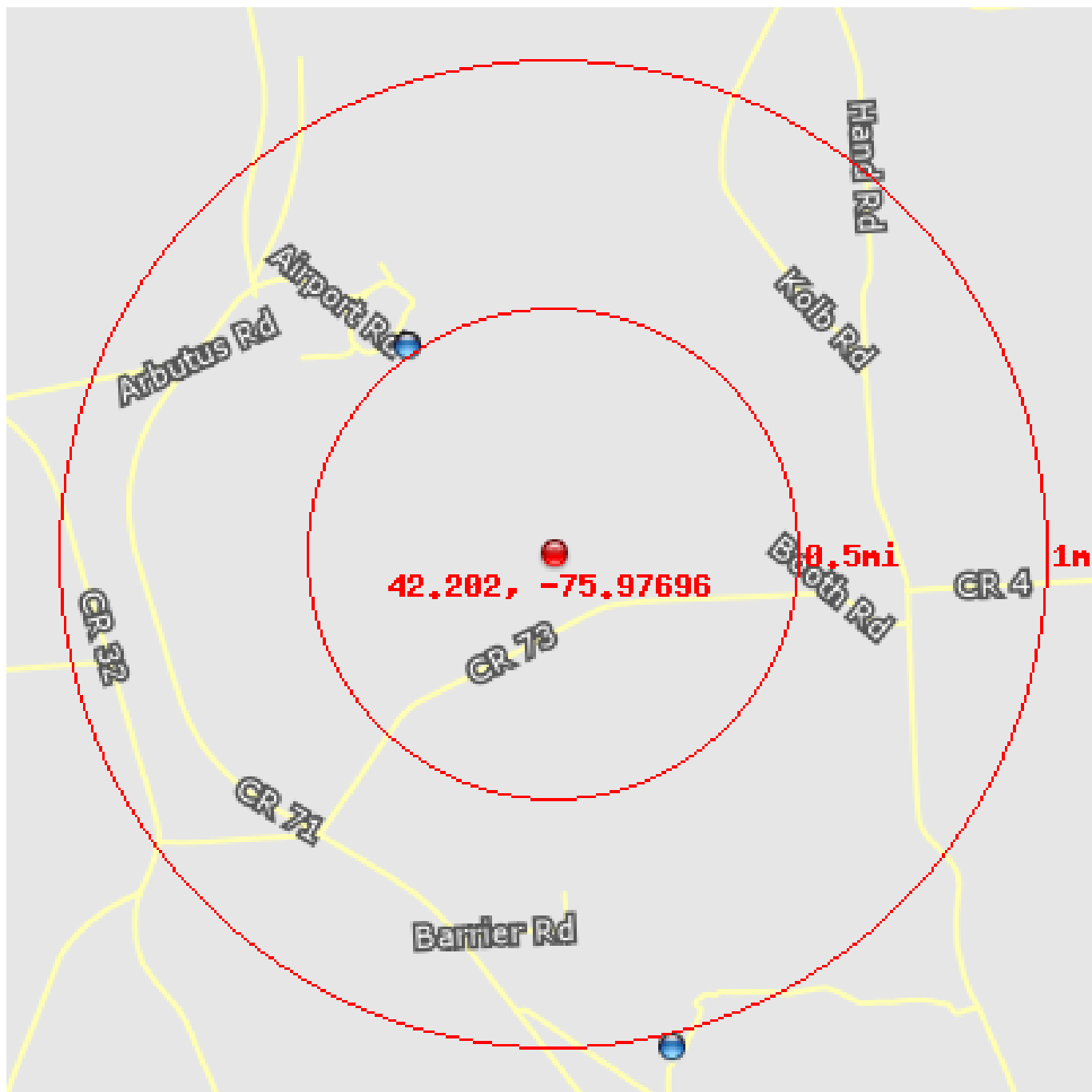
<b>Location</b>	42.20853, -75.98299
<b>Distance to site</b>	2885 ft / 0.55 mi NW
<b>Info URL</b>	<a href="http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004367159">http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110004367159</a>
<b>EPA Identifier</b>	110004367159
<b>Primary Name</b>	FLIGHT OPTIONS
<b>Address</b>	BINGHAMTON REG AIRPORT BLDG 2
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>State</b>	NY
<b>Zipcode</b>	13790
<b>Programs</b>	RCRAINFO
<b>Program Interests</b>	SQG
<b>Updated On</b>	09-AUG-2010 10:07:44
<b>Recorded On</b>	01-MAR-2000 00:00:00

## ***US ACRES (Brownfields)***

**This database returned no results for your area.**

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. The Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an online database for Brownfields Grantees to electronically submit data directly to The United States Environmental Protection Agency (EPA)

## US NPDES



**This database returned 2 results for your area.**

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

## US NPDES

**Location** 42.20795, -75.98268  
**Distance to site** 2665 ft / 0.5 mi NW  
**Info URL** [http://ofmpub.epa.gov/enviro/fii\\_query\\_detail.disp\\_program\\_facility?p\\_registry\\_id=110019512222](http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110019512222)  
**EPA Identifier** 110019512222  
**Primary Name** GREATER BINGHAMTON AIRPORT  
**Address** 2534 AIRPORT RD  
**City** JOHNSON CITY  
**County** BROOME  
**State** NY  
**Zipcode** 13790  
**SIC Codes** 4581, 8999  
**SIC Descriptions** AIRPORTS, FLYING FIELDS, AND AIRPORT TERMINAL SERVICES, SERVICES, NOT ELSEWHERE CLASSIFIED  
**Programs** FIS, NPDES  
**Program Interests** ICIS-NPDES NON-MAJOR, STATE MASTER  
**Updated On** 11-JAN-2016 14:44:11  
**Recorded On** 20-NOV-2004 02:58:23

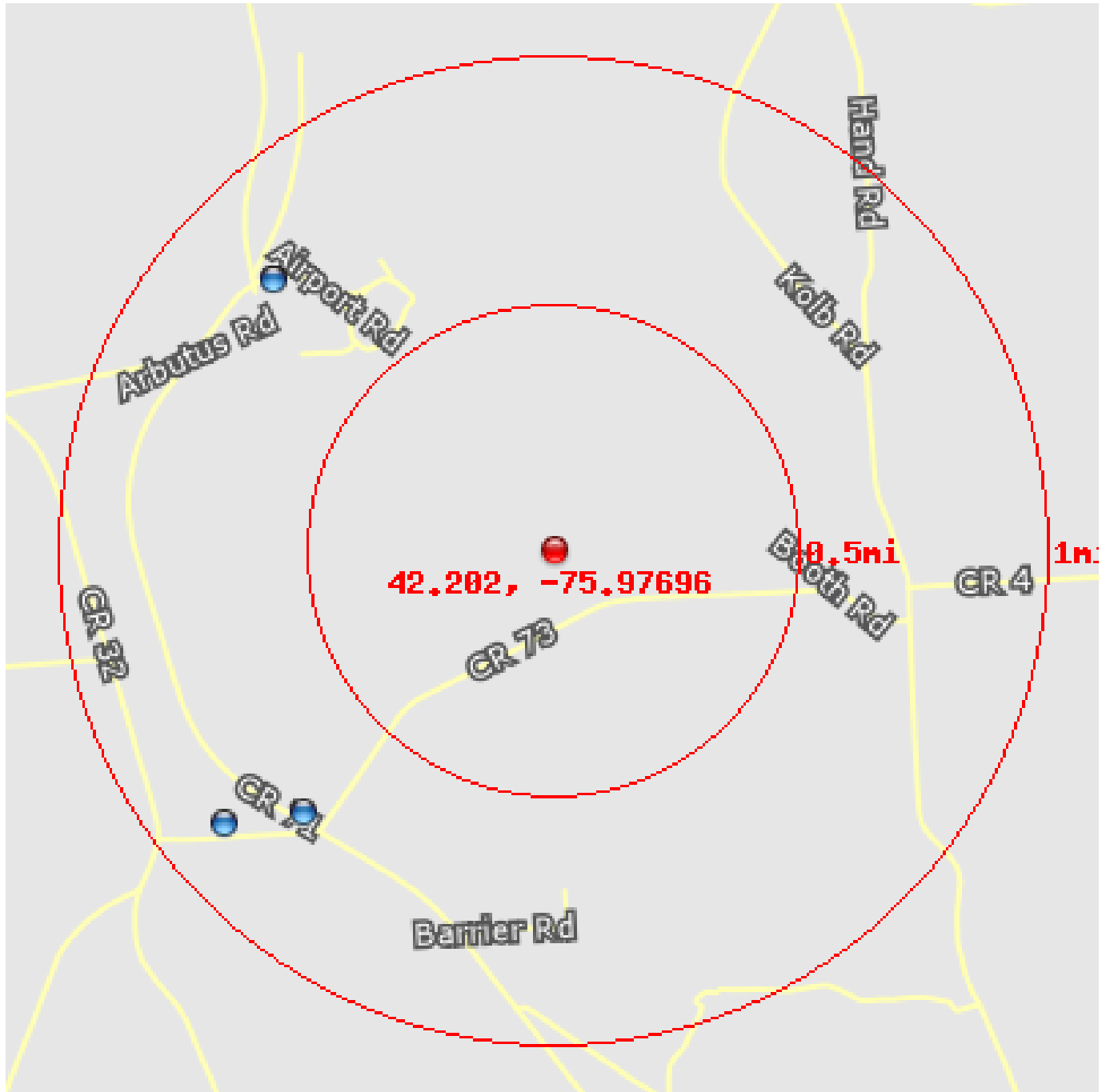
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**Distance to site** 2665 ft / 0.5 mi NW  
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**EPA Identifier** 110004317588  
**Primary Name** TSA AT GREATER BINGHAMTON EDWIN LINK FLD  
**Address** 2534 AIRPORT BLVD BOX 16  
**City** JOHNSON CITY  
**County** BROOME  
**State** NY  
**Zipcode** 13790-4100  
**NAICS Codes** 488119  
**Programs** NPDES, RCRAINFO  
**Program Interests** CESQG, ICIS-NPDES UNPERMITTED  
**Updated On** 11-JAN-2016 10:09:34  
**Recorded On** 01-MAR-2000 00:00:00  
**NAICS Descriptions** OTHER AIRPORT OPERATIONS.

## ***US Air Facility System (AIRS / AFS)***

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## NY Underground Storage Tanks



**This database returned 4 results for your area.**

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## ***NY Underground Storage Tanks***

<b>Location</b>	42.19424, -75.98677
<b>Distance to site</b>	3881 ft / 0.74 mi SW
<b>Facility Status</b>	ACTIVE
<b>Address</b>	BROOME COUNTY AIRPORT
<b>Zip Code</b>	13790
<b>Expiration Date</b>	8/23/2013 12:00:00 AM
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>Facility Name</b>	HERTZ RENT-A-CAR (1750.21)
<b>Site Type</b>	PBS
<b>Site Number</b>	7-459380
<b>Location</b>	42.20979, -75.98793
<b>Distance to site</b>	4107 ft / 0.78 mi NW
<b>Facility Status</b>	ACTIVE
<b>Address</b>	2534 AIRPORT RD
<b>Zip Code</b>	13790
<b>Expiration Date</b>	9/19/2012 12:00:00 AM
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>Facility Name</b>	GREATER BINGHAMTON AIRPORT
<b>Site Type</b>	PBS
<b>Site Number</b>	7-140368
<b>Location</b>	42.20979, -75.98793
<b>Distance to site</b>	4107 ft / 0.78 mi NW
<b>Facility Status</b>	ACTIVE
<b>Address</b>	BOX 17 2534 AIRPORT RD.
<b>Zip Code</b>	13790
<b>Expiration Date</b>	6/5/2012 12:00:00 AM
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>Facility Name</b>	USDOT-FAA 83GJ
<b>Site Type</b>	PBS
<b>Site Number</b>	7-128864



## ***NY Underground Storage Tanks***

<b>Location</b>	42.19399, -75.98988
<b>Distance to site</b>	4557 ft / 0.86 mi SW
<b>Facility Status</b>	ACTIVE
<b>Address</b>	3020 CROSS RD.
<b>Zip Code</b>	13790
<b>Expiration Date</b>	8/29/2012 12:00:00 AM
<b>City</b>	JOHNSON CITY
<b>County</b>	BROOME
<b>Facility Name</b>	DANDY MINI MART #42
<b>Site Type</b>	PBS
<b>Site Number</b>	7-460540

## ***NY Brownfields***

**This database returned no results for your area.**

New York State Department of Environmental Conservation (DEC) maintains a database of contaminated and abandoned properties known as brownfield sites. Left untouched, brownfields pose environmental, legal and financial burdens on a community and its taxpayers. However, after cleanup, these sites can again become the powerful engines for economic vitality, jobs and community pride that they once were. Promoting site cleanups: New York offers incentives in the form of technical and financial assistance, as well as liability relief, to encourage the cleanup and reuse of contaminated sites. Incentive programs target both the public and private sector. DEC also oversees cleanups of inactive hazardous waste disposal sites and petroleum/chemical spills

## ***NY State Superfund Program***

**This database returned no results for your area.**

The State Superfund Program (also known as The Inactive Hazardous Waste Disposal Site Remedial Program) is an enforcement program whose mission is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

## ***NY Voluntary Cleanup Program***

**This database returned no results for your area.**

New York established its Voluntary Cleanup Program (VCP) to address the environmental, legal and financial barriers that often hinder the redevelopment and reuse of contaminated properties. The Voluntary Cleanup Program was developed to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfield" sites.

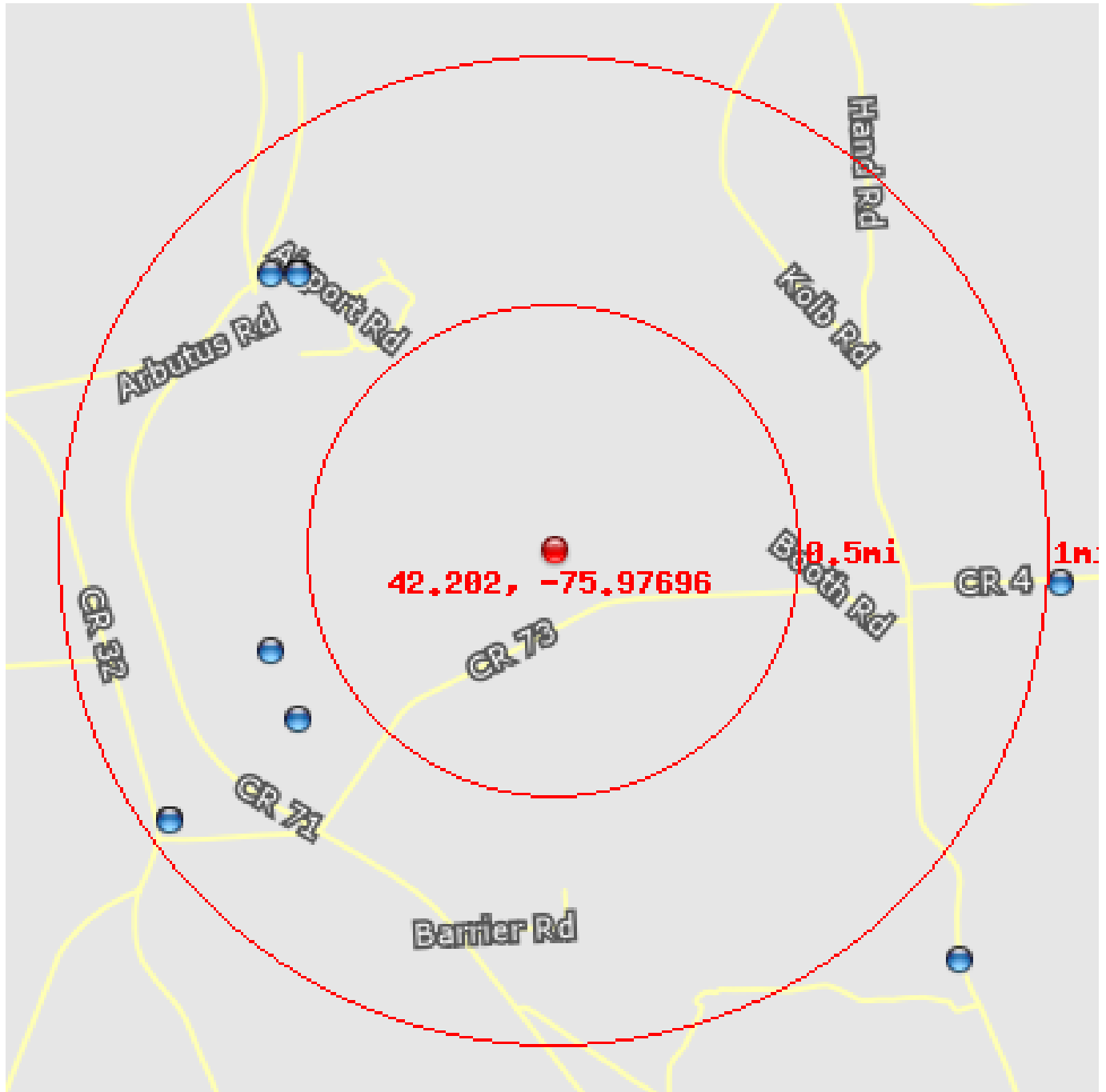
New York's Voluntary Cleanup Program is a cooperative approach among the New York State Department of Environmental Conservation (Department), lenders, developers and prospective purchasers to investigate and/or remediate contaminated sites and return these sites to productive use. Under the Voluntary Cleanup Program, a volunteer performs remedial activities pursuant to one or more Department approved work plans. The volunteer agrees to remediate the site to a level which is protective of public health and the environment for the present or intended use of the property. Investigation and remediation is carried out under the oversight of the Department and the New York State Department of Health (DOH) and the volunteer pays the State's oversight costs. When the volunteer completes work, a release from liability from the Department is provided with standard reservations.

## ***NY Environmental Restoration Program***

**This database returned no results for your area.**

The Environmental Restoration Program (ERP) provides grants to municipalities to reimburse up to 90 percent of on-site eligible costs and 100 percent of off-site eligible costs for site investigation and remediation activities. Once remediated, the property may then be reused for commercial, industrial, residential or public use.

## NY Leaking USTs and Spills



**This database returned 12 results for your area.**

The New York Department of Environmental Conservation maintains a database of leaking underground storage tanks (LUST) and spills.

## ***NY Leaking USTs and Spills***

**Location** 42.1994, -75.98827  
**Distance to site** 3203 ft / 0.61 mi W  
**Spill Number** 0905863  
**Date Reported** 08/19/2009  
**Spill Name** DITCH ON EAST SIDE OF THE HIGHWAY  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2330 AIRPORT RD

**Location** 42.19714, -75.9874  
**Distance to site** 3334 ft / 0.63 mi SW  
**Spill Number** 65142  
**Date Reported** 02/22/01  
**Spill Name** FOX RESIDENCE  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2295 AIRPORT RD.

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 612347  
**Date Reported** 2/10/2007  
**Spill Name** GREATER BINGHAMTON AIRPOR  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT ROAD

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 302247  
**Date Reported** 06/03/03  
**Spill Name** BINGHAMTON AIRPORT  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT ROAD BOX 16

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 9515089  
**Date Reported** 02/23/96  
**Spill Name** BINGHAMPTON REGIONAL AIRP  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT ROAD BOX 16

## ***NY Leaking USTs and Spills***

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 9602125  
**Date Reported** 05/13/96  
**Spill Name** BROOME CO AIRPORT  
**County** Broome  
**City** MAINE  
**Address** 2534 AIRPORT RD

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 9604547  
**Date Reported** 07/07/96  
**Spill Name** BINGHAMTON AIRPORT  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT RD

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 9712269  
**Date Reported** 02/03/98  
**Spill Name** HERTZ RENT A CAR  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2534 AIRPORT RD

**Location** 42.20966, -75.9874  
**Distance to site** 3972 ft / 0.75 mi NW  
**Spill Number** 9604585  
**Date Reported** 07/08/96  
**Spill Name** E.A. LINK FIELD  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2535 AIRPORT RD

**Location** 42.20967, -75.98766  
**Distance to site** 4026 ft / 0.76 mi NW  
**Spill Number** 750391  
**Date Reported** 1/22/2007  
**Spill Name** GREATER BINGHAMTON AIRPORT  
**County** Broome  
**City** JOHNSON CITY  
**Address** 2524 AIRPORT ROAD

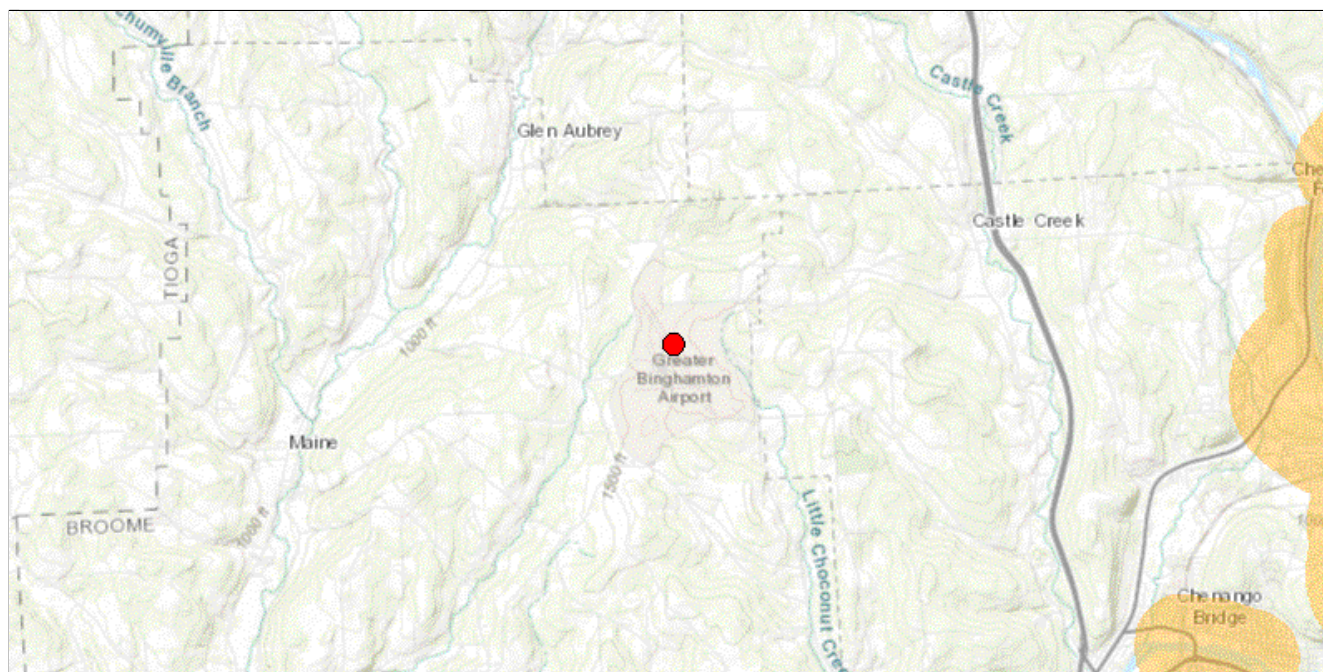


## ***NY Leaking USTs and Spills***

<b>Location</b>	42.19354, -75.99246
<b>Distance to site</b>	5207 ft / 0.99 mi SW
<b>Spill Number</b>	751232
<b>Date Reported</b>	12/14/2007
<b>Spill Name</b>	DANDY MINI MART
<b>County</b>	Broome
<b>City</b>	JOHNSON CITY
<b>Address</b>	51 COMMERCIAL DRIVE

<b>Location</b>	42.19354, -75.99246
<b>Distance to site</b>	5207 ft / 0.99 mi SW
<b>Spill Number</b>	605043
<b>Date Reported</b>	8/2/2006
<b>Spill Name</b>	DANDY MINI MART
<b>County</b>	Broome
<b>City</b>	JOHNSON CITY
<b>Address</b>	51 COMMERCIAL DRIVE

## Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18	Easting:	419067.188	Northing:	4673779.134
Longitude/Latitude	Longitude:	-75.981	Latitude:	42.212

The approximate address of the point you clicked on is:

Greater Binghamton Airport

**County:** Broome

**Town:** Maine

**USGS Quad:** CASTLE CREEK

### DEC Region

#### Region 7:

(Central New York) Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga and Tompkins counties. For more information visit <http://www.dec.ny.gov/about/615.html>.

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

**Disclaimer:** If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.