

Wildlife Hazard Assessments and Wildlife Management Plans at Part 139 and GA Airports



Federal Aviation
Administration



FAA OVERSIGHT of WILDLIFE HAZARDS

REGULATIONS/ GUIDANCE

DATA COLLECTION

OUTREACH/ EDUCATION

RESEARCH

PARTNERSHIPS



TWO INCIDENTS + NTSB RECOMMENDATIONS = CHANGE



139 AIRPORT

US Airways Flight 1549 departing La Guardia forced into the Hudson River on 15 January 2009.

GA AIRPORT

A Cessna 500 Citation crashed in a woodlot following departure from Wiley Post Airport on 4 March 2008.



NTSB RECOMMENDATIONS

Recommendation (A-10-75) - Require Part 139-certificated airports to conduct WHA. FAA agrees

Recommendation (A-10 -076) - Work with the U.S.D.A to develop and implement innovative technologies that can be installed on aircraft that would reduce the likelihood of a bird strike. FAA agrees

Recommendation (A-09-73) - Verify all federally obligated GA airports located near wildlife attractants are complying with AC 150/5200-33B (*Hazardous Wildlife Attractants On or Near Airports*) to perform WHAs as specified. FAA agrees

Recommendation (A-09-75) - Require all Part 139 airports and 14 CFR Part 121, Part 135, and Part 91 Subpart K aircraft operators to report all wildlife strikes, to the FAA National Wildlife Strike Database.

FAA disagrees



Notice of Proposed Rulemaking has been issued to mandate WHMP plans for all Part 139 certificated airports.

- 1. Currently WHMP only required for Part 139 airports that have had triggering events.**
- 2. While waiting to see what happens with rulemaking the FAA is encouraging all Part 139 airports to voluntarily prepare a WHA and WHMP.**



**Part 139
airports
who do
not
have
WHA**

Anticipated Grant Year	Location		Anticipated Grant Year	Location
2011	Durango		2012	Sidney
2011	Bozeman		2012	Lewistown
2011	Lewiston		2012	W. Yellowstone
			2012	Logan
2012	Casper		2012	Provo
2012	Eagle		2012	Cortez
2012	Kalispell		2012	Walla Walla
			2012	Pullman



Part 139 airports who do not have WHA continued

Anticipated Grant Year	Location	Anticipated Grant Year	Location
2013	Coeur d'Alene	2014	Laramie
2013	Glendive	2014	Wendover
2013	Miles City		
2013	Ogden	2015	Alamosa
2013	Vernal	2015	Newport
2013	Riverton	2015	Worland
2013	Pendleton	2015	Redmond
2014	Telluride	2015	Moab
2014	Glasgow	2015	St. George
2014	Havre		



GA WILDLIFE HAZARD ASSESSMENT IMPLEMENTATION SCHEDULE

Airport Group	WHA Initiated By	Number in Group to Conduct WHA	Group Classification - Jets -	Group Classification - Operations -
Group 1	FY 2015	168¹	100+ Jets	75,000 total per year

GA WILDLIFE HAZARD SITE VISIT IMPLEMENTATION SCHEDULE

Airport Group	Initiated with Update to Airport Layout Plan or Master Plan, or By	Number in Group to Conduct Site Assessment	Group Classification - Jets -	Group Classification - Operations -
Group 2	FY 2015	419	20 - 99 jets	30,000 - 74,999 per year
Group 3	FY 2017	827	0 - 19 jets	10,000 - 29,999 per year
Group 4	FY 2020	1,360	No jets	< 10,000 per year
Total		2,606	<i>All airports will also receive a copy of ACRP Report 32, Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports and ACRP Report 23 Bird Harassment, Repellent and Deterrent Techniques for Use On and Near Airports</i>	
Grand Total		2,774		

1. Group 1 already completed twelve 12 Wildlife Hazard Assessments.

***Approximately 12 of these have already initiated WHAs**



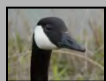
Group 1 Airports in Northwest Mountain Region

CO	DENVER	Centennial
CO	ERIE	Erie Municipal
CO	GREELEY	Greeley-Weld County
CO	LONGMONT	Vance Brand
UT	SALT LAKE CITY	South Valley Regional
ID	BLACKFOOT	McCarley Field
ID	CALDWELL	Caldwell Industrial
OR	PORTLAND	Portland-Troutdale
OR	PORTLAND	Portland-Hillsboro
OR	SCAPPOOSE	Scappoose Industrial Airpark
WA	ARLINGTON	Arlington Municipal
WA	AUBURN	Auburn Municipal
WA	BREMERTON	Bremerton National
WA	EPHRATA	Ephrata Municipal
WA	PUYALLUP	Pierce County - Thun Field
WA	RENTON	Renton Municipal
WA	TACOMA	Tacoma Narrows
WA	SPOKANE	Felts Field

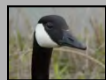


FAA Regulations, Advisories and CertAlerts

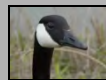
Advisory Circulars – Advisory Guidance to Comply with Regulations



AC 150/5200-32A REPORTING WILDLIFE AIRCRAFT STRIKES 12/22/04



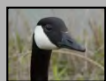
AC 150/5200-34A CONSTRUCTION OR ESTABLISHMENT OF LANDFILLS NEAR PUBLIC AIRPORTS January 26, 2006



AC 150/5200-33B HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS 8/28/2007



AC 150/5200-36A Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports 1/31/12



AC No: 150/5200-?? **PROTOCOL FOR THE CONDUCT AND REVIEW OF WHAs, WHMPs, WHSVs and CONTINUAL MONITORING** 2012



AC 150/ 5200-36A *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports* 1/31/2012

Purpose. AC describes the qualifications for wildlife biologists who conduct WHAs for 14 CFR Part 139 airports, and at non-certificated airports funded by an AIP or Passenger Facility Charge (PFC) Program. We recommend that airports, at a minimum, consult with a qualified airport wildlife biologist when developing a WHMP. However, airports are not required to do so.

AC addresses the minimum wildlife hazard management curriculum for the initial and recurrent training of airport personnel who implement an FAA-approved WHMP.

Applicability. The standards and practices in this AC for public-use airports and for those who conduct WHAs and conduct required training are:

Mandatory for airports certificated under 14 CFR Part 139

Mandatory for airports that have accepted AIP or the PFC Program funds

Highly recommended for all other airports that independently fund WHAs



6. Professional Qualifications of Wildlife Biologists Conducting WHAs and Wildlife Hazard Management Training at FAA Certificated Airports.

Individuals who work under the direct supervision of a qualified airport wildlife biologist are allowed to conduct WHAs if the airport sponsor and the qualified airport wildlife biologist agree in writing to determine how the qualified airport wildlife biologist will:

Supervise how the individual(s) will conduct the WHA; and
Report progress of the WHA; and
Supervise the WHA report production.



AC 150/5200-32A REPORTING WILDLIFE AIRCRAFT STRIKES 12/22/04

PROPOSED CHANGES

- Increased Options for Wildlife Strike Reporting
- Improved Access to National Wildlife Strike Database
- Updated Information on How to Submit Strike Evidence
- Updated Information re: Strike ID 250 Feet from Runway Centerline



**AC No: 150/5200-? REQUIREMENTS FOR WILDLIFE
HAZARD ASSESSMENTS, WILDLIFE HAZARD
MANAGEMENT PLANS AND SITE VISITS x/xx/2012**

- 1. Provide guidance for WHSV, WHA, WHMP, and Continual Monitoring**
- 2. Minimum number of bird surveys/ day?**
- 3. Minimum number of bird/ mammal surveys/ month?**
- 4. Minimum number of days between sampling periods?**
- 5. Provide Airport Certification Safety Inspectors with guidelines/ templates regarding review of WHAs/ WHMPs**
- 6. Provide airports WHA/ WHMP templates for RFPs**



AC No: 150/5200-? REQUIREMENTS FOR WILDLIFE HAZARD ASSESSMENTS, WILDLIFE HAZARD MANAGEMENT PLANS AND SITE VISITS x/xx/2012

Standardized counts of birds should be made at least twice monthly.



Specialized surveys might be needed to document mammals on the airport. These specialized mammal surveys should be conducted at least twice during a 12-month WHA.



Certalerts

Advisory Information for ACSI & Airports

- Certalert No. 97-09** Wildlife Hazard Management Plan Outline 11/17/1997
- Certalert No. 04-16** Deer Hazard to Aircraft and Deer Fencing 12/13/2004
- Certalert No. 98-05** Grasses Attractive To Hazardous Wildlife 9/21/1998
- Certalert No. 04-09** Relationship Between FAA and Wildlife Services 8/30/2004
- Certalert No. 02-06** Access to the FAA National Wildlife Aircraft Strike Database 10/1/2002
- Certalert No. 03-03** Guidelines For Submitting Bird Strike Feather Remains For Identification 8/29/2003
- Certalert No. 06-07** Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State - Listed Threatened and Endangered Species and Species of Special Concern on Airports Date: 11/21/2006
- Certalert No. 09-10 Wildlife Hazard Assessments in Accordance with Part 139 Requirements June 11, 2009**



PIM #2 – Stand-Alone Grants for Wildlife Hazard Studies at Part 139 Certificated Airports

- **Clarify eligibility of WHAs – they are AIP eligible at Part 139 certificated airports that have not experienced a triggering event**
- **Attached MOU between FAA and USDA**



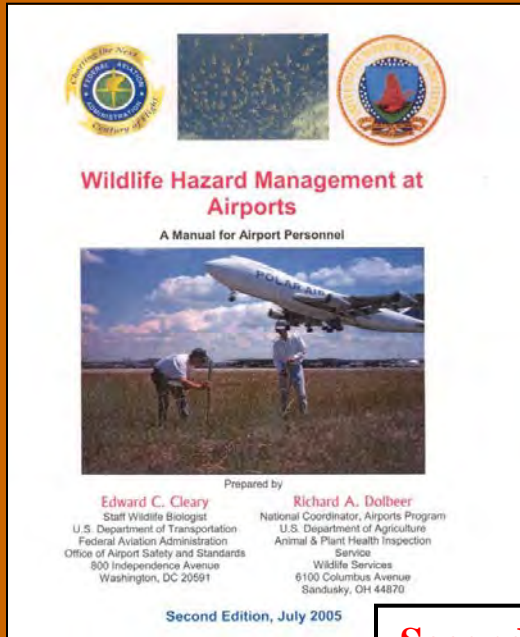
PIM #3 – Use of USDA for WHA Studies

- **Airports must solicit qualifications from private sector firms**
- **USDA may provide cost, schedule and other information outside of the selection process**
- **Airport may use this information to assess the reasonableness of fees and other criteria but must document justification in written letter**
- **Airport may choose USDA if private sector is not available or cannot reasonably or expeditiously fulfill duties**

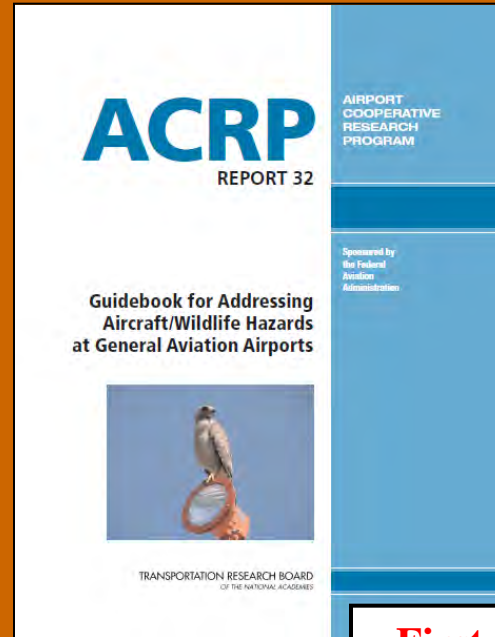


Resources

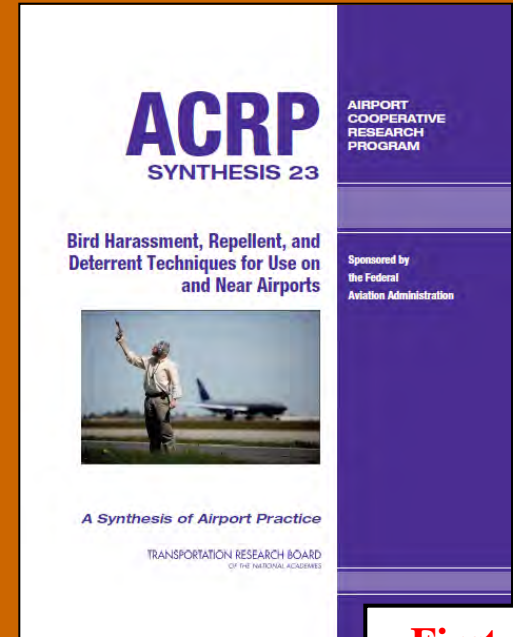
FAA/USDA and ACRP Manuals on Wildlife Hazard Management at Airports



**Second
edition
(2005)**



**First
edition
(2010)**



**First
edition
(2011)**





- Search the Database
- Report a Strike
- Edit a Strike Report

About the FAA Wildlife Strike Database

The FAA Wildlife Strike Database contains records of reported wildlife strikes since 1990. Strike reporting is voluntary. Therefore, this database only represents the information we have received from airlines, airports, pilots, and other sources.

There are two ways to view information in the database:

1. Do a quick search from the [Search the Database page](#). You can export the results to Microsoft Excel.
2. [Download the complete FAA Wildlife Strike Database](#) in Microsoft Access format, and create your own queries.

Our search tool shows key information for each wildlife strike, including Date, Airport, Airline, Aircraft, and Species. To view all 94 fields of information for one or more reports, you must open the complete database. You can also visit the FAQ page for [Frequently Asked Questions](#) about wildlife strikes.

Quick Facts

- The FAA has maintained a wildlife strike database since 1990.
- The FAA wildlife strike database has recorded over 121,000 (Civil and USAF) wildlife strikes between 1990 and 2010.
- 92% of the bird strikes to commercial aircraft occur at or below 3,500 ft AGL (above ground level).
- In 2010, 52% of the birds struck were identified to the species level.

FAA Wildlife Hazard Mitigation Web Site Revision

New Look

User Friendly

New Information

New Capabilities



Wildlife Hazard Assessments



Federal Aviation
Administration



Federal Aviation Administration Wildlife Regulations

14 CFR 139.337 (revised 2/10/04)

- 139.337(a) ...
each certificate
holder shall take
immediate action
to alleviate
wildlife hazards
whenever they
are detected.



Triggering Events

1. Multiple Wildlife Strikes by Air Carrier Aircraft

□



2. Substantial Damage from Wildlife Strike by Air Carrier Aircraft



RADAR DOME
DAMAGE

APPROX. 3 1/2 FOOT DIAMETER DENT

3. Engine Ingestion of Wildlife by Air Carrier Aircraft



4. Wildlife of size, or in numbers, capable of causing any of the previous events is observed on or near airport.



139.337 (c) cont'd... The wildlife hazard assessment must contain at least the following:

- (1) **Strike Event** - An analysis of the events or circumstances that prompted the assessment.
- (2) **Wildlife** - Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.
- (3) **Attractants** - Identification and location of features on and near the airport that attract wildlife.
- (4) **Wildlife Hazards to Aircraft** - A description of wildlife hazards to air carrier operations.
- (5) **Recommendations** - Recommended actions for reducing identified wildlife hazards to air carrier operations.



Wildlife Hazard Assessments provide fundamental wildlife and habitat information

Identify

hazardous species
natural/ artificial attractants
trends in wildlife use

Prevent

future strikes through:

- operational changes
- habitat modifications
- customized harassment/ species removal

Evaluate

overall risk level of wildlife strikes
efficacy of the airport's wildlife hazard mitigation program

Wildlife Hazard Assessments

Table of Contents

EXECUTIVE SUMMARY

INTRODUCTION

STUDY AREA

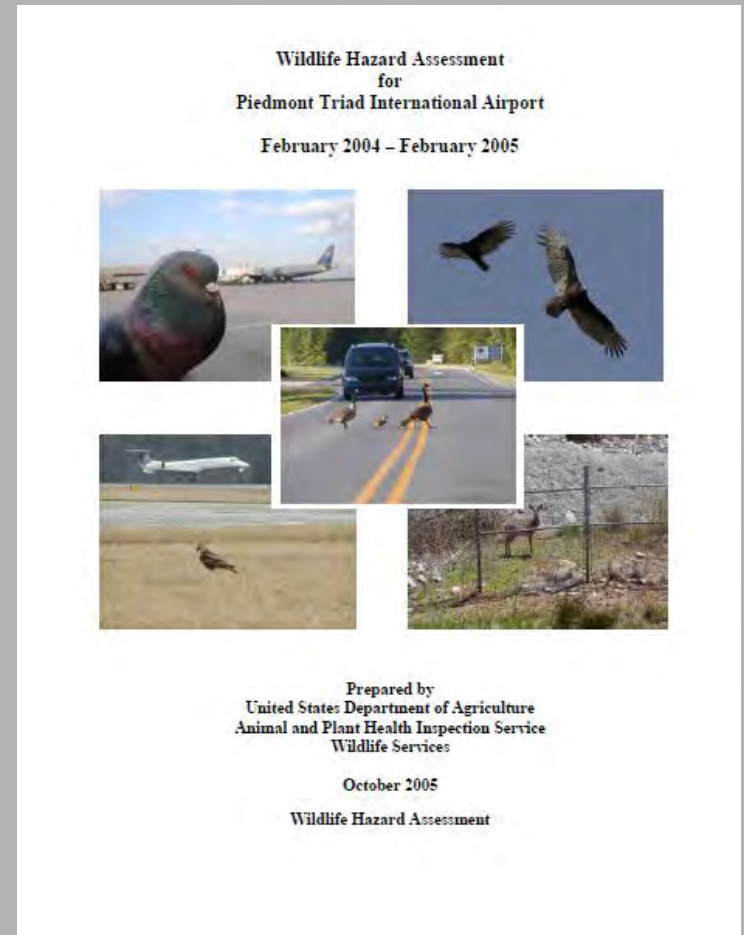
METHODS

RESULTS

DISCUSSION

CONCLUSION

RECOMMENDATIONS



Avian Survey Locations



Mammal Survey Route and Designated Area



Strike History

Date	Species	Incident Time	Incident Location	Aircraft	Phase of Flight
03/08/2004	Gulls	Dawn	Rwy 23	MD-88	Take-off
03/08/2004	Gull	Unknown	Twy Delta	Unknown	Taxi
03/14/2004	Unknown Bird	Night	App Rwy 23	EMB-145	Approach
04/12/2004	Gulls	Day	App Rwy 5	B-737-300	Approach
05/02/2005	Canada Goose	0737 hrs	TO Rwy 23	B-737-300	Take-off
05/02/2004	Unknown Turtle	Dawn	Twy Kilo 5	Unknown	Taxi
06/25/2004	Coyote	2348 hrs	Rwy 23	CL-RJ100-200	Landing
06/25/2004	Unknown Bird	2346 hrs	App Rwy 23	CL-RJ100-200	Approach
06/30/2004	Barn swallows	Morning	Rwy 5/23	Unknown	Unknown
07/01/2004	Mourning Dove	Unknown	Rwy 5/23	Unknown	Unknown
07/25/2004	Killdeer	Morning	Rwy 5/23	Unknown	Unknown
08/06/2004	American Kestrel	Unknown	Rwy 5/23	Unknown	Unknown
10/04/2004	Unknown Bird	Night	App Rwy 23	A-319	Approach
10/05/2004	Unknown Bird	Unknown	Unknown	DC-9-40	Descent
10/25/2004	Unknown Bird	Night	App Rwy 23	CL-RJ700	Descent
11/09/2004	Barn Owl	Unknown	Rwy 5/23	Unknown	Unknown
11/13/2004	Rock Dove	Day	Rwy 5	CL-RJ100-200	Approach



Avian Surveys

Survey Period	Morning	Mid-day	Evening	Total
Number of surveys	52	52	52	156
Total birds observed	12,016	9,391	11,956	33,363
Birds observed/survey ¹	231	181	230	214
Percentage of total	36%	28%	35%	100%

¹ approximate number observed



Number of Birds Observed

Bird Group (# species represented)	Morning	Mid-day	Evening	Total
Aerial Foragers (6)	606	215	677	1,498
Corvids (3)	397	278	329	1,004
Doves/Pigeons (2)	1,141	941	1,218	3,300
Gallinaceous Birds (3)	23	9	32	64
Gulls (1)	86	40	210	336
Perching Birds (36)	1,785	1,186	1,624	4,595
Raptors (14)	465	387	318	1,170
Shorebirds (5)	262	91	301	654
Starlings/Blackbirds (4)	6,662	6,021	6,521	19,204
Wading Birds (3)	17	6	17	40
Waterfowl (8)	568	210	690	1,478
Woodpeckers (5)	4	7	9	20
Total	12,016	9,391	11,956	33,363



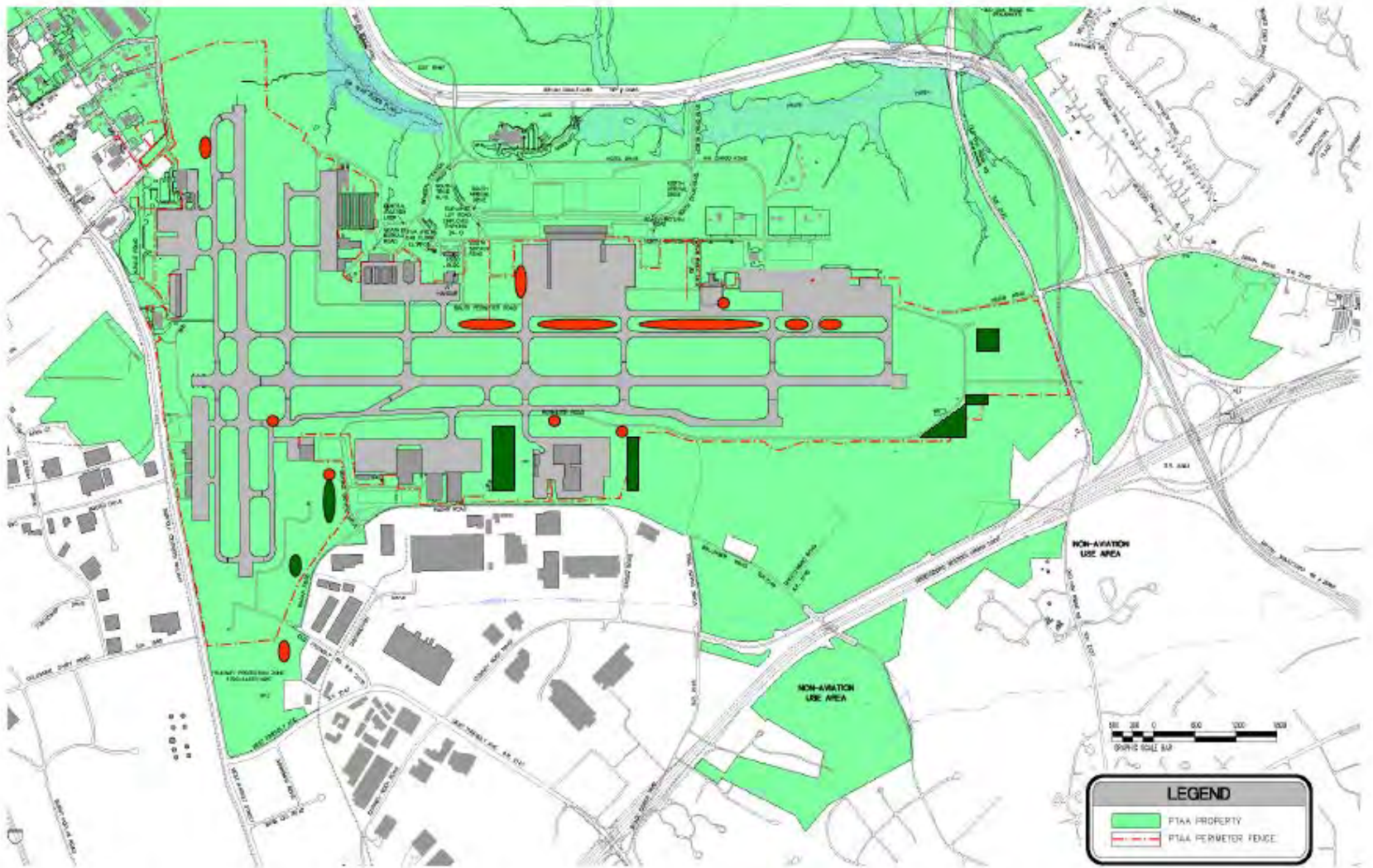


Figure 24. Spot mapping areas of concern that delineate wildlife water attractants (red) on or near the AOA and forested attractants (dark green) on or near the AOA at PTIA, Greensboro, North Carolina.

Recommendations

1. Maintain the proactive wildlife management program at the airport.
2. Initiate a wildlife hazard working group to improve wildlife management at JQF.
3. Maintain clear, complete and easily accessible records of wildlife observations and wildlife management at the airport.
4. Develop a Wildlife Hazard Management Plan.
5. Maintain / obtain depredation permits
6. Maintain clear drainages



(d) The wildlife hazard assessment required under paragraph (b) of this section must be submitted to the Administrator for approval and determination of the need for a wildlife hazard management plan. In reaching this determination, the Administrator will consider—



139.337 (d) cont'd...

- (1) The wildlife hazard assessment;**
- (2) Actions recommended in the wildlife hazard assessment to reduce wildlife hazards;**
- (3) The aeronautical activity at the airport, including the frequency and size of air carrier aircraft;**
- (4) The views of the certificate holder;**
- (5) The views of the airport users; and**
- (6) Any other known factors relating to the wildlife hazard of which the Administrator is aware.**



139.337 (e)

(e) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder must formulate and implement a plan using the wildlife hazard assessment as a basis. The plan must—

- (1) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations;**
- (2) Be submitted to, and approved by, the Administrator prior to implementation; and**
- (3) As authorized by the Administrator, become a part of the Airport Certification Manual.**



139.337 (f)

(f) The plan must include at least the following:

(1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.

(2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:

(i) Wildlife population management;

(ii) Habitat modification; and

(iii) Land use changes.

(3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.

(4) Identification of resources that the certificate holder will provide to implement the plan.



139.337 (f) cont'd...

(5) Procedures to be followed during air carrier operations that at a minimum includes—

- (i) Designation of personnel responsible for implementing the procedures;**
- (ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;**
- (iii) Wildlife hazard control measures; and**
- (iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.**



139.337 (f) cont'd...

- (6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:**
- (i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and**
 - (ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.**



(7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.



WHA provides the scientific basis for a WHMP...

WHMP = blueprint for wildlife hazard mitigation

- 1. Authorities and responsibilities**
- 2. WHA actions target dates for initiation and completion**
- 3. Wildlife hazard management procedures**
- 4. Habitat management**
- 5. Permits (local, state, and federal)**
- 6. Resources**
- 7. Training**
- 8. WHMP review / evaluation**

