



ESC ANNUAL OPERATIONS TRAINING

139.337: Wildlife Hazard Management
Robert C. Ranstadler, Airport Manager
August 30, 2024



Introduction



Subject: 139.337: Wildlife Hazard Management

Time Estimate: No More than one (1) hour

Goal: All learners will demonstrate proficiency in the above topic area by a method selected and documented through the use of summative assessment or evaluation.

Objectives: This lesson trains Operations personnel to perform duties outlined in the above topic area relative to this Airport (ESC). It satisfies recurrent training requirements that must be completed every 12 Consecutive Calendar Months (CCM).

References and Resources: FAR 139.337, Approved WHA, Approved WHMP, AC 150/5200-36B, AC 150/5200-32C, AC 150-5200-33C, CertAlert 98-05, CertAlert 16-03, FAA's Wildlife Strike Website

Topics



1. Safely and effectively implementing relevant portions of ESC's Wildlife Hazard Management Plan (WHMP).
2. A general survey of wildlife hazards based on the annual FAA National Wildlife Strike Database Serial Report.
3. A review of the ESC Wildlife Hazard Assessment (WHA) including: (a) Existing wildlife hazards and trends in wildlife abundance; and (b) the status of any open or unresolved recommended action items for reducing identified wildlife hazards to air carrier operations within the past 12 months
4. A review of the ESC WHMP including: (a) Airport-specific wildlife attractants, including man-made and natural features and habitat management practices of the last 12 months; (b) a review of ESC's wildlife permits (local, State, and Federal); (c) wildlife hazard management strategies, techniques, and tools including flight schedule modification; habitat modification and exclusion; repelling methods, and wildlife population management; (d) the responsibilities of airport personnel for reporting wildlife strikes, control actions, and wildlife observations; communicating with personnel who conduct wildlife control actions; documenting and reporting wildlife hazards seen during patrols inspections and follow-up control efforts; and documenting and reporting when no hazards are seen during patrols and inspections.
5. On basic bird and mammal identification, stressing local hazardous and rare/endangered species of concern.
6. On using pyrotechnic launchers or firearms including (a) safety, parts, and operation of pyrotechnic launchers; (b) fundamentals of using pyrotechnics to safely and effectively disperse wildlife; (c) personnel protective equipment; (d) cleaning, storage, and transport of firearms and pyrotechnic launchers; and (e) applicable local, State, and Federal regulations on firearms, pyrotechnic launchers, and pyrotechnics.

Implementing ESC's Wildlife Hazard Management Plan (WHMP).



- The Delta County Airport Wildlife Committee, coordinated by the Airport Manager and Airport Assistant Manager, is responsible for the development and implementation of all wildlife control measures.
- The wildlife control officer (Airport Manager unless stipulated otherwise) is responsible for overseeing and directing the Wildlife Hazard Management Plan (WHMP).
- Persons with responsibility for implementing the plan include the Airport Manager and Delta County Airport Operations personnel, collectively referred to as the Wildlife Committee.
- Supporting agencies in the plan include the Federal Aviation Administration (FAA), the Department of the Interior U.S. Fish and Wildlife Services, Michigan Department of Natural Resources (DNR), and tenants using the airfield.



Learning Checkpoint



All of the following are members of the Airport Wildlife Committee, except:

A. Airport Manager

B. USDA Field Biologist

C. Operations Staff

D. Assistant Airport Manager



General Survey of Wildlife Hazards: KESC, 2014-2024



Incident Date	Time	Airline	Aircraft	Engine Type	Damage	Species
2022-05-21	12:30	AMF	BE-1900	Turboprop	Minor	Unknown Bird
2017-08-13	UNK	BUS	Citation EXL	Turbofan	None	Gulls
2017-04-10	10:19	SKW	CRJ100/200	Turbofan	None	Canada Goose
2014-10-03	UNK	AMF	BE-99	Turboprop	None	Gulls

Wildlife Hazard Assessment (WHA) Review: Existing Wildlife Hazards & Trends in Wildlife Abundance (Past 12 Months)



- During the last WHA survey, conducted in 2016, 23 of the 25 species groups of wildlife were identified at ESC.
- Wildlife at ESC is separated into three hazard priority groups: critical, high, and moderate.
- The most hazardous groups of wildlife continue to be large-bodied birds, which tend to fly in flocks (geese, sandhill cranes, etc.), followed by smaller bodied birds, which may or may not flock together (gulls, pigeons, ducks, etc.), and lastly smaller, singular birds (starlings, doves, etc.).
- Other critical categories of species that have required more recent attention at ESC are deer, coyote, and fox, which circumvent perimeter fencing on a seasonal basis.



Wildlife Hazard Assessment (WHA) Review: Open or Unresolved Recommended Action Items for Reducing Identified Wildlife Hazards to Air Carrier Operations within the Past 12 months

- There are currently no unresolved recommended action items for reducing identified wildlife hazards to air carrier operations, within the past 12 months, other than the discrepancies identified with the Airport's perimeter fencing.
- A Federal grant project was recently approved, calling for the replacement of more than 2,000 ft of perimeter fencing is beginning during FY2025.



Learning Checkpoint



All of the following are a type of hazard priority group, except:

A. moderate

B. critical

C. special

D. high



WHMP Review: Airport-Specific Wildlife Attractants



- Wildlife management staff must minimize or eliminate to the fullest extent possible any habitat within the Airport property that attracts or supports wildlife that represent potential hazards to aircraft operations.
- Attractants on Airport property include woodlands, shrubs, and wetlands.
- Management will also, to the greatest extent possible, influence off-airport planning and land use so as to limit the development of potentially hazardous wildlife habitat within close proximity of the Airport property.
- Off-site land uses, such as solid waste landfills, trash transfer stations, recycling centers, composting operations, and wetlands (when possible), as well as agricultural practices which are attractants to wildlife, shall be discouraged by the Airport.



WHMP Review: Depredation Permits



- Wildlife control, which includes the killing of offending individual wildlife, is authorized and conducted under the authority of the following permits (original permits are kept on file in the Airport Administration office):
- **U.S. Fish and Wildlife Service Migratory Bird Depredation Permit** – Authorizes ESC to take, temporarily possess, and transport various migratory bird species in conjunction with a non-lethal control program, as specified in the current depredation permit, to relieve or prevent injurious situations impacting public safety.
- **Federal Fish and Wildlife Permit (Bald and Golden Eagle Permit)** – The Airport is only required to maintain a permit to harass Bald and Golden Eagles, within the Airport’s movement areas, if an active nest is present.
- **Deer Damage Control Permit** – Issued by the Michigan Department of Natural Resources – Wildlife Division, and permits ESC to taking deer within the security fence of the Airport.

Form 167
9/12/04

DIVISION OF WILDLIFE
Ohio Department of Natural Resources

WILD ANIMAL PERMIT APPLICATION

Scientific Collection (S2S) Education (S2S) Banding (No Fee)
 (check one) New Permit Renewal Permit

Full Name of Applicant _____ Date of Birth _____ Tax ID # or Social Security No. _____

Street Address _____ City _____ State _____ Zip Code _____ Telephone No. (Home) _____ (Work) _____

Name and Address of Corporation, College, University, Organization or Agency which you are representing: _____

Check or money order No. _____ for \$25.00 payable to the Ohio Division of Wildlife is attached.
 Outline the project for which wild animals will be collected. If scientific collection, indicate purpose, objectives, specific species, and number requested. If education, provide a description of proposed program (s) and intended audience.
 Use additional sheets if necessary.

COLLECTION LOCATIONS (County/Section)	SPECIES AND AMOUNTS TO BE COLLECTED	COLLECTION METHOD	LOCATION WHERE SPECIMENS WILL BE DEPOSITED

*Unattended collection equipment must be marked with the name and address of user and permit number.
 •A U.S. Fish and Wildlife Service permit may be required if your project includes the collection, possession, or banding of migratory birds, or a federally protected species. Please list any current USFWS Permits and numbers.

The applicant agrees to keep daily records, submit an annual report (education/banding) or the wildlife diversity data base form (scientific collection), and abide by provisions of the law.

Applicant's Signature _____ (Date) _____

This permit will expire on the next March 15th after issuance.

Send this application to:
ODNR Division of Wildlife, Law Enforcement, 2045 Morse Rd., Bldg. C, Columbus Ohio 43228-0893

Completion of the form is required - Section 2901.13 B.R.C., Penalty: Imprisonment up to 6 months or \$4,000 fine or both.
 Section 1533.30 B.R.C., Penalty: Imprisonment up to 30 days or \$250 fine or both.

ODNR 8907

Learning Checkpoint



All of the following are considered on-airport wildlife attractants, except:

A. landfill

B. woodlands

C. shrubs

D. wetlands



WHMP Review: Wildlife Hazard Management Strategies



- The Airport will meet agricultural standards in accordance with AC 150/5300-13 (current edition) Airport Design, ESC ACM Section 321 and AC 150/5200-33 (current edition) *Hazardous Wildlife Attractants on or Near Airports*, Section 2-6.
- The Federal Aviation Administration (FAA) Airports District Office (ADO) Program Manager and Airport Certification Safety Inspector will be notified of any proposed agricultural activity before it is implemented.
- Table 1 of the WHMP lists a series of habitat and non-habitat based action items and priorities, including steps such as reducing fencing gaps, trimming shrubs, eliminating standing water, and removing wildlife. **WHMP staff must review this material annually (see second-to-last slide of this presentation).**



WHMP Review: Responsibilities of Airport Personnel



- The reporting of wildlife strikes, control actions, and wildlife observations is accomplished by completing FAA Form 5200-7 (in the case of wildlife strikes), or the Airport Wildlife Log (for control actions and observations), which is located in the ESC ACM. **Timely and accurate reporting is a mandatory aspect of the WHMP as well as Federal, State, and local laws.**
- Communicating wildlife control actions with air carriers, pilots, tenants, and ground personnel may be accomplished by creating and publishing applicable NOTAMs; announcing urgent notifications over UNICOM (122.80), or informing the Airport Manager.
- Documenting and reporting wildlife hazards seen during patrols and inspections and follow-up control efforts is paramount in maintaining an effective WHMP. Documenting and reporting when no hazards are seen during patrols is equally as important and is accomplished using the Airport Wildlife Log.

Form Approved OMB NO. 2120-0011

BIRD/OTHER WILDLIFE STRIKE REPORT																																																											
1. Name of Operator			2. Aircraft Make/Model			3. Engine Make/Model																																																					
4. Aircraft Registration			5. Date of Incident Month / Day / Year			6. Local Time of Incident <input type="checkbox"/> Dawn <input type="checkbox"/> Dusk <input type="checkbox"/> Night <input type="checkbox"/> AM <input type="checkbox"/> PM																																																					
7. Airport Name			8. Runway Used			9. Location # En Route (Please Use Time/Altitude # Data)																																																					
10. Height (AGL)			11. Speed (KIAS)																																																								
12. Phase of Flight			13. Part(s) of Aircraft Struck or Damaged																																																								
<input type="checkbox"/> A. Parked <input type="checkbox"/> B. Taxi <input type="checkbox"/> C. Take-Off Run <input type="checkbox"/> D. Climb <input type="checkbox"/> E. En Route <input type="checkbox"/> F. Descent <input type="checkbox"/> G. Approach <input type="checkbox"/> H. Landing Roll			<table border="1"> <tr> <th></th> <th>Struck</th> <th>Damaged</th> </tr> <tr> <td>A. Radome</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>B. Windshield</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>C. Nose</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>D. Engine No. 1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>E. Engine No. 2</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>F. Engine No. 3</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>G. Engine No. 4</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Struck	Damaged	A. Radome	<input type="checkbox"/>	<input type="checkbox"/>	B. Windshield	<input type="checkbox"/>	<input type="checkbox"/>	C. Nose	<input type="checkbox"/>	<input type="checkbox"/>	D. Engine No. 1	<input type="checkbox"/>	<input type="checkbox"/>	E. Engine No. 2	<input type="checkbox"/>	<input type="checkbox"/>	F. Engine No. 3	<input type="checkbox"/>	<input type="checkbox"/>	G. Engine No. 4	<input type="checkbox"/>	<input type="checkbox"/>	<table border="1"> <tr> <th></th> <th>Struck</th> <th>Damaged</th> </tr> <tr> <td>H. Propeller</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>I. Wing/Rotor</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>J. Fuselage</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>K. Landing Gear</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>L. Tail</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>M. Lights</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>N. Other:</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> (Specify, if "N. Other" is checked)				Struck	Damaged	H. Propeller	<input type="checkbox"/>	<input type="checkbox"/>	I. Wing/Rotor	<input type="checkbox"/>	<input type="checkbox"/>	J. Fuselage	<input type="checkbox"/>	<input type="checkbox"/>	K. Landing Gear	<input type="checkbox"/>	<input type="checkbox"/>	L. Tail	<input type="checkbox"/>	<input type="checkbox"/>	M. Lights	<input type="checkbox"/>	<input type="checkbox"/>	N. Other:	<input type="checkbox"/>	<input type="checkbox"/>			
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14. Effect on Flight			15. Sky Condition			16. Precipitation																																																					
<input type="checkbox"/> None <input type="checkbox"/> Aborted Take-Off <input type="checkbox"/> Precautionary Landing <input type="checkbox"/> Engines Shut Down Other: (Specify)			<input type="checkbox"/> No Cloud <input type="checkbox"/> Some Cloud <input type="checkbox"/> Overcast			<input type="checkbox"/> Fog <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> None																																																					
17. Bird/Other Wildlife Species			18. Number of birds seen and/or struck			19. Size of Bird(s)																																																					
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20. Pilot Warned of Birds <input type="checkbox"/> Yes <input type="checkbox"/> No																																																											
21. Remarks (Describe damage, injuries and other pertinent information)																																																											
DAMAGE / COST INFORMATION																																																											
22. Aircraft time out of service: _____ hours			23. Estimated cost of repairs or replacement (U.S. \$): \$ _____			24. Estimated other cost (U.S. \$) (e.g. loss of revenue, fuel, etc.): \$ _____																																																					
Reported by (Optional): _____			Title: _____			Date: _____																																																					

Paperwork Reduction Act Statement: The information collected on this form is necessary to allow the Federal Aviation Administration to assess the magnitude and severity of the wildlife-aircraft strike problem in the U.S. The information is used in determining the best management practices for reducing the hazard to aviation safety caused by wildlife-aircraft strikes. We estimate that it will take approximately 5 minutes to complete the form. If you wish to make any comments concerning the accuracy of this burden estimate and any suggestions for reducing this burden, send those comments to the Federal Aviation Administration, Management Staff, AEP-10, 800 Independence Avenue, SW, Washington, DC 20591. The information collected is voluntary. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number associated with this collection is 2120-0045.

Learning Checkpoint



What is the purpose of FAA Form 5200-7?

A. reporting annual enplanements

B. reporting of wildlife strikes

C. reporting wildlife observations

D. reporting of non-hazards



Basic Bird and Mammal Identification: Migratory Birds



Canada Goose

Mallard Duck



Sandhill Crane

Basic Bird and Mammal Identification: Other Birds (Including Partial Migratory)



American Kestrel



Bald Eagle



Starling



Turkey Vulture

Basic Bird and Mammal Identification: Mammals



Whitetail Deer



Coyote



Red Fox

Learning Checkpoint



All of the following birds migrate, except:

- A. mallard duck
- B. bald eagle
- C. Canada goose
- D. wild turkey



Pyrotechnic Launchers: Safety, Parts, and Operation: Record PTB113



Caliber:	6 mm Flobert blank
Capacity:	Single shot
Length:	120 mm
Barrel length:	75 mm
Weight:	220 g
Finish:	Blued
Trigger:	Single Action
Grips:	Polycarbonate

Barrel/Muzzle

Hammer

Trigger

Grip



Pyrotechnic Launchers: Safety, Parts, and Operation: Record RJ6



Caliber:	6 mm Flobert blank
Capacity:	Six shot
Length:	135 mm
Barrel length:	25 mm
Weight:	265 g
Finish:	Blued
Trigger:	Double Action/Single Action
Grips:	Polycarbonate



Barrel/Muzzle

Trigger

Hammer

Grip

Pyrotechnic Launchers: Fundamentals of Use



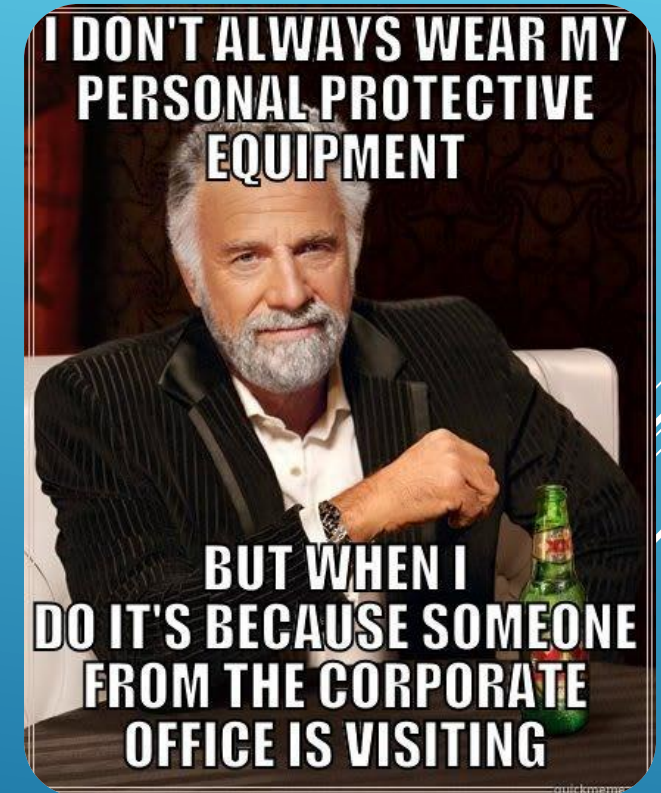
- Treat every device as if it were loaded.
- Never point a device in a direction you do not intend to shoot.
- Keep your finger straight and off the trigger until you're ready to fire.
- Keep the device on "safe" until you intend to fire (as applicable).
- Use care when rapidly replacing ammunition ("bangers," "screamers," etc.) to avoid accidental discharge due to leftover embers from previous shots.
- Ensure that blanks or duds are submerged in water for at least 24 hours prior to disposal.



Pyrotechnic Launchers: Personal Protective Equipment (PPE)

To avoid accidental burns or hearing/vision damage, wildlife hazard management staff are highly encouraged to use the following articles of PPE:

- Safety goggles or safety glasses
- Ear plugs or ear muffs
- Long sleeves
- Protective headgear, to prevent getting struck by primer debris, such as a stiff-billed ballcap



OFFICE IS VISITING
FROM THE CORPORATE
DO IT'S BECAUSE SOMEONE

Pyrotechnic Launchers: Clearing, Storage & Transport

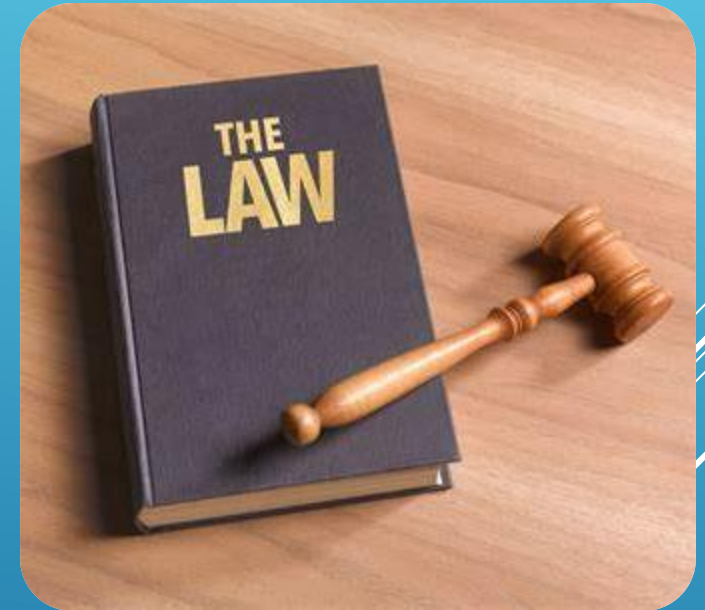


- The methods and practices used in cleaning, storing, and transporting pyrotechnic launchers are very similar to that of conventional firearms.
- Launcher bodies and barrels may be cleaned using tools and materials found in standard pistol cleaning kits, including rods, bore brushes, patches (swabs), dry-cleaning solution, and oil.
- Great care must be taken in keeping launcher barrels free of debris and residue that builds up with repeated use. Hand-turning a 9/16" through the length of the barrel is an efficient way of breaking up stubborn residue.
- A light coat of oil should be applied to all metal and working parts of the launcher, but care must be exercised in not allowing excess oil to accumulate on the device, which could present a fire hazard.



Pyrotechnic Launchers: Applicable Laws

- Federally, the use of pyrotechnical launchers are regulated under all applicable conventional firearm laws as well as 16 CFR 1500.17 (a) (3), which limits aerial fireworks devices to 130 mg of pyrotechnic composition intended to product an audible effect.
- State law governing the use of pyrotechnics is outlined in the Michigan Fireworks Safety Act 256 of 2011. This act does not apply to “the use of agricultural or wildlife fireworks.”
- Local ordinances (County and City) do not apply to the use of pyrotechnic launchers on Airport property, *while carrying out federally mandated WHMP duties* [emphasis added]. Any activity deviating from this, such as a projectile departing Airport property, is subject all local laws.



Learning Checkpoint



How long is it recommended to submerge blanks and duds in water for prior to disposal?

A. 240 seconds

B. 24 hours

C. 240 minutes

D. 24 days




Wildlife Hazard Management Program: Annual Review



- All wildlife hazard management staff must review the WHMP annually.
- A physical copy of the WHMP, along with initial inputs from the Airport Manager shall be provided for your review as part of this training.
- Please review the WHMP, sign the attached review form, and contact the Airport Manager with any questions, revisions, or updates.

ESC Airport Certification Manual Exhibit 15: Wildlife Hazard Management Plan



WILDLIFE HAZARD MANAGEMENT PLAN

Original Date: 3/4/2008
Revision Date: N/A

FAA Approval:
Date: _____

Conclusion & Assessment



Congratulations!

You've made it to the end of your annual 139.339 Airport Condition Reporting training! Please be sure to do the following:

- Complete the assessment associated with this presentation.
- Submit your completed assessment to the Training Officer/Airport Manager
- Initial and date the associated Exhibit 11 – Personnel Training Sign-In sheet.
- Provide feedback to the Training Officer about how to improve this course.