FAA Guidance

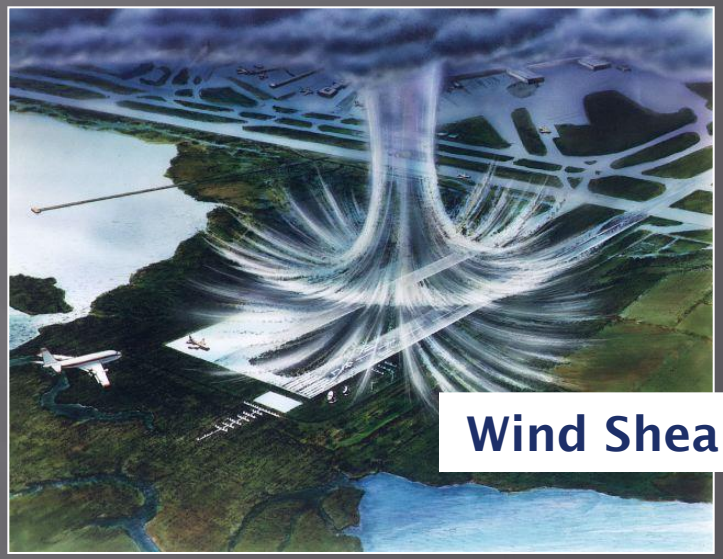
Airport Wildlife Hazards

13th Annual CARSAMPAF Bird/Wildlife Strike Prevention Conference

Panama City, Panama, October 19th – 23rd, 2015

John R Weller

FOD



Wind Shear

Volcanic Ash

Runway incursions

Safety Hazards

ULTIMATE GOAL = ELIMINATION / REDUCTION OF DAMAGING STRIKES AND/ OR NEGATIVE WILDLIFE IMPACTS ON AND NEAR THE AERODROME

(increase human safety, reduce $$ losses)

COST OF WILDLIFE STRIKES:

$937 million/year in U.S.

Federal Aviation Administration

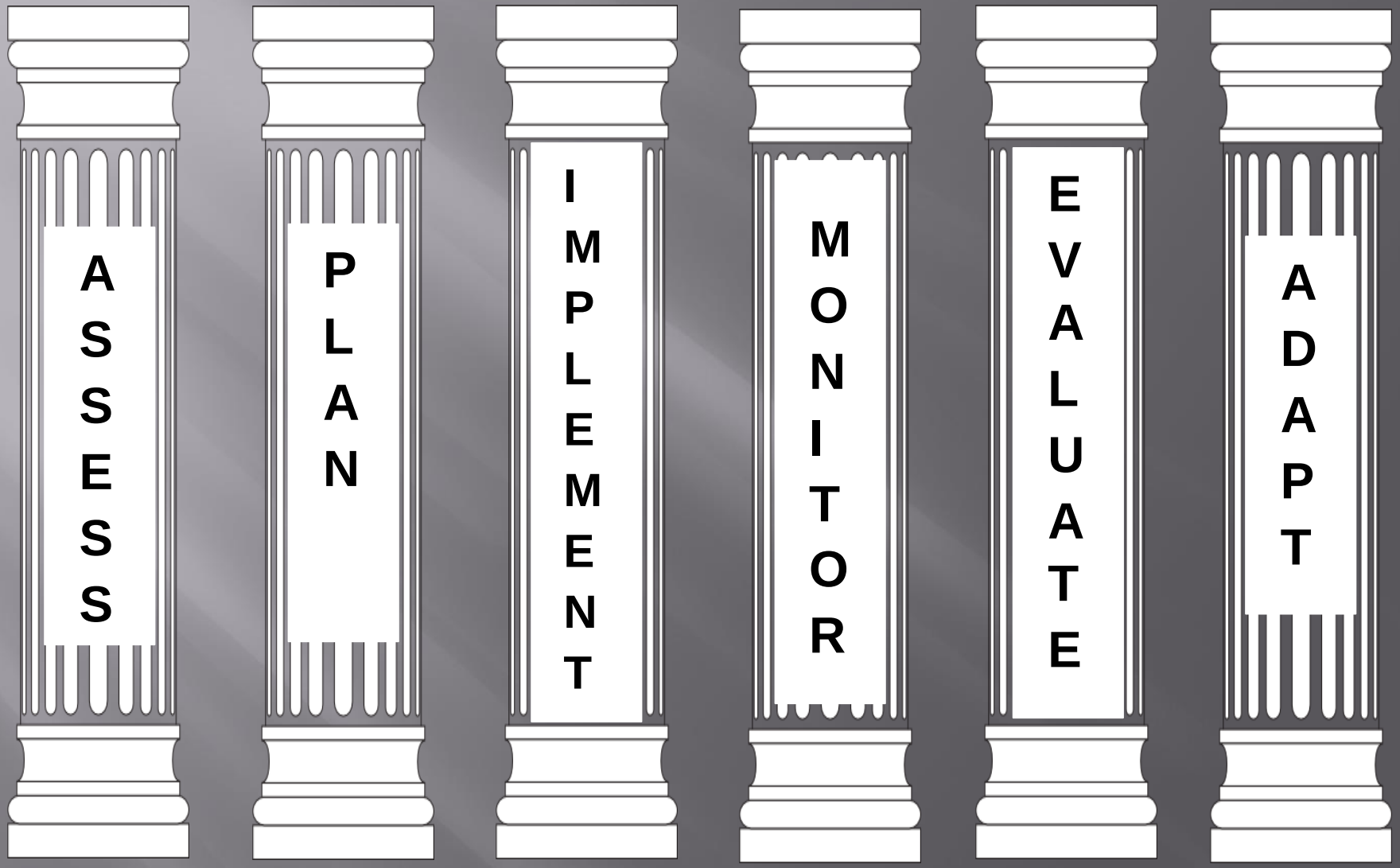
IF YOU THINK SAFETY IS EXPENSIVE

TRY AN ACCIDENT

FAA OVERSIGHT of WILDLIFE HAZARDS

- REGULATIONS/ GUIDANCE
- DATA COLLECTION
- OUTREACH/ EDUCATION
- RESEARCH
- PARTNERSHIPS
- FUNDING

WILDLIFE HAZARD MITIGATION PROGRAM REQUIRES:



Federal Aviation Administration

Federal Aviation Administration Wildlife Regulations

14 CFR 139.337
(revised 2010)

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

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Multiple Wildlife Strikes

"The pitch of the engine said it all," said plane-spotter Juergen Kienast, who took these dramatic pictures. "It was like sticking a bit of metal pipe into a blender."

Substantial Damage from Wildlife Strike

Engine Ingestion of Wildlife

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

FAA Regulations, Advisories and CertAlerts

Advisory Circulars

AC 150/5200-32B REPORTING WILDLIFE AIRCRAFT STRIKES. May 31, 2013 (May 31, 2013)

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 January 31, 2013

AC No: 150/5200-38 PROTOCOL FOR THE CONDUCT AND REVIEW OF WHSVs, WHAs, WHMPs and CONTINUAL MONITORING 2015?

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Management of Wildlife Hazards

PROACTIVE

Modify / Remove Attractants

Exclude Wildlife

REACTIVE

Repel/Disperse Wildlife

Remove Wildlife (lethal or nonlethal)

** Evident in Regulations, Research, Outreach and Training

REMOVE

HARASS

EXCLUDE

MODIFY

Wildlife Use of Airports

Aviation Threat

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ICAO Annex 14 — Aerodromes

9.4 Wildlife strike hazard reduction

9.4.1 The wildlife strike hazard on, or in the vicinity of, an aerodrome **shall be assessed** through:

a) the establishment of a national procedure for recording and reporting wildlife strikes to aircraft;

* * *

National Procedure may be mandatory or voluntary

Voluntary vs Mandatory

- What is Goal of Strike Report Data?
- Voluntary Sufficient? Mandatory Necessary?
- How is Mandate Enforced?
- Is there a Penalty? Is it Punitive?
- Who wants Mandatory?

Strike Reporting

- **CAA** and **Airports** want Quality and Quantity
- **CAA** needs enough data to…
  - track national trends
  - determine hazard level of species struck
  - provide scientific foundation for regulatory guidance concerning mitigation of risks from wildlife strikes
- **Airports** need enough data to identify & mitigate hazardous species, strike dynamics and attractants and evaluate effectiveness of wildlife management program
- **Industry** wants enough data to evaluate effectiveness of aircraft components

Federal Aviation Administration

Voluntary Reporting

- **Voluntary Program not necessarily "easier" or "cheaper"**
- **Requires active Outreach program**
- **Would Voluntary Program provide information necessary?**

Mandatory Reporting

- **Does Not Require Outreach**
- **Equals Increased Data BUT…**
- **Does Not Equal Improved Data**
- **Equals Increased Costs / Enforcement / Penalty**
- **Is a Mandate Punitive?**

Objective Metric to Evaluate Effectiveness of Wildlife Program

Options:

Number of strikes / aircraft movements = inadequate metric

Number of damaging strikes/ adverse effect* / aircraft movements = very good metric

Biomass of all animals struck / aircraft movements = very good metric

* (damaging strikes plus affected flights that results in lost revenue)

National Wildlife Strike Database Management

FAA contracts USDA

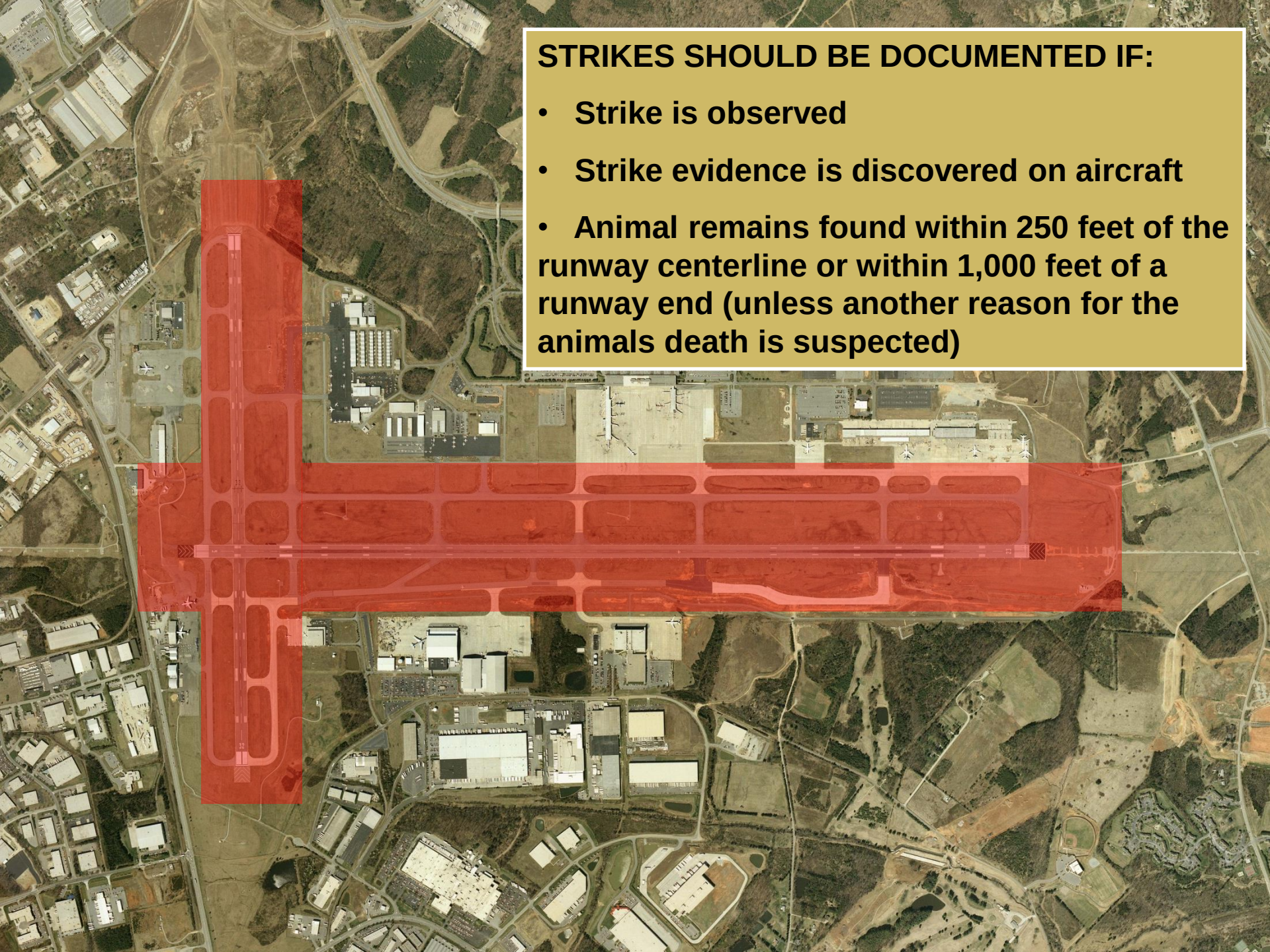
Federal Aviation Administration

Strike remains / feather identification

FAA contracts Smithsonian Institution

Smithsonian Institution

Federal Aviation Administration

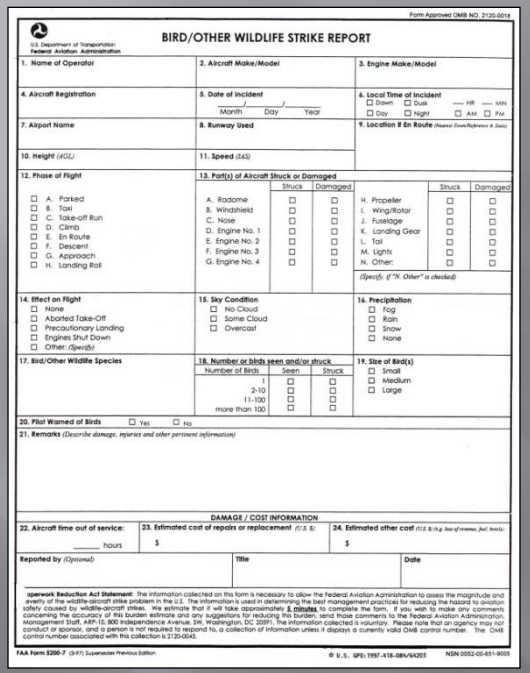


STRIKES SHOULD BE DOCUMENTED IF:

- **Strike is observed**
- **Strike evidence is discovered on aircraft**
- **Animal remains found within 250 feet of the runway centerline or within 1,000 feet of a runway end (unless another reason for the animals death is suspected)**

Wildlife Strike Reporting to the FAA

Paper Report Form



Form Approved OMB NO. 2120-0018

U.S. Department of Transportation
Federal Aviation Administration

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 ☐ Dawn ☐ Dusk ___ HR ___ MN ☐ Day ☐ Night ☐ AM ☐ PM
7. Airport Name
8. Runway Used
9. Location If En Route (Nearest Town/Reference & State)
10. Height (AGL)
11. Speed (IAS)
12. Phase of Flight
☐ A. Parked ☐ B. Taxi ☐ C. Take-off Run ☐ D. Climb ☐ E. En Route ☐ F. Descent ☐ G. Approach ☐ H. Landing Roll
13. Part(s) of Aircraft Struck or Damaged

	Struck	Damaged		Struck	Damaged
A. Radome	☐	☐	H. Propeller	☐	☐
B. Windshield	☐	☐	I. Wing/Rotor	☐	☐
C. Nose	☐	☐	J. Fuselage	☐	☐
D. Engine No. 1	☐	☐	K. Landing Gear	☐	☐
E. Engine No. 2	☐	☐	L. Tail	☐	☐
F. Engine No. 3	☐	☐	M. Lights	☐	☐
G. Engine No. 4	☐	☐	N. Other:	☐	☐

(Specify, if "N. Other" is checked)

14. Effect on Flight
☐ None ☐ Aborted Take-Off ☐ Precautionary Landing ☐ Engines Shut Down ☐ Other: (Specify)
15. Sky Condition
☐ No Cloud ☐ Some Cloud ☐ Overcast
16. Precipitation
☐ Fog ☐ Rain ☐ Snow ☐ None
17. Bird/Other Wildlife Species
18. Number or birds seen and/or struck

Number of Birds	Seen	Struck
1	☐	☐
2-10	☐	☐
11-100	☐	☐
more than 100	☐	☐

19. Size of Bird(s)
☐ Small ☐ Medium ☐ Large
20. Pilot Warned of Birds ☐ Yes ☐ No
21. Remarks (Describe damage, injuries and other pertinent information)

DAMAGE / COST INFORMATION

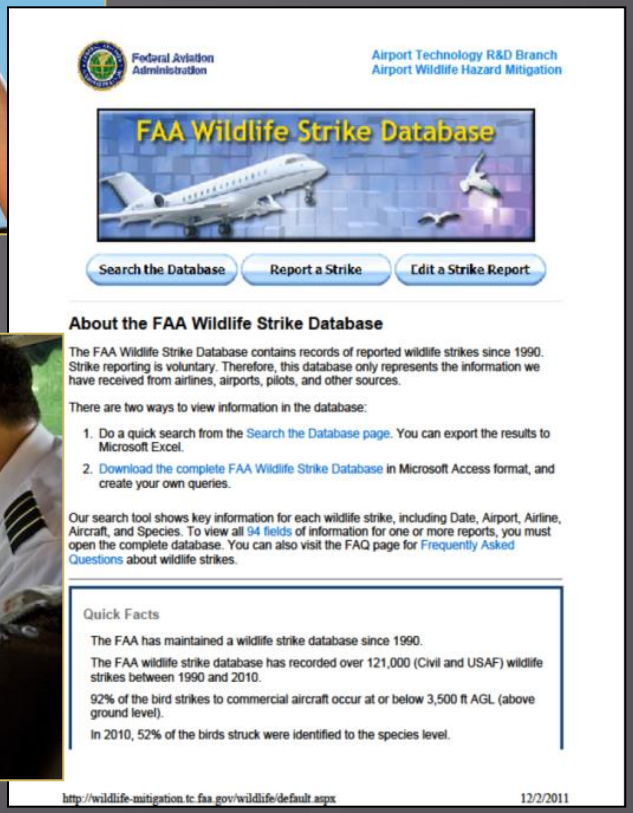
22. Aircraft time out of service: _____ hours
23. Estimated cost of repairs or replacement (U.S. $): $
24. Estimated other cost (U.S. $/e.g. loss of revenue, fuel, hotels): $

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, ARP-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.

FAA Form 5200-7 (3-97) Supersedes Previous Edition ☆ U.S. GPO: 1997-418-089/64265 NSN:0052-00-651-9005

Electronic Reporting Options



http://wildlife.faa.gov

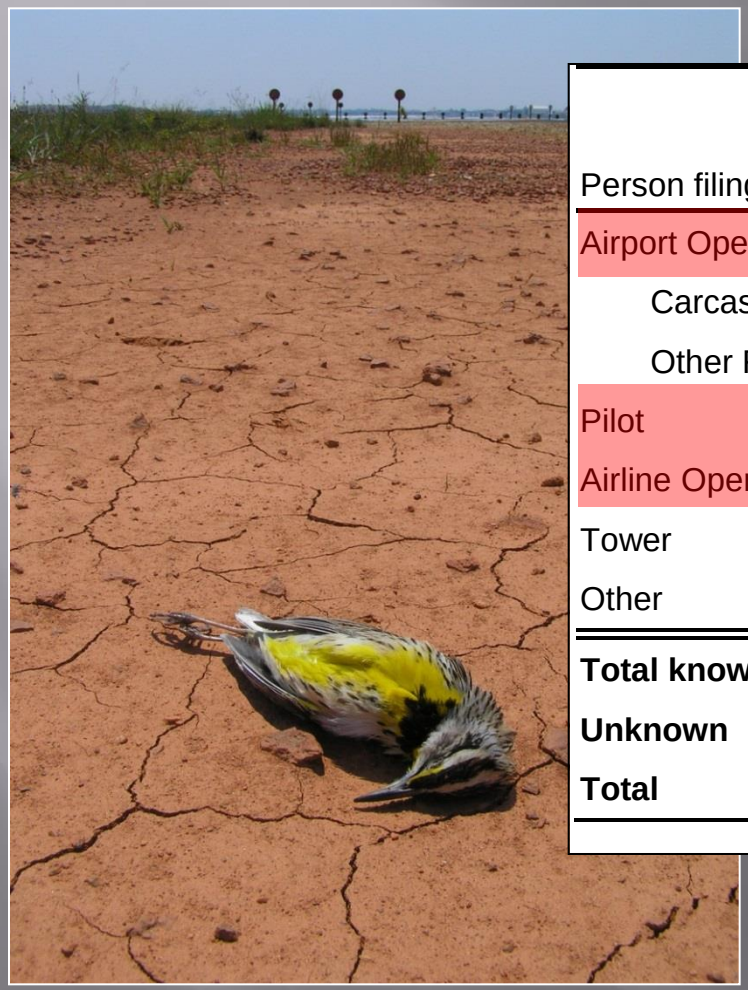
Federal Aviation Administration

National Wildlife Strike Database Report

TRANSPARENT DATA

Federal Aviation Administration

Who Reports Strikes?



Person filing report	1990–2014 Total	1990–2014 % of total	2014 only Total	2014 only % of total
Airport Operations	58,840	44	7,181	54
Carcass Found[1]	35,110	60	4,104	57
Other Reports[2]	23,730	40	3,077	43
Pilot	30,929	23	2,727	20
Airline Operations	28,359	21	1,014	8
Tower	13,918	10	2,286	17
Other	3,136	2	99	1
Total known	**135,182**	**100**	**13,307**	**100**
Unknown	**20,932**		**361**	
Total	**156,114**		**13,668**	

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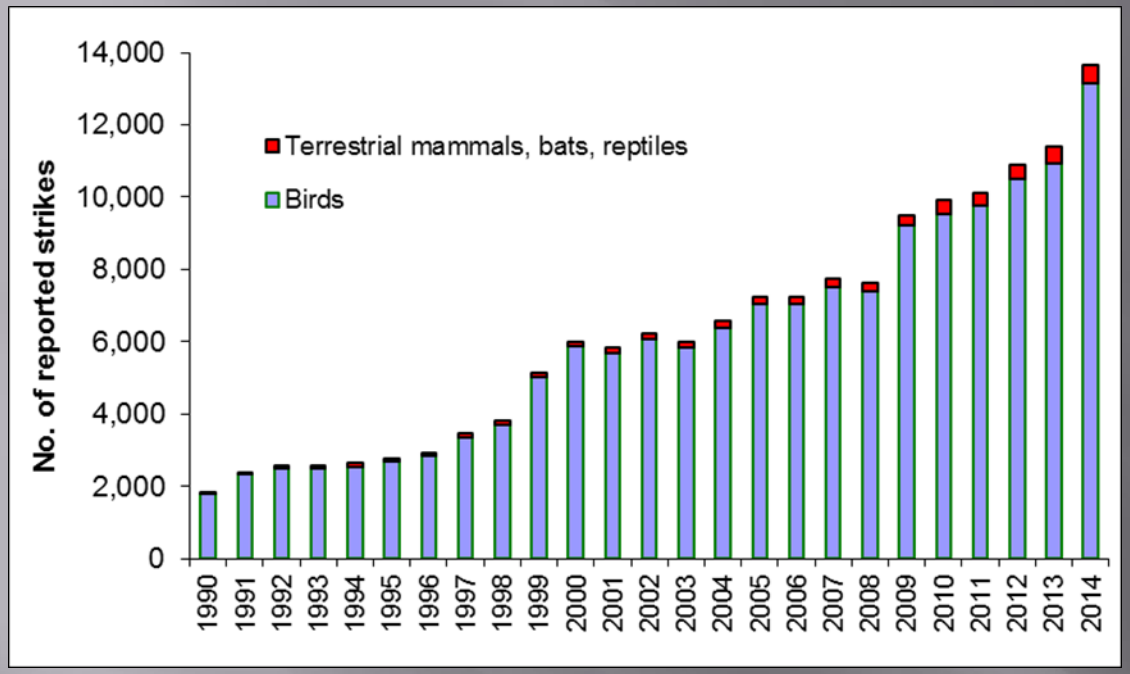
Wildlife / Aircraft Strikes

- from the ground up -

0-3,500 ft AGL = 92% of strikes

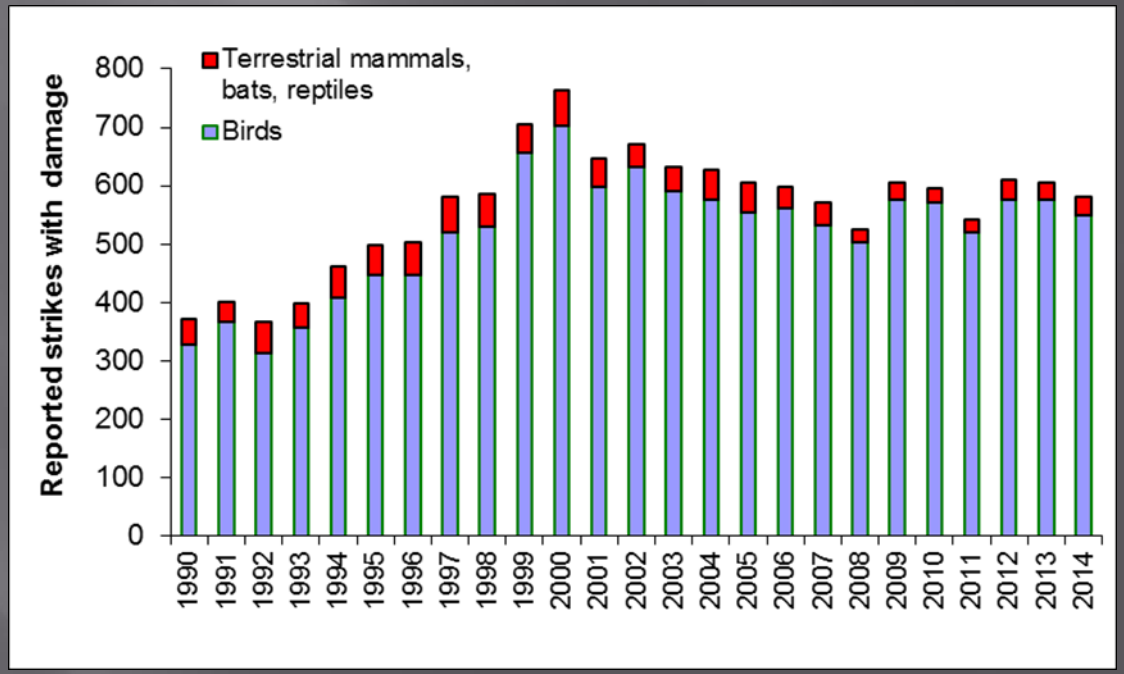
0-500 ft AGL = 72% of strikes

0 ft AGL = 41% of strikes



Strikes Reported to Civil Aircraft, USA: 1990 - 2014

Damaging Strikes to Civil Aircraft, USA: 1990 - 2014



Outreach

Strike Posters

2011, 2012, 2014

12,000 posters each year

- Airports
- Flight Schools
- Airlines
- Pilots Association
- Engine Manufacturers
- Aviation Industry

QR Code

Federal Aviation Administration

Outreach

FAA Safety Video Series: Wildlife Hazard Management and Strike Reporting 2015

"Sandy Wright / Richard Dolbeer Excellence in Strike Reporting" Award 2014

Federal Aviation Administration

MOU's & MOA's

Partnerships / Expertise Recognition

MOA - Between the FAA, the U.S. Air Force, U.S. Army, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture to Address Aircraft-Wildlife Strikes

MOU - Between the FAA and the USDA/ Animal and Plant Health Inspection Service/ Wildlife Services

MOU - Between the FAA and the Department of the Interior United States Fish and Wildlife Service Regarding Implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds"

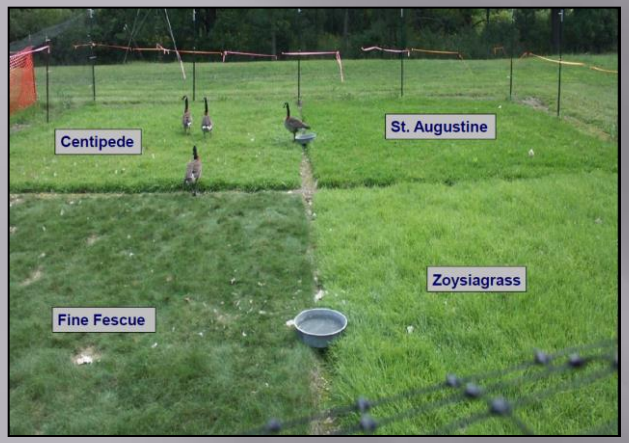
MOU - Between the FAA and the Bird Strike Committee USA

MOU - Between the FAA and the National Association of State Aviation Officials - 2010 Initiative Wildlife Hazards Attachment to existing MOU

Bird Strike Committee USA

An MOU between the FAA and the BSC-USA was signed May 2012 to formalize this cooperative relationship.

RESEARCH


Centipede
St. Augustine
Zoysiagrass
Fine Fescue

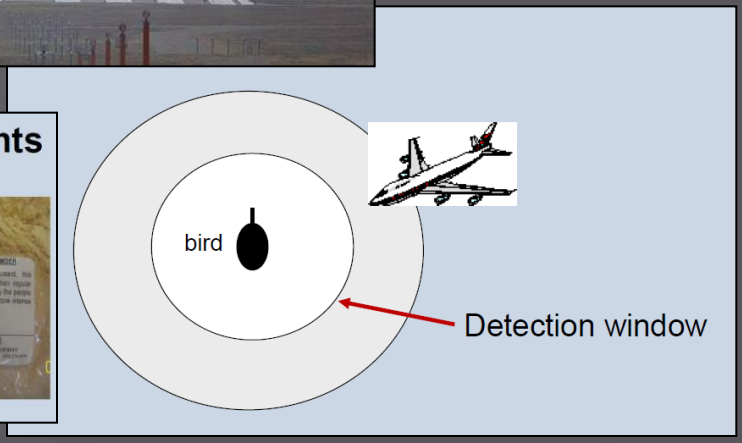

PHAROVISION


Avian Radar


Alternative land uses at airports


© AP


Physical irritants
Chemical repellants
BLACK BEAUTY
SLAG PRODUCTS
BEST SAND
OHIO
Organic Traditions
Rock Phosphate
ORIENTAL MUSTARD POWDER
THE SPICE HOUSE


bird
Detection window

Federal Aviation
Administration


Questions?