National Wildlife Strike Databases

Reporting, Summary and Evaluation

ICAO Wildlife Hazard Management Seminar

Singapore Aviation Academy

May 14 - 16, 2014

John R Weller

Federal Aviation Administration

Reporting Wildlife Strikes

WHY should I report? **Saves lives and $$$.**

***** You cannot Effectively manage what you have not Sufficiently measured.**

HOW should I report…?

Establishment of
National Wildlife Strike Databases

- Civil Aviation Authority will determine voluntary / mandatory reporting system
- Develop / maintain strike database, analyze and summarize data
- Reporting options – electronic / paper
- Identification assistance – museum, university, wildlife / environmental agency or private sector
- Determine gaps & target gaps – locally and nationally

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

National Wildlife Strike Database Management

FAA contracts USDA

Dr. Richard Dolbeer

Sandy Wright & Phyllis Miller

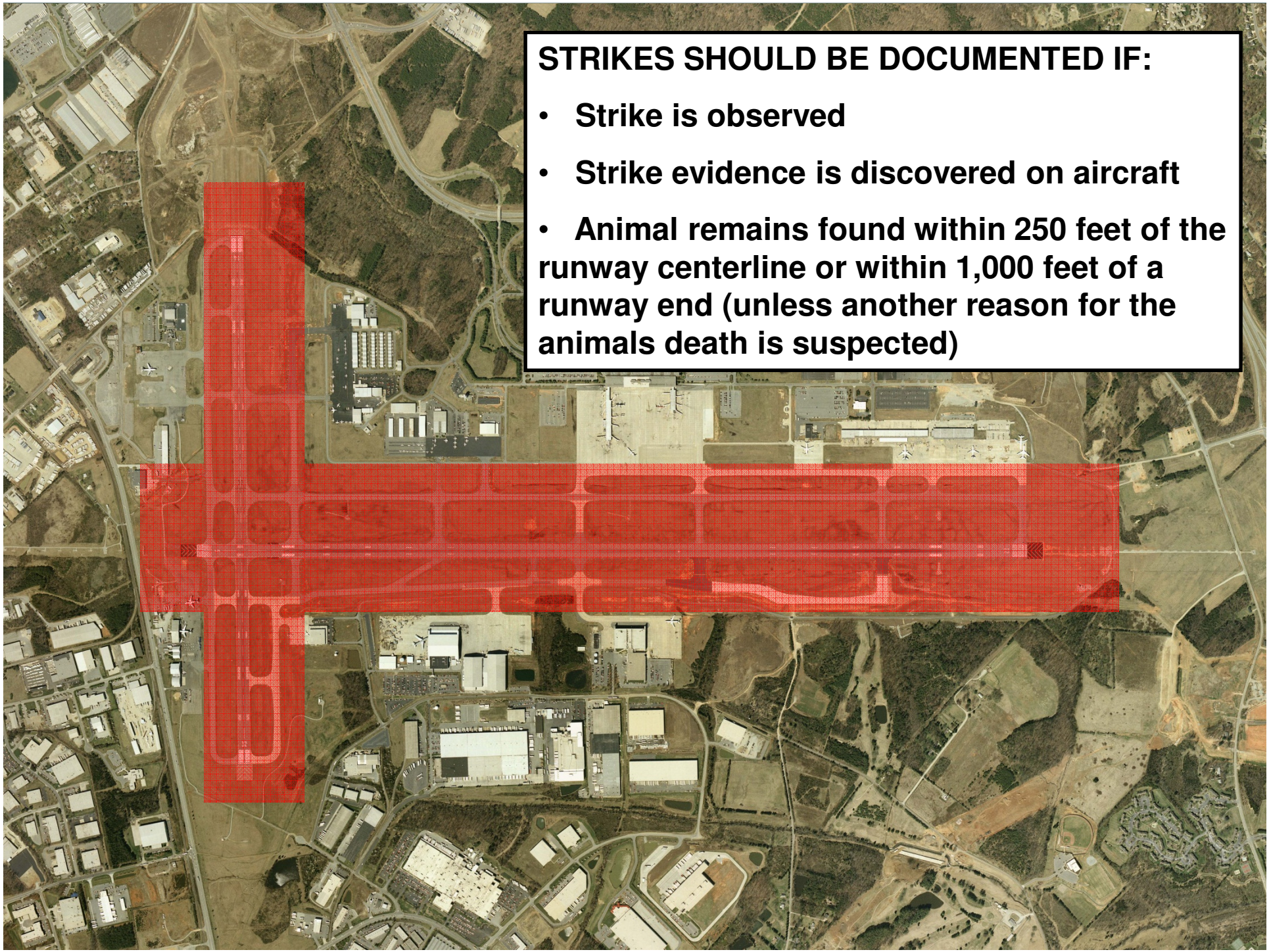
Strike remains / feather identification

FAA contracts Smithsonian Institution

Strike Reporting – Voluntary vs Mandatory

- You <u>want</u> Quality and Quantity
- You <u>need</u> 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
- You will <u>need</u> to systematically evaluate usefulness of data collection

Desired outcome is similar for an Airport or CAA



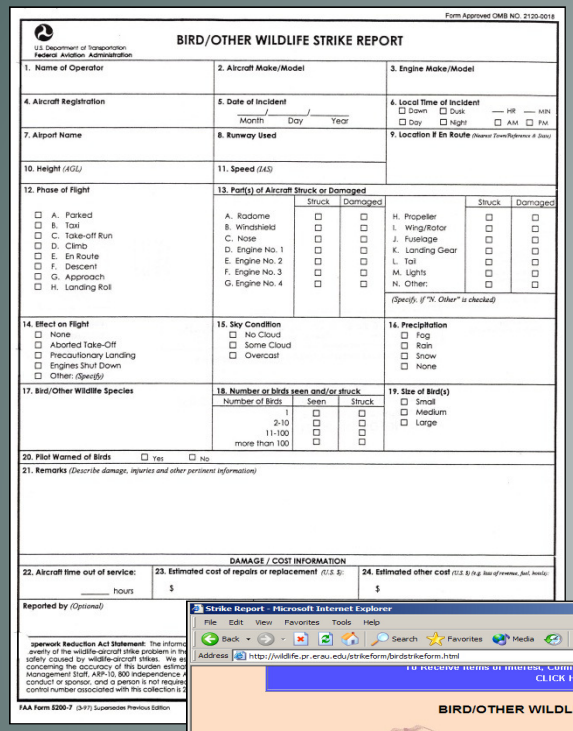
STRIKES SHOULD BE DOCUMENTED IF:

- **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)**

Source of Information for Reported Strikes 1990 - 2012

Source	1990–2012 Total	1990–2012 % of total	2012 only Total	2012 only % of total
FAA Form 5200-7E[1] (Electronic)	53,335	41	9,245	86
FAA Form 5200-7[1] (Paper)	41,526	32	453	4
Airline report	14,444	11	252	2
Multiple[2]	10,314	8	471	4
Airport report	5,969	5	133	1
Other[3]	1,739	1	54	1
Daily Report (FAA)	886	1	114	1
Preliminary Aircraft Incident Report	983	1	0	0
Engine manufacturer	822	1	0	0
Aircraft Incident Report	711	1	0	0
Aviation Safety Reporting System	197	<1	0	0
National Transportation Safety Board	81	<1	1	0
Aircraft Incident Preliminary Notice	67	<1	1	<1
Transport Canada	22	<1	2	<1
Total	131,096	100	10,726	100

Wildlife Strike Reporting to the FAA


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 ___ MIN ☐ 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	☐	☐

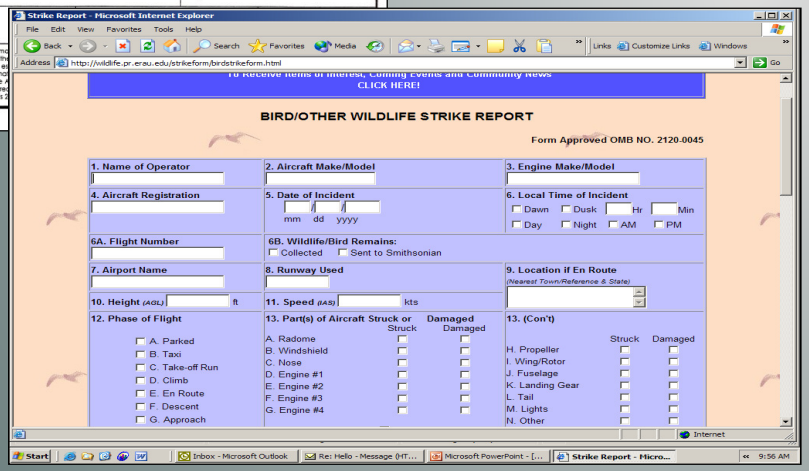
19. Size of Bird(s)
☐ Small
☐ Medium
☐ Large
20. Pilot Warned of Birds ☐ Yes ☐ No
21. Remarks (Describe damage, injuries and other pertinent information)

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, hostels): $

Reported by (Optional)

Paperwork Reduction Act Statement: The informa... averity of the wildlife-aircraft strike problem in the... safety caused by wildlife-aircraft strikes. We es... concerning the accuracy of this burden estimat... Management Staff, ARP-10, 800 Independence A... conduct or sponsor, and a person is not require... control number associated with this collection is 2...

FAA Form 8200-7 (5-97) Supersedes Previous Edition


Strike Report - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://wildlife.pr.erau.edu/strikeform/birdstrikeform.html

To Receive Items of Interest, Coming Events and Community News CLICK HERE!

BIRD/OTHER WILDLIFE STRIKE REPORT

Form Approved OMB NO. 2120-0045

1. Name of Operator
2. Aircraft Make/Model
3. Engine Make/Model
4. Aircraft Registration
5. Date of Incident mm dd yyyy
6. Local Time of Incident ☐ Dawn ☐ Dusk Hr Min ☐ Day ☐ Night ☐ AM ☐ PM
6A. Flight Number
6B. Wildlife/Bird Remains: ☐ Collected ☐ Sent to Smithsonian
7. Airport Name
8. Runway Used
9. Location if En Route (Nearest Town/Reference & State)
10. Height (AGL) ft
11. Speed (IAS) kts
12. Phase of Flight
☐ A. Parked
☐ B. Taxi
☐ C. Take-off Run
☐ D. Climb
☐ E. En Route
☐ F. Descent
☐ G. Approach
13. Part(s) of Aircraft Struck or Damaged

	Struck	Damaged
A. Radome	☐	☐
B. Windshield	☐	☐
C. Nose	☐	☐
D. Engine #1	☐	☐
E. Engine #2	☐	☐
F. Engine #3	☐	☐
G. Engine #4	☐	☐

13. (Con't)

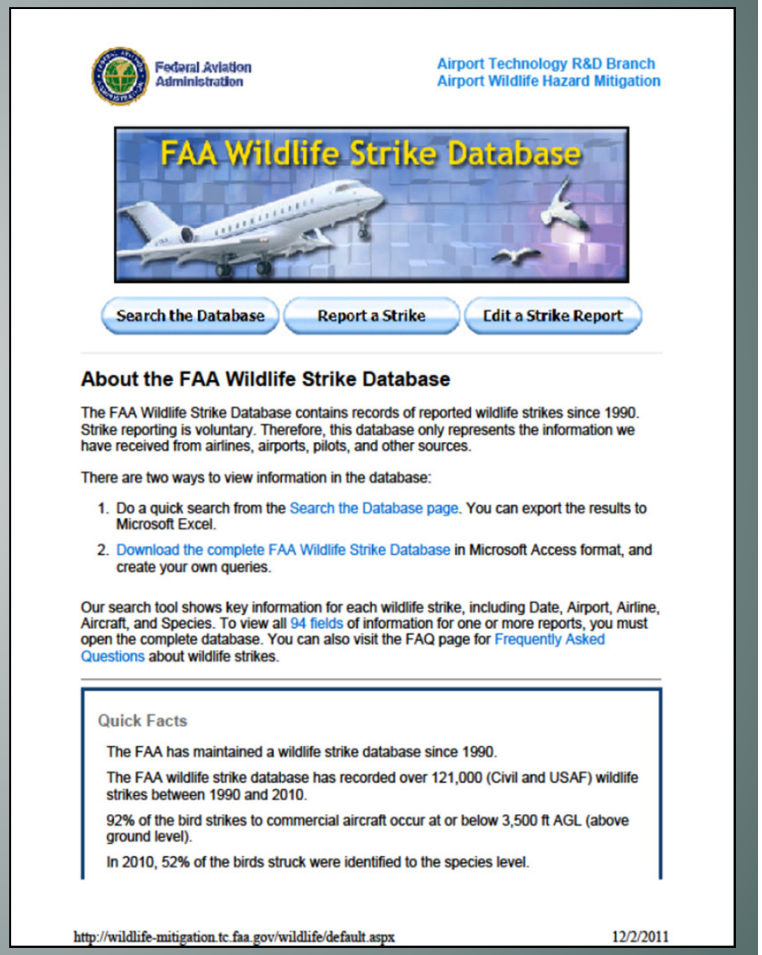
	Struck	Damaged
H. Propeller	☐	☐
I. Wing/Rotor	☐	☐
J. Fuselage	☐	☐
K. Landing Gear	☐	☐
L. Tail	☐	☐
M. Lights	☐	☐
N. Other	☐	☐

Internet

Start | Inbox - Microsoft Outlook | Re: Hello - Message (HT... | Microsoft PowerPoint - [... | Strike Report - Micro... | 9:56 AM

Paper or Electronic Report Forms

http://wildlife.faa.gov


Federal Aviation Administration

Airport Technology R&D Branch
Airport Wildlife Hazard Mitigation

FAA Wildlife Strike Database

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.

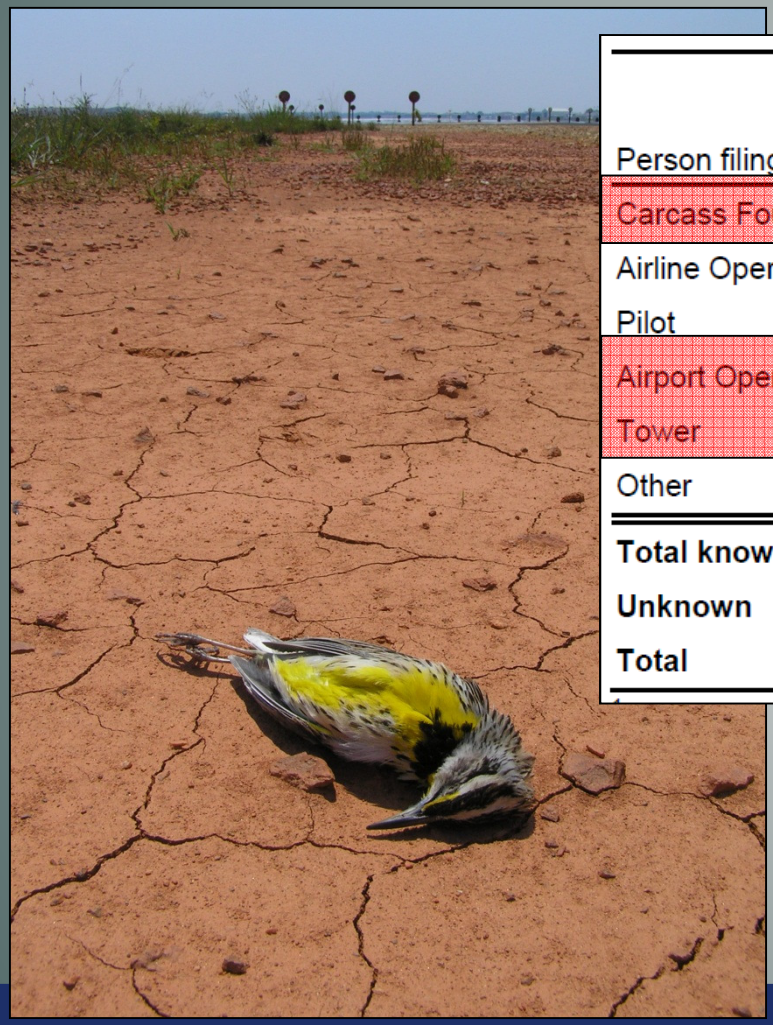
http://wildlife-mitigation.tc.faa.gov/wildlife/default.aspx 12/2/2011

Electronic Reporting Options

QR Code

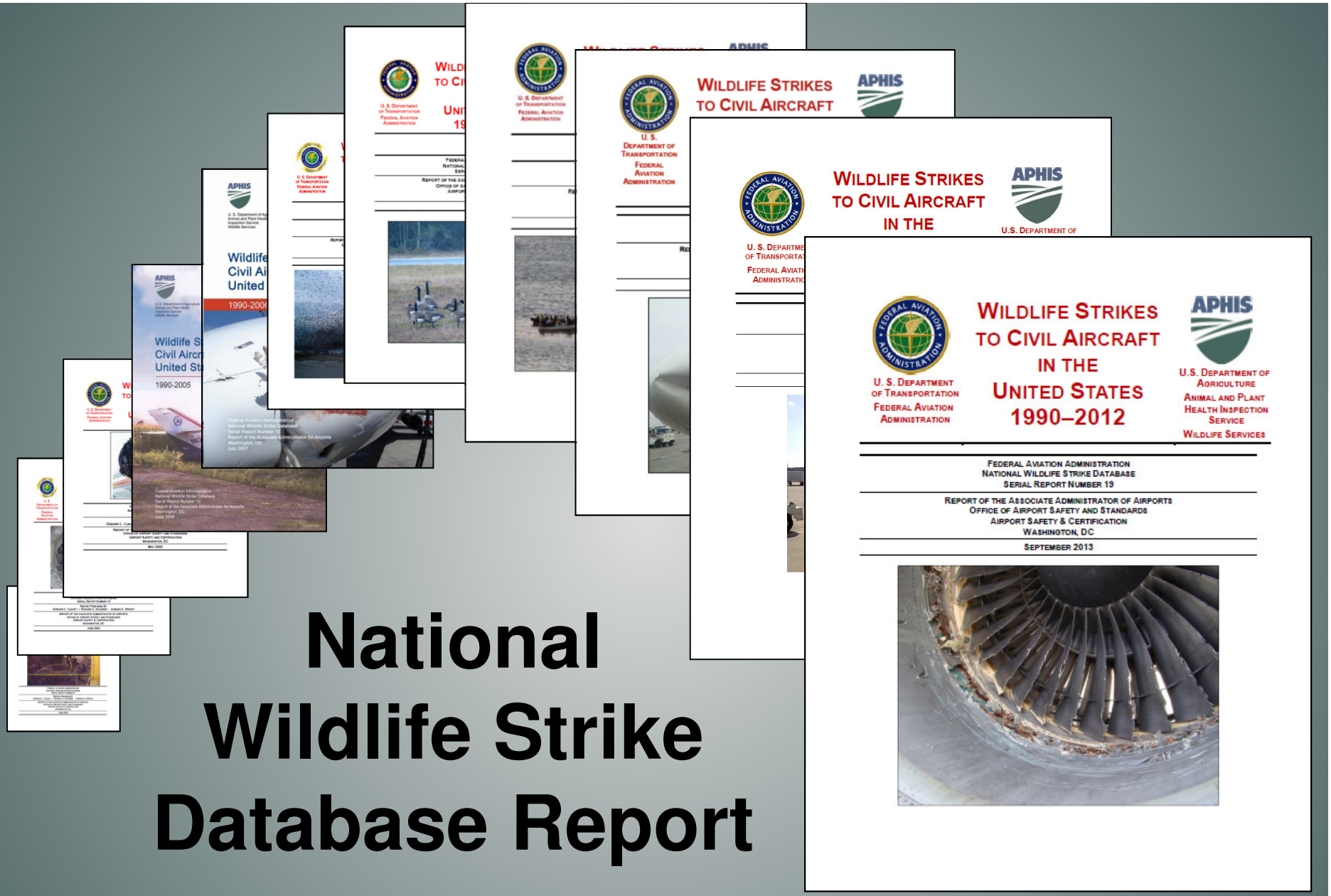
"Quick Response"

Who Reports Strikes?



Person filing report	1990–2012 Total	1990–2012 % of total	2012 only Total	2012 only % of total
Carcass Found	26,733	24	3,381	33
Airline Operations	26,458	24	1,103	11
Pilot	25,651	23	2,289	23
Airport Operations	17,830	16	2,718	27
Tower	11,215	10	425	4
Other	2,865	3	203	2
Total known	**110,752**	**100**	**10,119**	**100**
Unknown	**20,344**		**607**	
Total	**131,096**		**10,726**	

Federal Aviation Administration



National Wildlife Strike Database Report

Federal Aviation Administration

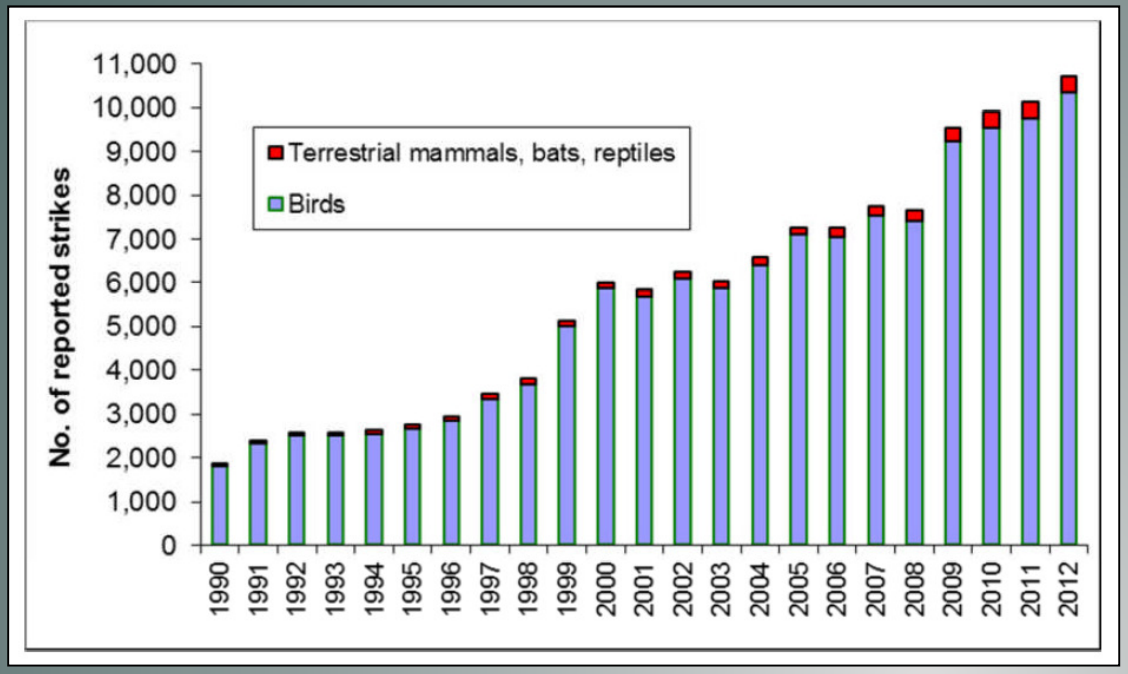
Wildlife / Aircraft Strikes

- from the ground up -

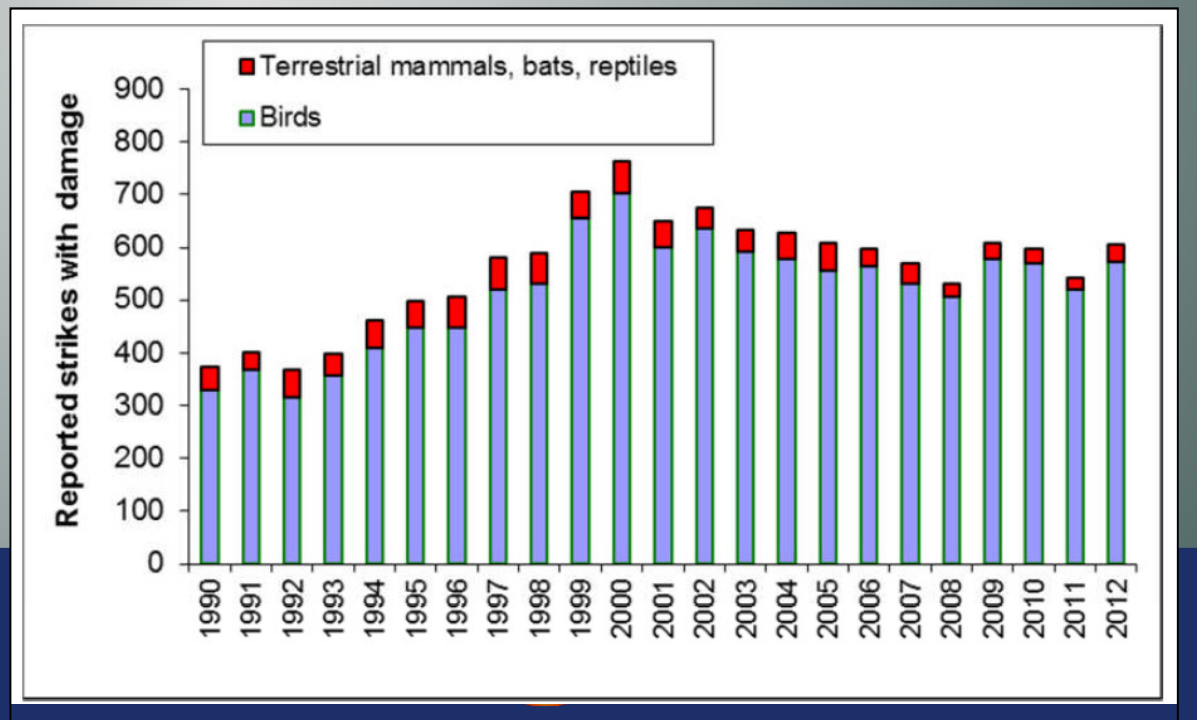
0-3,500 ft AGL = 92% of strikes

0-500 ft AGL = 72% of strikes

0 ft AGL = 41% of strikes



Strikes Reported to Civil Aircraft, USA: 1990 - 2012



Damaging Strikes to Civil Aircraft, USA: 1990 - 2012

Time of occurrence of wildlife strikes to civil aircraft, USA: 1990 - 2012

	Birds		Terrestrial mammals	
Time of day	23-year total	% of total known	23-year total	% of total known
Dawn	3,038	4	51	3
Day	51,403	62	425	25
Dusk	3,805	5	142	8
Night	24,019	29	1,066	63
Total known	**82,265**	**100**	**1,684**	**100**
Unknown[2]	**44,947**		**1,262**	
Total	**127,212**		**2,946**	

Majority of wildlife strikes occur in airport environment

Federal Aviation Administration

Don't Wait for Reality to Smack You in the Face

- Systematically evaluate strike data every few years
- Determine data gaps
- Target data gaps – locally and nationally through outreach or regulatory guidance

Outreach

Strike Posters

2011, 2012 & 2014

12,000 posters each year

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

Questions?