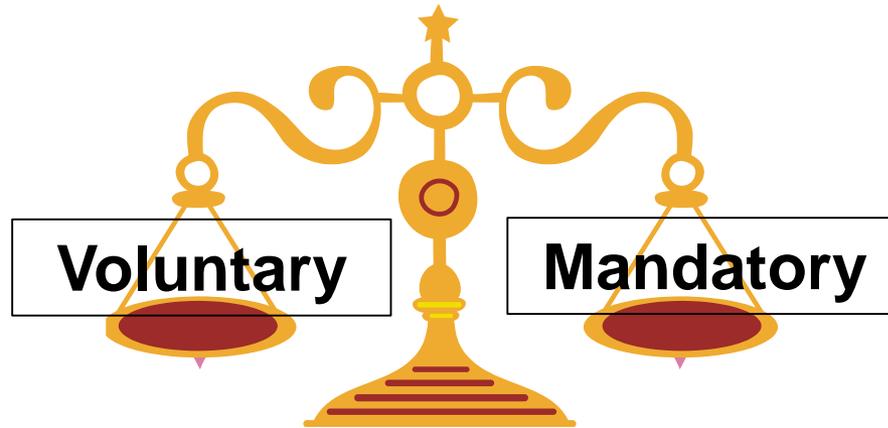


Mandatory vs voluntary reporting: contribution of Mandatory Occurrence Reports to the National Wildlife Strike Database



Richard A. Dolbeer & Phyllis R. Miller
Sandusky, Ohio

Bird Strike Committee-USA, 22-24 Aug 2017, Dallas

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U.S. Federal Aviation Administration

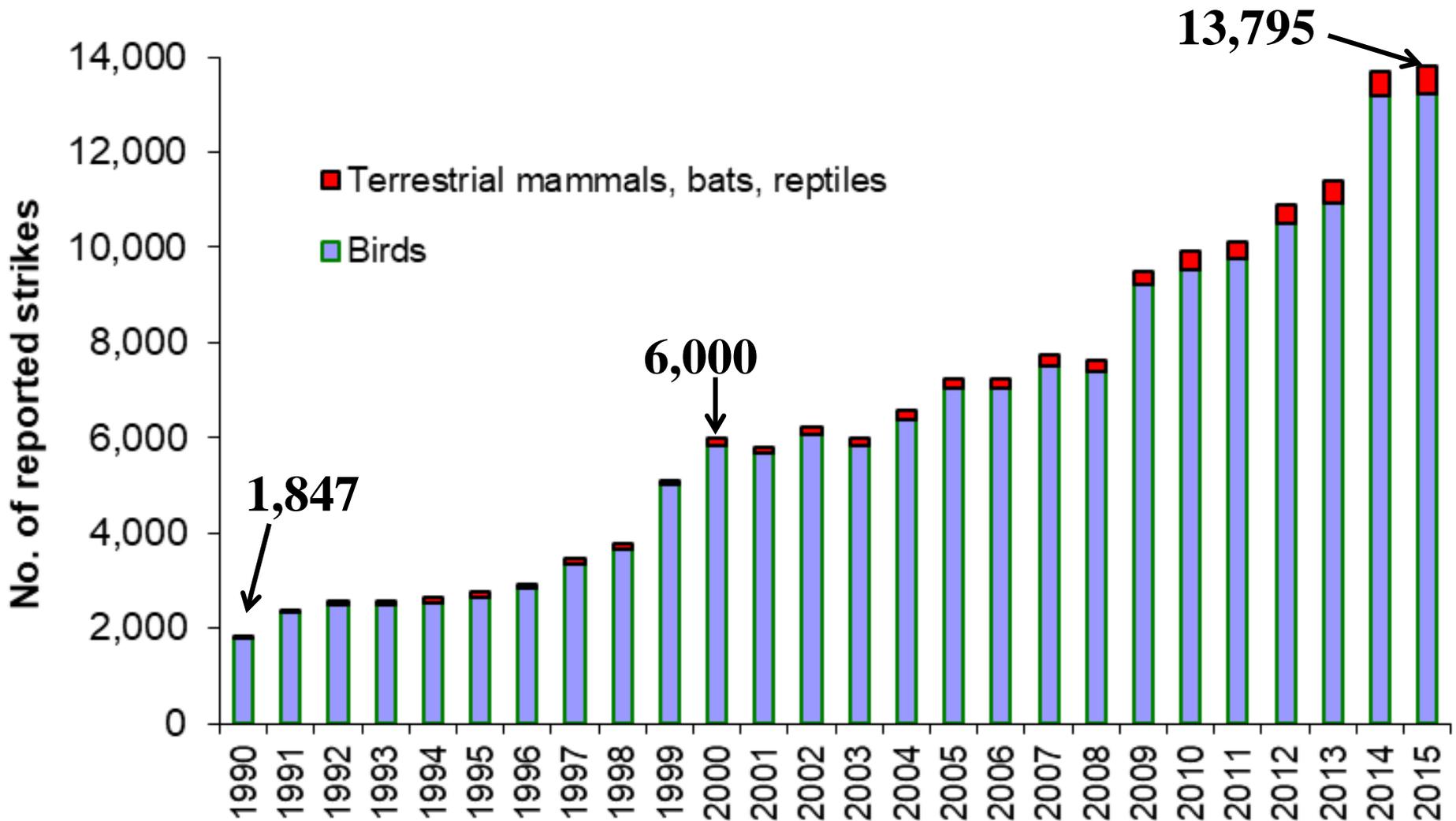
U.S. Department of Agriculture, Wildlife Services

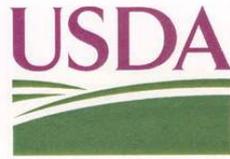


Findings and recommendations do not necessarily represent the position of the Federal Aviation Administration

FAA National Wildlife Strike Database

Total strikes reported by year, 1990-2015





Wildlife Hazard Management at Airports

A Manual for Airport Personnel



Prepared by

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Second Edition, July 2005

First edition published
in Dec 1999 and
distributed in 2000 to:

- 1) all Part 139 airports,
- 2) all FAA Airport Certification Inspectors,
- 3) USDA and private-sector biologists



**BSC-USA at Sun-n-Fun Fly-in, Lakeland, FL
April 2017**



**WILDLIFE STRIKES
TO CIVIL AIRCRAFT
IN THE
UNITED STATES
1990-2012**

U.S. DEPARTMENT
OF TRANSPORTATION
FEDERAL AVIATION
ADMINISTRATION



U.S. DEPARTMENT OF
AGRICULTURE
ANIMAL AND PLANT
HEALTH INSPECTION
SERVICE
WILDLIFE SERVICES

FEDERAL AVIATION ADMINISTRATION
NATIONAL WILDLIFE STRIKE DATABASE
SERIAL REPORT NUMBER 19

REPORT OF THE ASSOCIATE ADMINISTRATOR OF AIRPORTS
OFFICE OF AIRPORT SAFETY AND STANDARDS
AIRPORT SAFETY & CERTIFICATION
WASHINGTON, DC

SEPTEMBER 2013



**WILDLIFE STRIKES
TO CIVIL AIRCRAFT
IN THE
UNITED STATES
1990-2014**

U. S. DEPARTMENT
OF TRANSPORTATION
FEDERAL AVIATION
ADMINISTRATION



U. S. DEPARTMENT OF
AGRICULTURE
ANIMAL AND PLANT
HEALTH INSPECTION
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WILDLIFE SERVICES



Federal Aviation Administration
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U. S. DEPARTMENT
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U. S. DEPARTMENT
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ANIMAL AND PLANT
HEALTH INSPECTION
SERVICE
WILDLIFE SERVICES

**Wildlife Strikes
to Civil Aircraft
in the
United States
1990-2015**



U. S. DEPARTMENT
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November 2016



**WILDLIFE STRIKES
TO CIVIL AIRCRAFT
IN THE
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1990-2013**

U. S. DEPARTMENT
OF TRANSPORTATION
FEDERAL AVIATION
ADMINISTRATION



U.S. DEPARTMENT OF
AGRICULTURE
ANIMAL AND PLANT
HEALTH INSPECTION
SERVICE
WILDLIFE SERVICES

FEDERAL AVIATION ADMINISTRATION
NATIONAL WILDLIFE STRIKE DATABASE
SERIAL REPORT NUMBER 20

REPORT OF THE ASSOCIATE ADMINISTRATOR OF AIRPORTS
OFFICE OF AIRPORT SAFETY AND STANDARDS
AIRPORT SAFETY & CERTIFICATION
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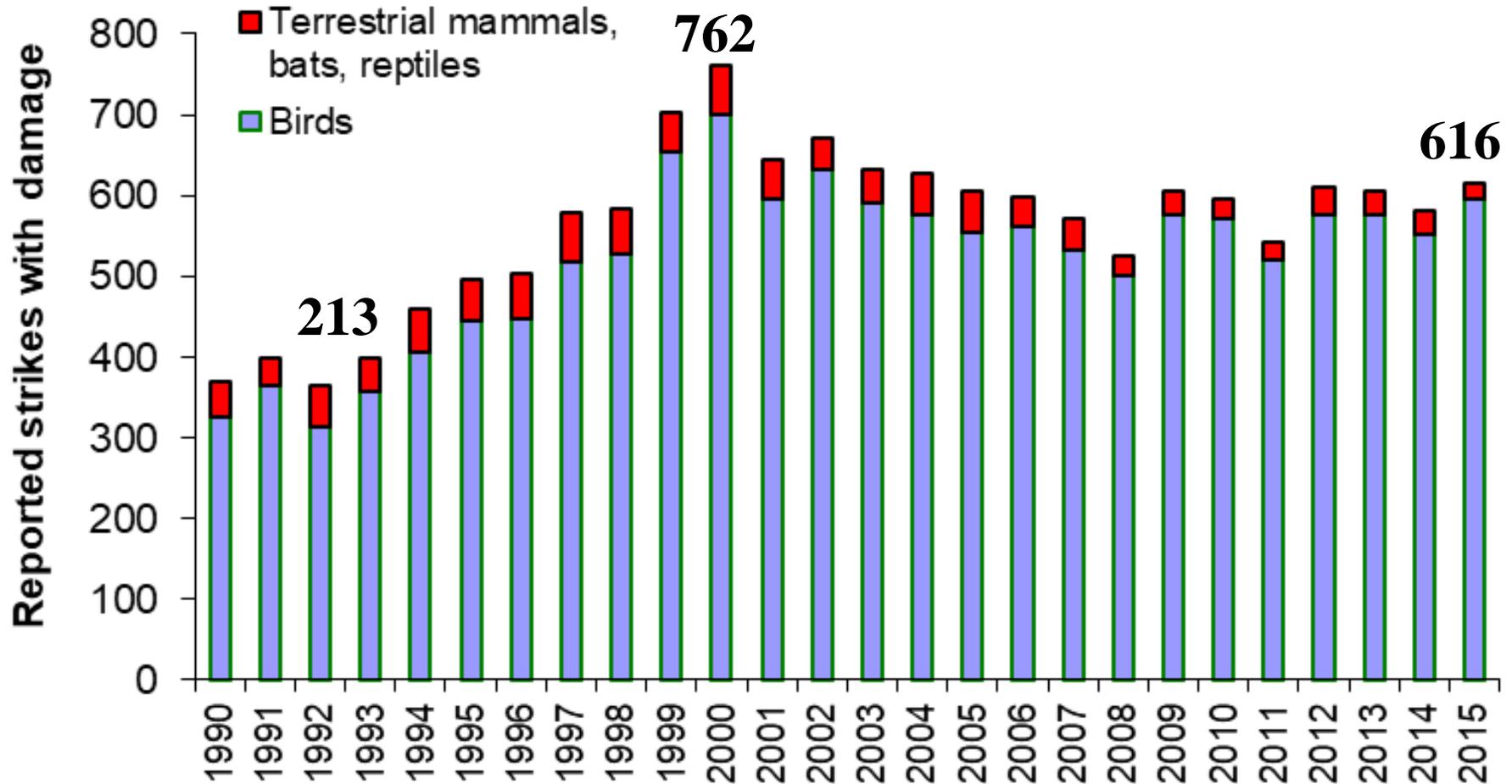
JULY 2014



08/22/2013 11:16

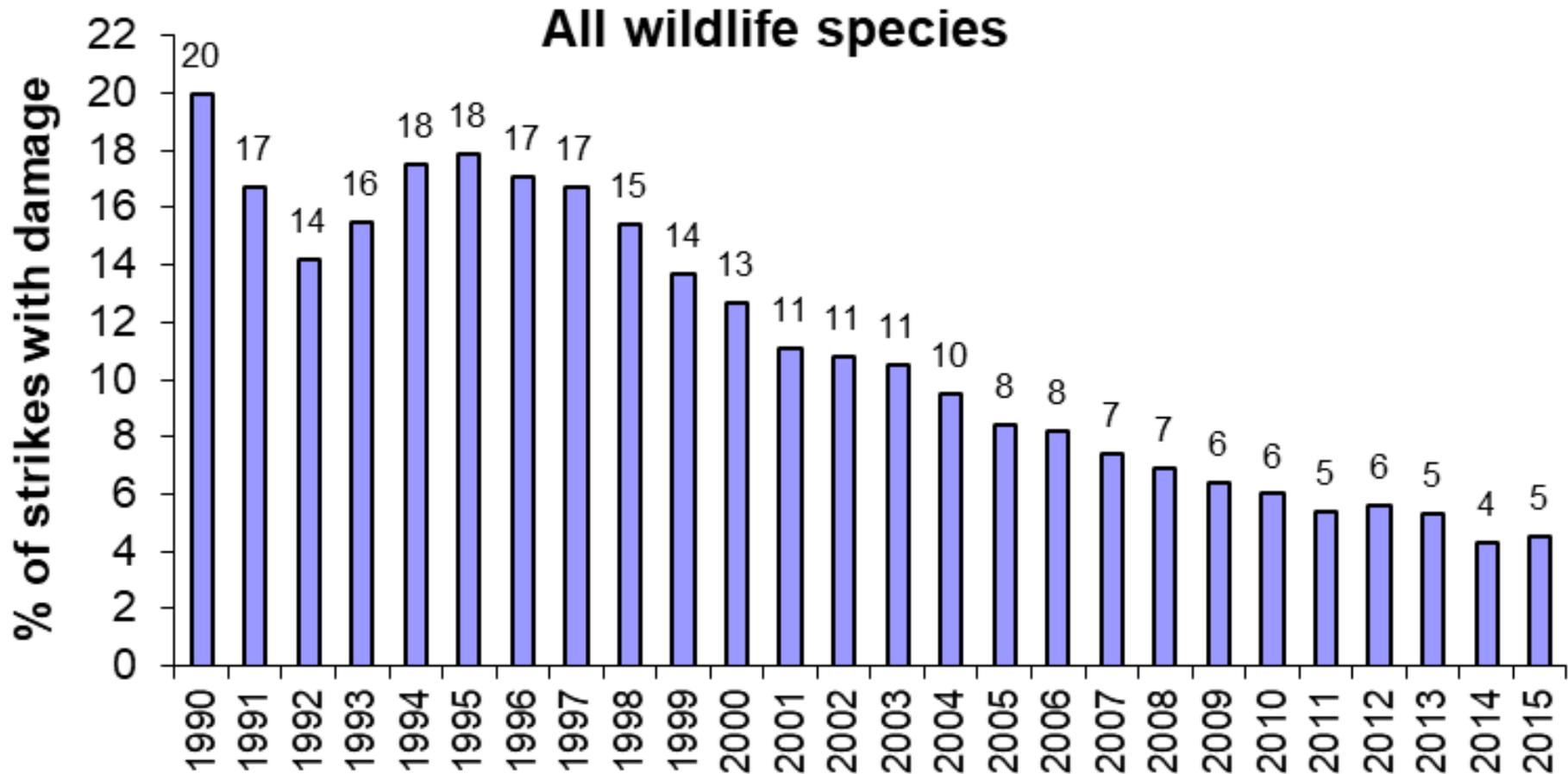
FAA National Wildlife Strike Database

Damage strikes reported by year, 1990-2015



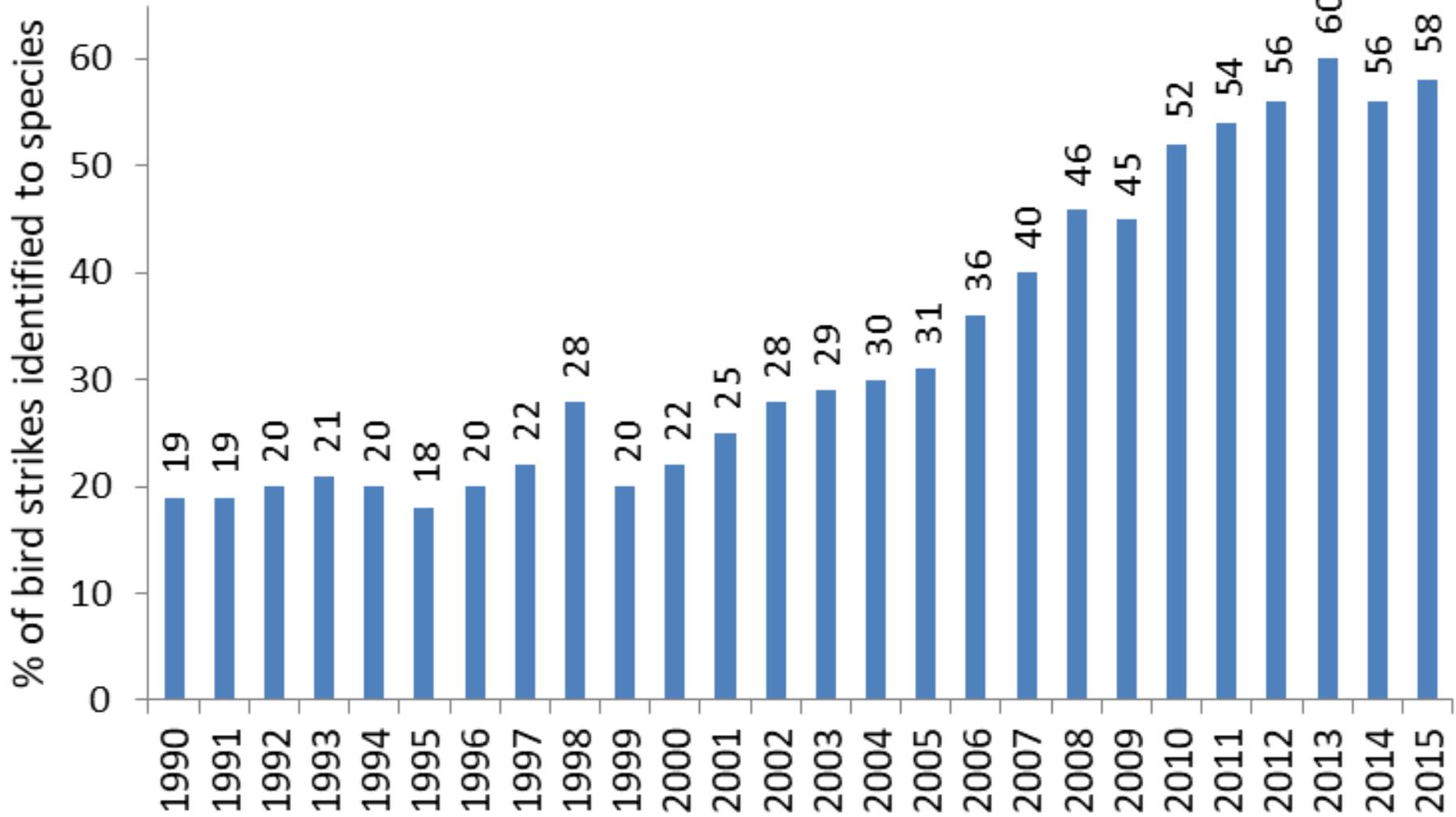
FAA National Wildlife Strike Database

% of strikes with damage by year, 1990-2015



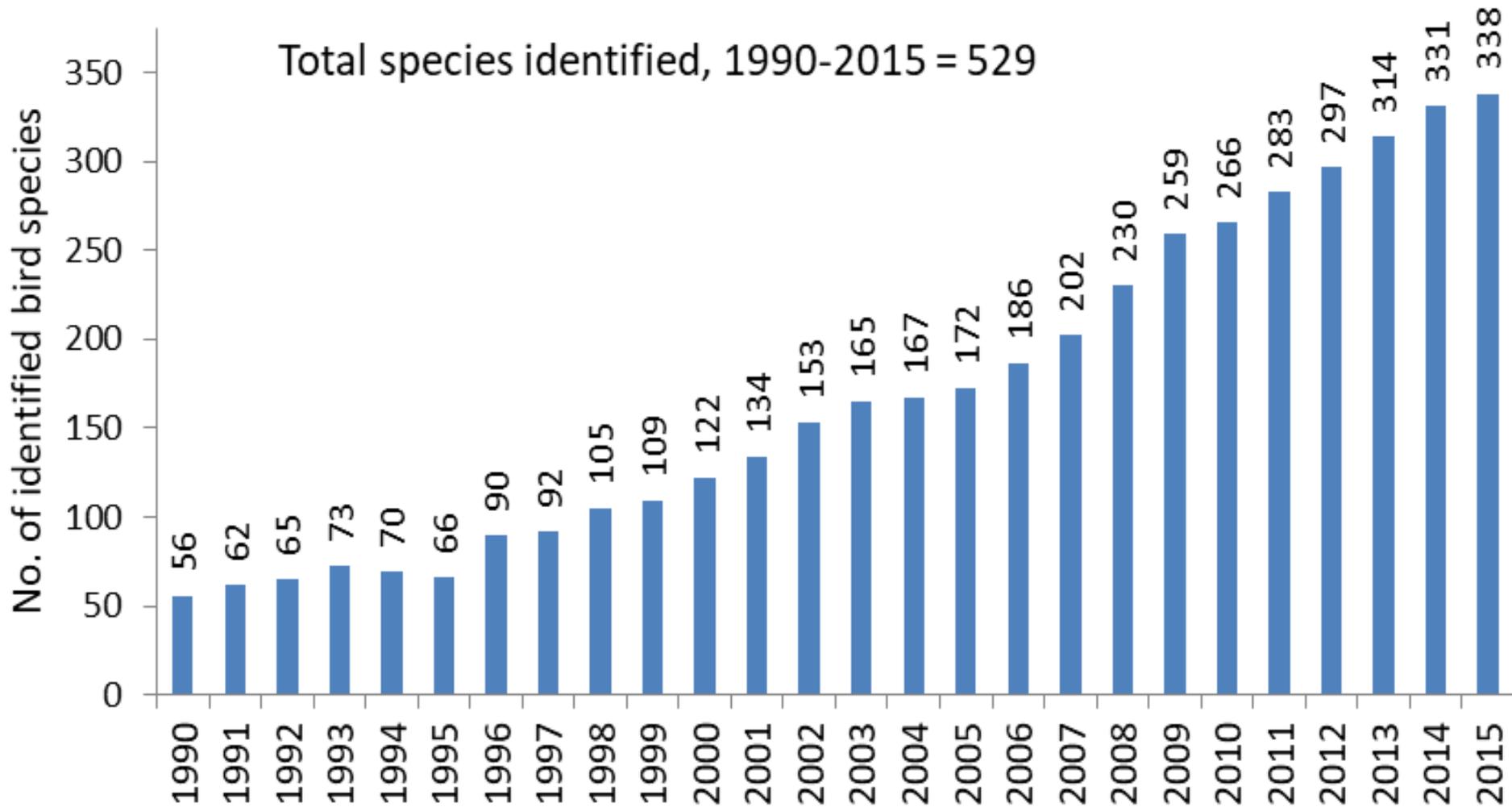
FAA National Wildlife Strike Database

Bird species identification



FAA National Wildlife Strike Database

Bird species identification



Legal requirements for wildlife strike reporting, civil aviation in the USA

Aviation sector	FAA division	Strike reporting	Report form	Comments
Pilots	Aviation Safety, FS	Voluntary	5200-7	Company policies vary
Air carriers	Aviation Safety, FS	Voluntary	5200-7	Company policies vary
Airports	Airports	Voluntary*	5200-7	*AC 150/5200-32b (2013)
ATC	Air Traffic Organization	Mandatory	MOR	FAA Order JO 7210.632 (2012)

FAA Airports Division

**AC 150/5200-32B . Reporting Wildlife Aircraft Strikes.
(May 2013):**

“The effectiveness of a Wildlife Hazard Management Plan (WHMP)requires accurate and consistent reporting. Therefore, every WHMP should include a commitment to document and report to the NWSD all wildlife strikes...”

Reporting Form = 5200-7

FAA Air Traffic Organization

FAA Order JO 7210.632: Air Traffic Organization Reporting (2012)

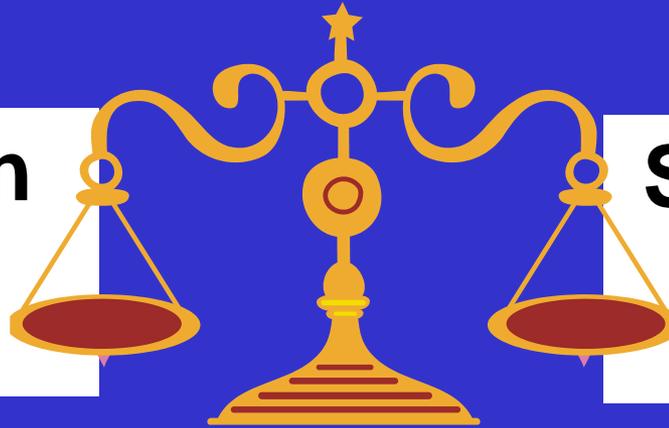
Air Traffic Control is required to report strikes under the “Mandatory Occurrence Report” (MOR) system

Reporting Form = MOR

Wildlife strike reporting in USA is a hybrid of voluntary (5200-7) and mandatory (MOR) systems

Our objective: compare strike events in MOR database with strikes submitted to NWSD

**Strikes in
MOR
(mandated)**



**Strikes in
NWSD
(voluntary)**

Results: a measure of known strike events that are not being reported voluntarily to the NWSD

Conclusions: science-based recommendations to FAA to improve strike reporting.

Methods of analysis

Time frame: January-May 2016

Data: All strikes reported voluntarily to NWSD (5200-7)
All strikes reported mandatorily by ATO (MOR)

Analyses:

- 1) MORs already in NWSD, no new information
- 2) MORs already in NWSD, new information
- 3) MORs not in NWSD
 - a) Non-damage strikes
 - b) **Damage strikes**

Composition of 1,389 Mandatory Occurrence Reports

Composition of MORs	Number	% of total
Military aircraft	57	4
Duplicate	24	2
Not a strike	107	8
Valid strike with civil a/c	1,181	86
Total MORs	1,369	100

Strikes reported to NWSD = 3,551

Mandatory Occurrence Reports reported and not reported to NWSD

Status of MORs vs NWSD	Number	% of total
MOR strikes reported independently to NWSD	920	78
MOR strikes not reported to NWSD (new strikes)	261	22
Total valid MORs	1,181	100

New information in the 920 Mandatory Occurrence Reports that were reported independently to NWSA

Data field	Number	%	Comments
Actual time	158	17.2	
Time of day	38	4.1	
Flight number	28	3.0	
Name of air carrier	19	2.1	
Phase of flight	14	1.5	
Effect on flight	13	1.4	12 had no effect
Damage	12	1.3	All had no damage
Height AGL	10	1.1	
Other fields	9	0.9	
MORs with new info	162	17.6	
Total MORs reported to NWSA	920	100	

Contribution of Mandatory Occurrence Reports to NWSD

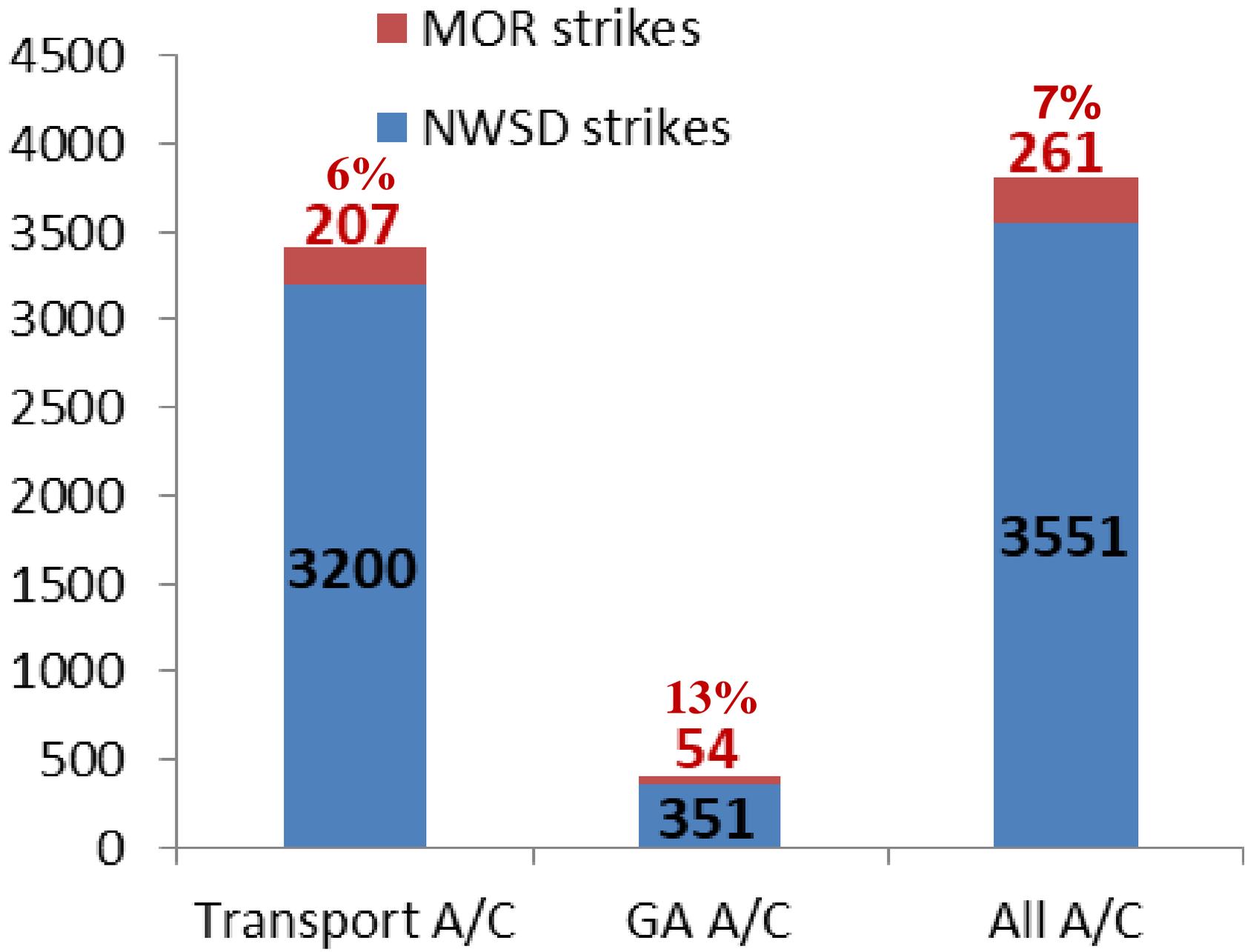
Source of strike reports	Number	% of total
Strikes in NWSD	3,551*	93
MOR strikes not in NWSD (new strikes)	261	7
Total strikes (NWSD + MOR)	3,812	100

*** Includes the 920 MORs already in NWSD**

Contribution of Mandatory Occurrence Reports to NWSD

Source of strike reports	Type of aircraft		
	Transport	GA	Total
Strikes in NWSD	3,200 (94%)	351 (87%)	3,551 (93%)*
MOR strikes not in NWSD (new strikes)	207 (6%)	54 (13%)	261 (7%)
Total strikes (NWSD + MOR)	3,407 (100%)	405 (100%)	3,812 (100%)

*** Includes the 920 MORs already in NWSD**



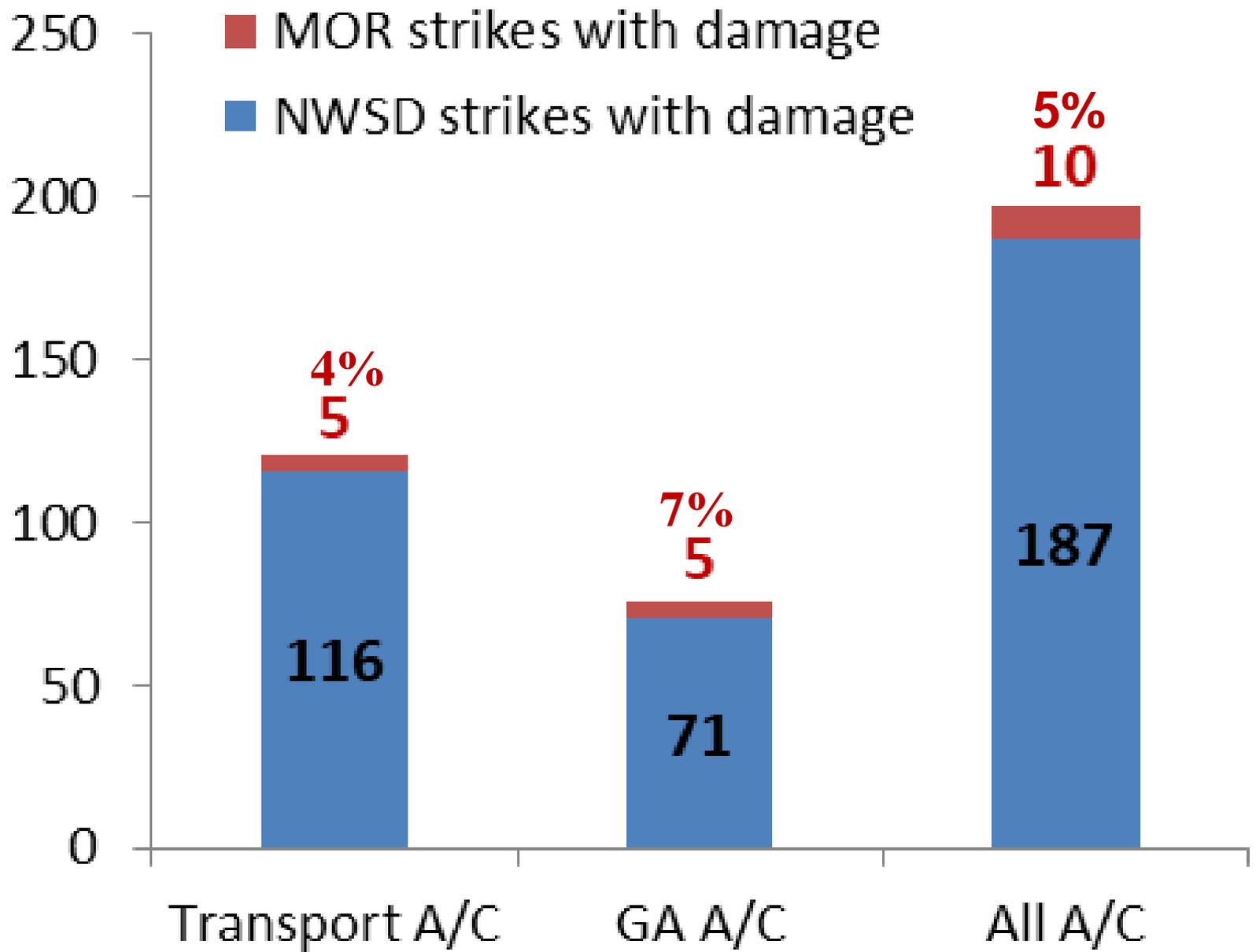
Contribution of Mandatory Occurrence Reports with damage to NWSD

Source of strike reports	No. of damage strikes	% of total
Damage strikes in NWSD	187*	95
MOR damage strikes not in NWSD (new damage strikes)	10	5
Total strikes (NWSD + MOR)	197	100

*** Includes 0 MORs indicating
damage already in NWSD**

Contribution of Mandatory Occurrence Reports with damage to NWSD: Transport vs GA aircraft

Source of damage strikes	Transport aircraft	GA aircraft	Total aircraft
Damage strikes in NWSD	116 (96%)	71 (93%)	187 (95%)
MOR damage strikes not in NWSD (new damage strikes)	5 (4%)	5 (7%)	10 (5%)
Total damage strikes (NWSD + MOR)	121 (100%)	76 (100%)	197 (100%)



Conclusions

- 1. 22% (261) of 1,181 MORs were new strikes that had not been reported to NWSD**
- 2. These new MOR strikes added 7% more strikes to NWSD (6% for transport a/c; 13% for GA a/c).**
- 3. These new MOR strikes added 5% more damage strikes to NWSD (4% for transport a/c; 7% for GA a/c).**
- 4. About 17% of MORs added new information (mainly time of strike) for strikes already in NWSD.**



Conclusions:

- 5. Thus, MORs enhance NWSD by incorporating 7% more strikes (5% more damage strikes).**
- 6. This analysis supported previous findings that most known strikes at Part 139 airports are being voluntarily reported to the NWSD, especially for commercial aviation and especially for damage strikes.**
- 7. The FAA needs to link MORs with the NWSD for automatic entry into NWSD.**

**Air Traffic
Organization**

Aviation Safety

Flight Standards

Airports Division



Goal of database:

Provide a scientific foundation for policies and management actions to mitigate risk.

Safer Skies for all who fly

Birds *and* People!

