

Austin-Bergstrom International Airport: An Overview of Wildlife Hazard Management and Reporting



Environmental Commission Regular Meeting, November 20, 2019

Presentation by Chris Moret, AUS Wildlife Management Biologist



Austin-Bergstrom
International Airport

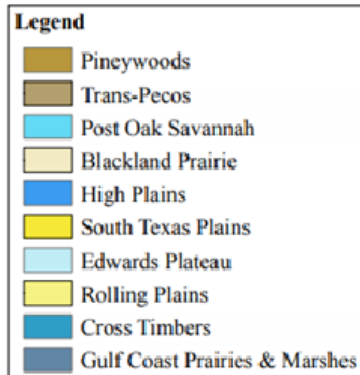
Austin-Bergstrom International Airport Wildlife Hazard Management

- I. Introduction
- II. Wildlife Hazards at Airports
- III. Wildlife Strike Reporting and Data Management
- IV. Wildlife Management Planning and Techniques

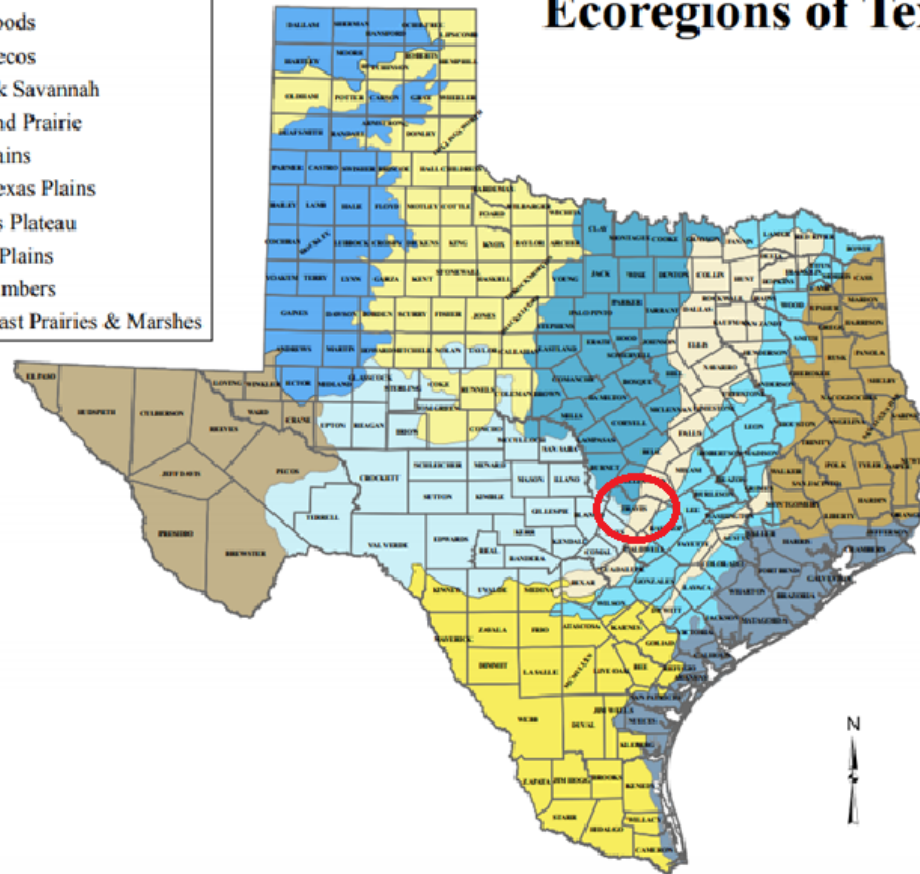


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I. Austin-Bergstrom International Airport Wildlife Management



Ecoregions of Texas



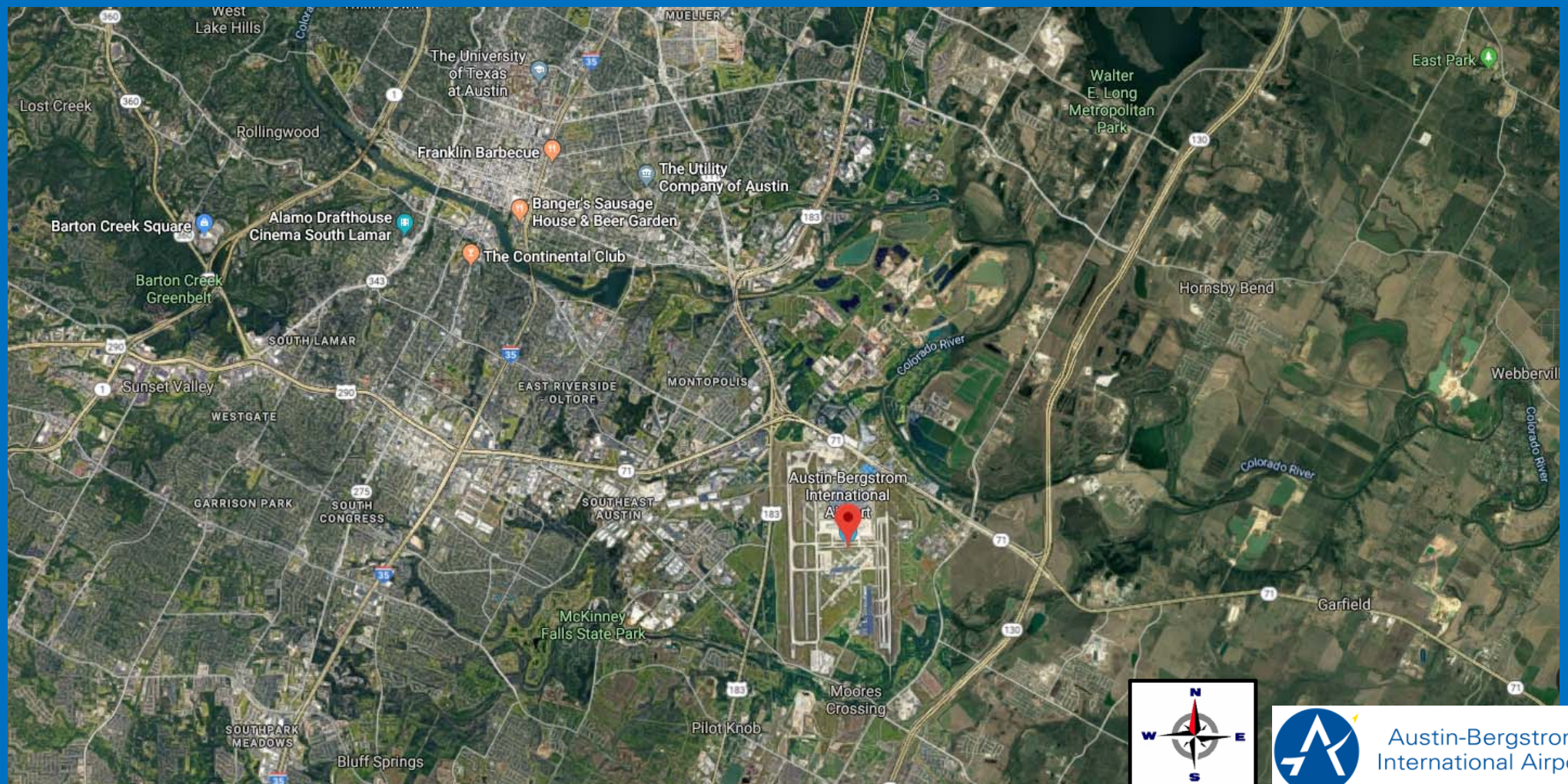
The accuracy and suitability of data to a particular use is relative and subject to error.

Map 1



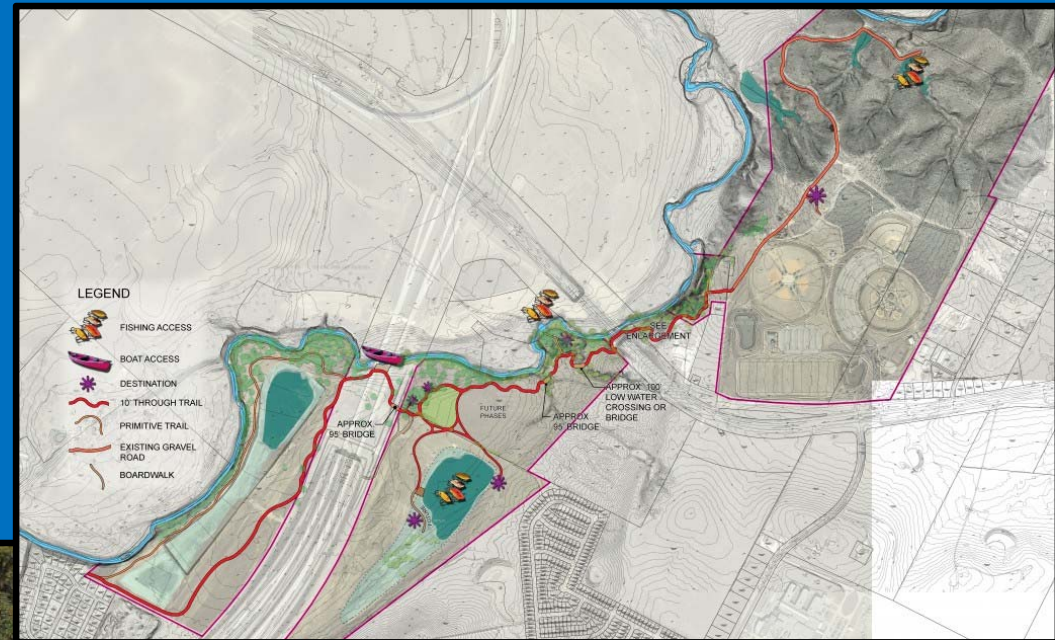
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I. Austin-Bergstrom International Airport Wildlife Management



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I. Onion Creek



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I. Colorado River

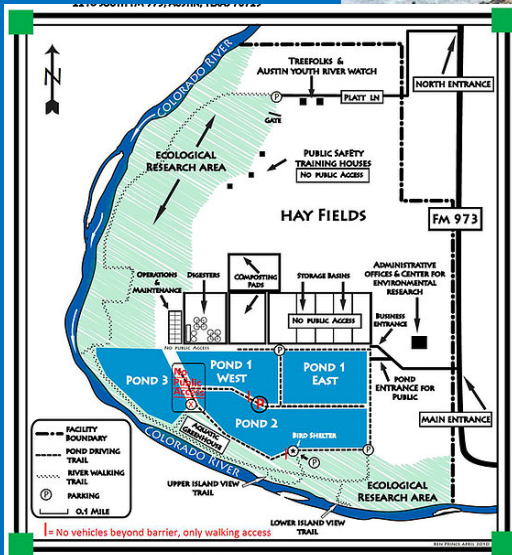


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I. Environmental Center at Hornsby Bend



**Center for
Environmental
Research at Hornsby Bend**



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II. Hazards Presented by Wildlife at Airports

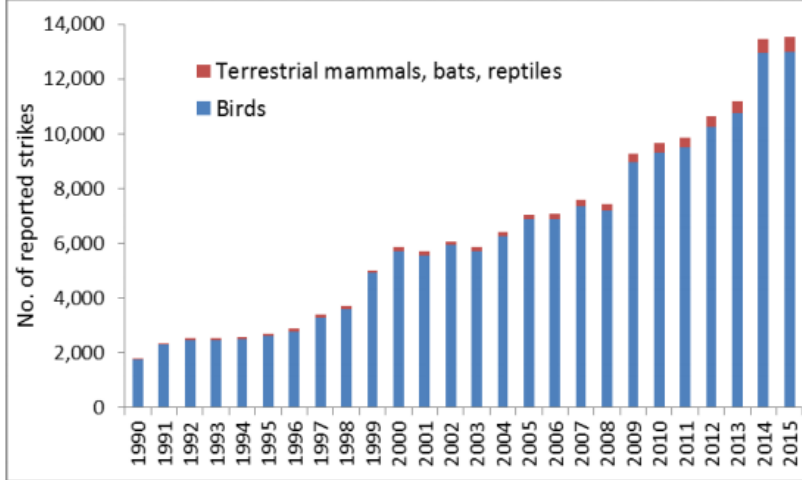
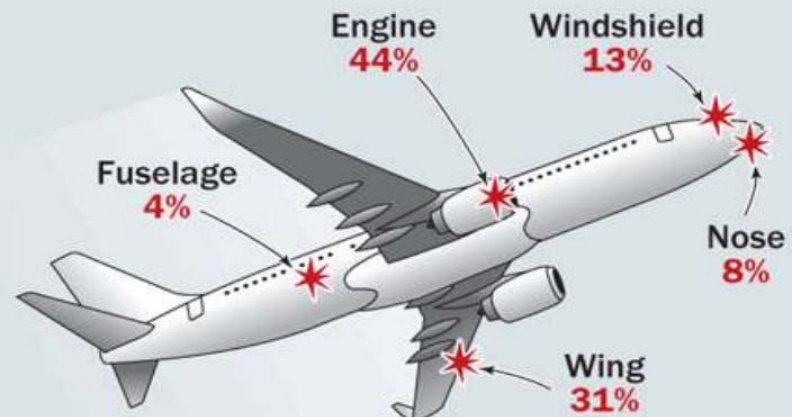


Figure 1. Number of reported wildlife strikes with civil aircraft, USA, 1990–2015. The 166,276 strikes involved birds (160,894), terrestrial mammals (3,561), bats (1,562), and reptiles (259). An additional 3,580 strikes were reported for U.S.-registered aircraft in foreign countries (see Tables 1 and 18).

LOCATION OF BIRD STRIKE DAMAGE



SOURCE: EASA

- 1990-2017, there were 194,000 wildlife strikes with civil aircraft in USA
- 1988-2017, 263 civil aircraft were destroyed or damaged beyond repair
- 1990-2017, losses could be as high as \$500 million per year
- About 53% of strikes occur from July to October



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II. Hazards Presented by Wildlife at Airports

Wildlife / Aircraft Strikes

- from the ground up -

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



0-1,500 ft AGL = 82% of strikes



0-500 ft AGL = 71% of strikes



0 ft AGL = 41% of strikes



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III. Aircraft-Wildlife Strike Reporting

What qualifies as an aircraft-wildlife strike?

Who can report aircraft-wildlife strikes? How is it done?

How is aircraft-wildlife strike data accessed, managed and utilized?



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III. Aircraft-Wildlife Strike Reporting

What is an aircraft-wildlife strike?

Wildlife strikes are when birds or other animals collide with an airplane. This may occur when the airplane is taking off, landing, or while it is in the air.

Source: U.S. Dept. Agriculture, Animal and Plant Health Inspection Service

https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/SA_Airport/CT_Wildlife_strike



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III. Aircraft-Wildlife Strike Reporting

What if the remains of a bird or bat are found on the runway or taxiway?

Report it as a strike

(refer to FAA advisory circular no. 150/5200-32B)



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III. Aircraft-Wildlife Strike Reporting

What if the remains of terrestrial wildlife are found on the runway or taxiway?

Report it as a strike if the species is larger than 1 kg (2.2 lbs)
(refer to FAA advisory circular no. 150/5200-32B)



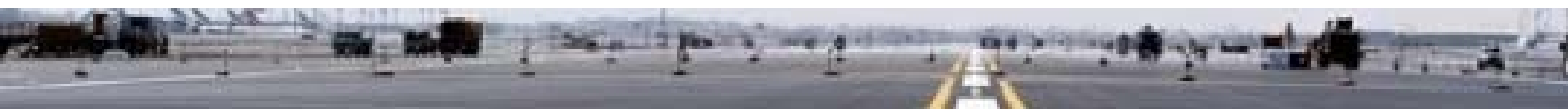
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III. Aircraft-Wildlife Strike Reporting

What if the remains of a wildlife strike (“snarge”) are found on an aircraft?

Report it as a strike

(refer to FAA advisory circular no. 150/5200-32B)



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III. Aircraft-Wildlife Strike Reporting

Aircraft-wildlife strikes can be reported by:

Airport operations personnel, pilots, flight crews, ramp managers, ramp technicians, aircraft maintenance personnel, airfield maintenance personnel, airline administration and safety personnel, USDA biologists...



III. Aircraft-Wildlife Strike Reporting

How an aircraft-wildlife strike is reported:

FAA form 5200-7

“Bird/Other Wildlife Strike Report”

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 <input type="checkbox"/> Dawn <input type="checkbox"/> Dusk <input type="checkbox"/> Night <input type="checkbox"/> Day <input type="checkbox"/> Night <input type="checkbox"/> AM <input type="checkbox"/> PM																																																
7. Airport Name	8. Runway Used	9. Location if En Route (nearest Town/Village & State)																																																
10. Height (AGL)	11. Speed (IAS)																																																	
12. Phase of Flight <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	13. Part(s) of Aircraft Struck or Damaged <table border="1"><thead><tr><th></th><th>Struck</th><th>Damaged</th></tr></thead><tbody><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></tbody></table> <table border="1"><thead><tr><th></th><th>Struck</th><th>Damaged</th></tr></thead><tbody><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></tbody></table> (Specify, if "N. Other" is checked)		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"/>		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 <input type="checkbox"/> None <input type="checkbox"/> Aborted Take-Off <input type="checkbox"/> Precautionary Landing <input type="checkbox"/> Engines Shut Down <input type="checkbox"/> Other: (Specify)	15. Sky Condition <input type="checkbox"/> No Cloud <input type="checkbox"/> Some Cloud <input type="checkbox"/> Overcast	16. Precipitation <input type="checkbox"/> Fog <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> None																																																
17. Bird/Other Wildlife Species	18. Number or birds seen and/or struck <table border="1"><thead><tr><th>Number of Birds</th><th>Seen</th><th>Struck</th></tr></thead><tbody><tr><td>1</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>2-10</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>11-100</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>more than 100</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table>	Number of Birds	Seen	Struck	1	<input type="checkbox"/>	<input type="checkbox"/>	2-10	<input type="checkbox"/>	<input type="checkbox"/>	11-100	<input type="checkbox"/>	<input type="checkbox"/>	more than 100	<input type="checkbox"/>	<input type="checkbox"/>	19. Size of Bird(s) <input type="checkbox"/> Small <input type="checkbox"/> Medium <input type="checkbox"/> Large																																	
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11-100	<input type="checkbox"/>	<input type="checkbox"/>																																																
more than 100	<input type="checkbox"/>	<input type="checkbox"/>																																																
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, body): \$ _____																																																
Reported by (Optional)	Title	Date																																																

Paperwork Reduction Act Statement: The information collected on this form is necessary to allow the Federal Aviation Administration to determine the severity of the wildlife-aircraft strike problem in the U.S. The information is used in determining the best management practices to safely reduce the occurrence of wildlife-aircraft strikes. We estimate that it will take approximately 15 minutes to complete the form. If you have any comments on the accuracy of this burden estimate and any suggestions for reducing this burden, send those comments to the Management Staff, AWP-10, 600 Independence Avenue, SW, Washington, DC 20591. The information collected is voluntary. The conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid control number associated with this collection is 2120-0045.

FAA Form 5200-7 (3-87) Supersedes Previous Editions © U.S. GPO: 1987-419-98



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III. Aircraft-Wildlife Strike Reporting

How an aircraft-wildlife strike is reported:

FAA Wildlife Strike Database

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.

[Search the Database](#)

[Report a Strike](#)

[Update a Strike Report](#)

<https://wildlife.faa.gov/home>

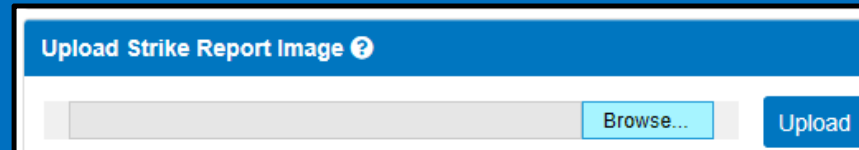


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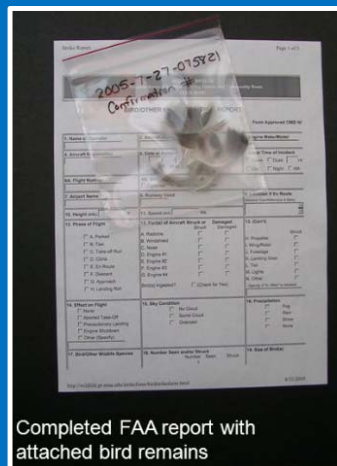
III. Aircraft-Wildlife Strike Reporting

In the case of an unknown species:

Images can be uploaded with the strike report:



Send biological samples to the Smithsonian Feather ID Lab

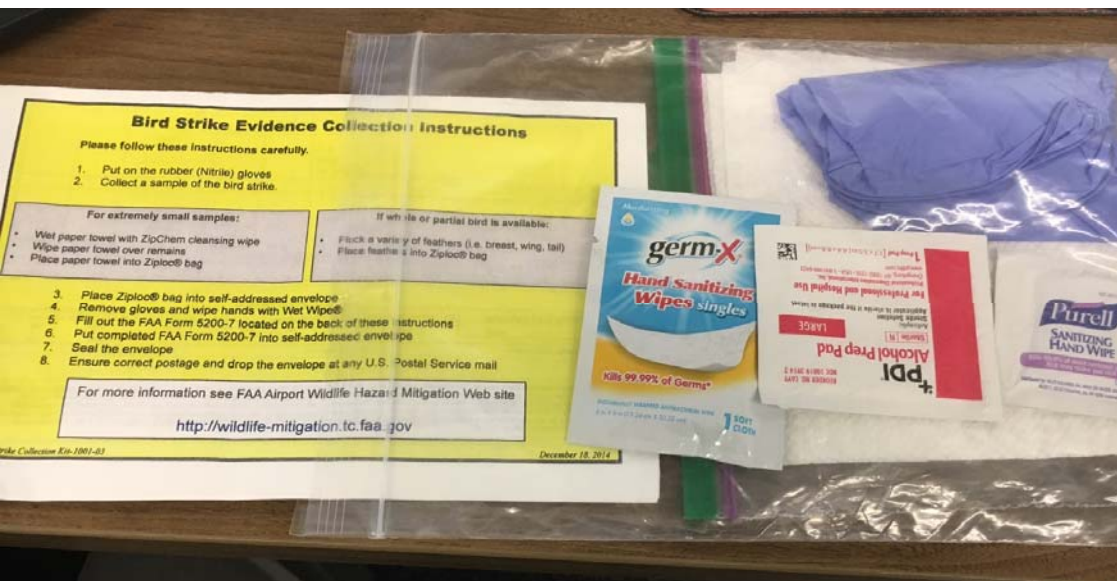


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III. Aircraft-Wildlife Strike Reporting

DNA and Snarge Collection

Obtain a strike collection kit



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III. Aircraft-Wildlife Strike Reporting

DNA and Snarge Collection

Seal bag and label with strike report #



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III. Aircraft-Wildlife Strike Reporting

DNA and Snarge Collection

Send Samples To:

Feather Identification Lab
Smithsonian Institution
NHB, E600, MRC 116
P. O. Box 37012
Washington, D.C. 20013-7012
202-633-0801



The National Museum of Natural History, Smithsonian Institution, has the 3rd largest bird collection in the world with over 640,000 specimens. The collection has representatives of about 80% of the 9,600 known species in the world's avifauna.



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III. Aircraft-Wildlife Strike Reporting

How is wildlife strike data accessed, utilized and managed?

- FAA strike reports received by email
- Previous reports can be accessed easily
- Database is managed for airport staff
- Updates are issued to airport staff



III. Aircraft-Wildlife Strike Reporting

FAA uses strike data to determine:

- Wildlife strike trends

- Identify habitat and wildlife attractants

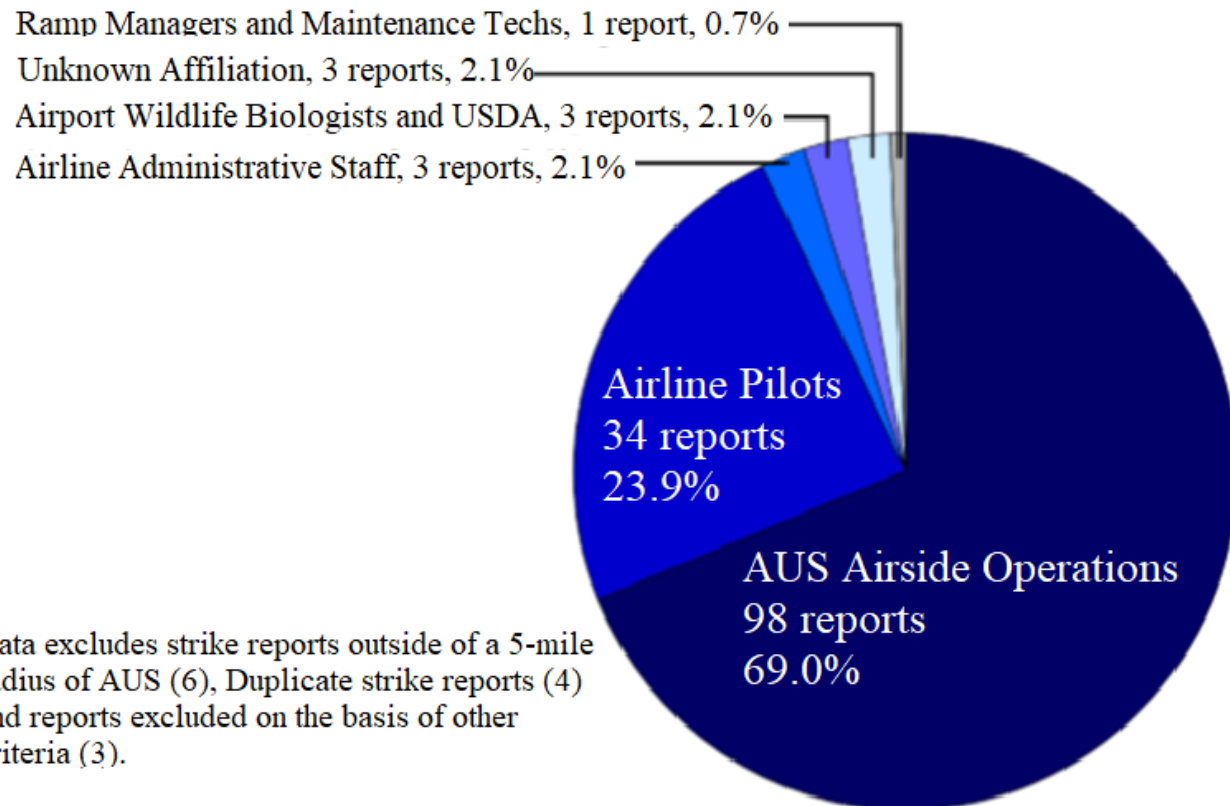
- Risk mitigation strategies

Aerospace engineers, airport managers and other stakeholders use strike data too



III. Aircraft-Wildlife Strike Reporting

2018 Wildlife Strike Reports for Austin-Bergstrom International Airport (AUS) Submitted According to Agency Affiliation



Data excludes strike reports outside of a 5-mile radius of AUS (6), Duplicate strike reports (4) and reports excluded on the basis of other criteria (3).

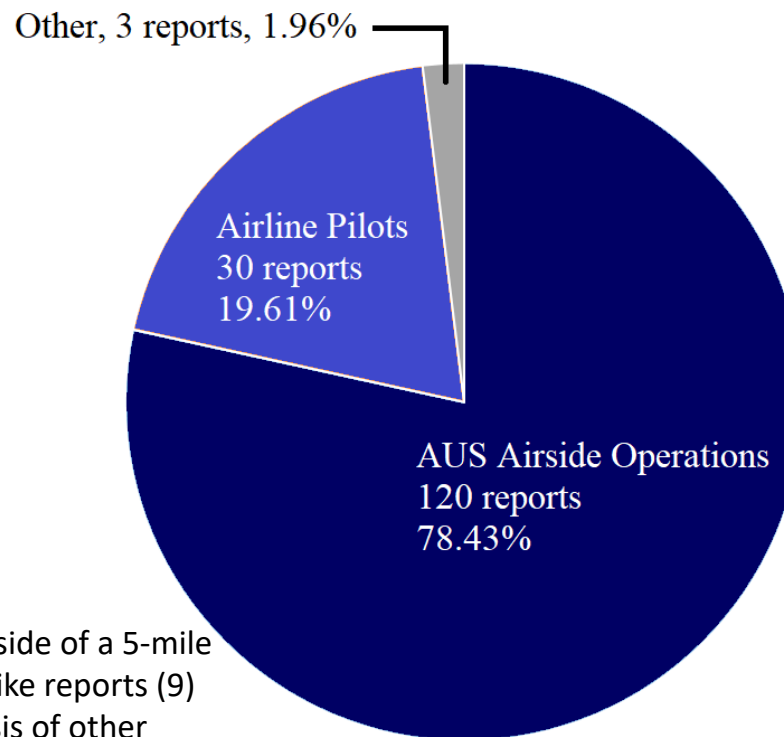
Total Strike Reports Submitted in 2018: 142



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III. Aircraft-Wildlife Strike Reporting

2019 Wildlife Strike Reports for Austin-Bergstrom International Airport (AUS)
Submitted According to Agency Affiliation



Data excludes strike reports outside of a 5-mile radius of AUS (15), Duplicate strike reports (9) and reports excluded on the basis of other criteria (4).

Total Strike Reports Submitted in 2019: 153 (updated 11-13-2019)



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III. Aircraft-Wildlife Strike Reporting

Wildlife Strikes Reported Within a 5-mile Radius of Austin-Bergstrom in 2019 (updated 11-13-2019)

Mourning Dove	37	American Golden Plover	1
Bird, unknown species, small size	32	American Pipit	1
European Starling	25	American Robin	1
Bird, unknown species, no size specified	17	Black-throated Green Warbler	1
Barn Swallow	7	Black Vulture	1
Cave Swallow	7	Mississippi Kite	1
Bird, unknown species, medium size	5	Northern Mockingbird	1
Great-tailed Grackle	4	Purple Martin	1
Nighthawk	4	Scissor-tailed Flycatcher	1
American Kestrel	3	Sora	1
Blue-gray Gnatcatcher	3	Western Kingbird	1
Cliff Swallow	3	Western Tanager	1
Savannah Sparrow	3	White-winged Dove	1
Crested Caracara	2		
Killdeer	2		
Meadowlark	2		
Pigeon	2		
American Coot	1		

Documented Number of Birds Struck in 2019: 172

Number of Strike Reports Submitted in 2019: 153



III. Aircraft-Wildlife Strike Reporting

"West Runway" RWY 17R - 35L

Strike Reports Submitted: 76

Birds: 83

Bats: 6

Striped Skunk: 1

"East Runway" RWY 17L - 35R

Strike Reports Submitted: 53

Birds: 72

Bats: 9

Striped Skunk: 1

Taxiways TWY A, B, G, M

Strike Reports Submitted: 8

Birds: 6

Bats: 1

Nine-banded Armadillo: 1

Striped Skunk: 1

based on strike reports submitted 1-1-19 to 11-13-19



IV. Wildlife Management Techniques

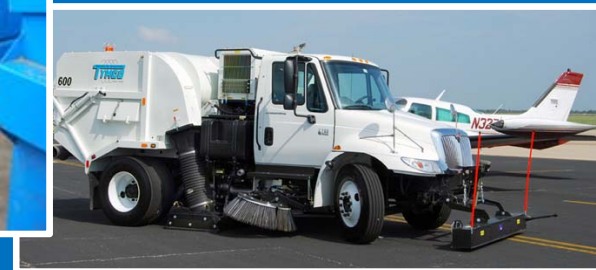
Strategies for Management of Hazardous Wildlife at/near Airports:

Habitat Modification: Remove food sources, habitat and water access



**Birds are a hazard
to aircraft.**

**Do not feed birds or
leave edible waste.**



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IV. Wildlife Management Techniques

Strategies for Management of Hazardous Wildlife at/near Airports:

Exclusion: Preventing access to nesting, roosting and foraging areas



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IV. Wildlife Management Techniques

Strategies for Management of Hazardous Wildlife at/near Airports:

Displacement: Disrupting the presence of wildlife in the airport environment



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IV. Austin-Bergstrom International Airport: Wildlife Management Objectives

Airport Wildlife Management Initiatives at Austin-Bergstrom

- Identifying vegetation species that attract birds in airport environments
- Dissections of birds from strikes to determine feeding behavior
- Developing airport wildlife hazard management training
- Monthly inspections performed by USDA Biologist





Questions?

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AUS Wildlife Management Biologist

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