



Aviation Investigation Final Report

Location:	Princeton, New Jersey	Accident Number:	GAA19CA153
Date & Time:	February 23, 2019, 18:40 Local	Registration:	N5338N
Aircraft:	Cessna 172	Aircraft Damage:	Substantial
Defining Event:	Wildlife encounter (non-bird)	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, while landing at night, the airplane struck two deer on the runway. He added that he did not see the deer on the runway during the approach and landing.

The airplane sustained substantial damage to the right horizontal stabilizer.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

The Federal Aviation Administration (FAA) Airport Facility Directory for the accident airport, stated, in part, "Deer and birds on and [in the vicinity of the airport]."

The pilot stated that the airport's fencing was intermittent and that deer were frequently seen around the airport. The airport manager added that the airport's perimeter fence only covered the eastern and southern perimeter and that a deer strike occurred at least once every 2 years. However, according to the FAA Wildlife Strike Database the last reported wildlife strike at the accident airport occurred on April 10, 2012.

The FAA's Part 139 CertAlert, No. 16-03, "Recommended Wildlife Exclusion Fencing," which provides airfield exclusion methods for deer and other large mammals, recommends constructing fencing "fully around the airfield without gaps."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A collision with deer on the runway while landing at night and the airport's lack of a complete perimeter fence.

Findings

Environmental issues	Animal(s)/bird(s) - Effect on operation
Environmental issues	Fence/fence post - Use of related info
Environmental issues	Animal(s)/bird(s) - Ability to respond/compensate
Environmental issues	Dark - Effect on personnel

Factual Information

History of Flight

Landing	Wildlife encounter (non-bird) (Defining event)
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Pilot Information

Certificate:	Private	Age:	30,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	May 12, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 23, 2017
Flight Time:	(Estimated) 296.1 hours (Total, all aircraft), 129.1 hours (Total, this make and model), 249.6 hours (Pilot In Command, all aircraft), 18.5 hours (Last 90 days, all aircraft), 2.2 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N5338N
Model/Series:	172 S	Aircraft Category:	Airplane
Year of Manufacture:	2003	Amateur Built:	
Airworthiness Certificate:	Normal; Utility	Serial Number:	172S9358
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	January 23, 2019 100 hour	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	8772 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-360-L2A
Registered Owner:		Rated Power:	180 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	KTTN,213 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	23:53 Local	Direction from Accident Site:	224°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Overcast / 5500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	90°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.29 inches Hg	Temperature/Dew Point:	4°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Princeton, NJ (39N)	Type of Flight Plan Filed:	None
Destination:	Princeton, NJ (39N)	Type of Clearance:	VFR;VFR flight following
Departure Time:	17:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	PRINCETON 39N	Runway Surface Type:	Asphalt
Airport Elevation:	128 ft msl	Runway Surface Condition:	Dry
Runway Used:	10	IFR Approach:	None
Runway Length/Width:	3499 ft / 75 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	40.399166,-74.658889(est)

Administrative Information

Investigator In Charge (IIC):	Nepomuceno, Eleazar
Additional Participating Persons:	Thomas Gilbert; FAA; Allentown, PA
Original Publish Date:	September 26, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=99032

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).