Aviation Investigation Final Report

Location:	Mifflinville, Pennsylvania	**Accident Number:**	ERA23LA332
Date & Time:	August 12, 2023, 09:50 Local	**Registration:**	N1503L
Aircraft:	Bell 47G-5	**Aircraft Damage:**	Destroyed
Defining Event:	Low altitude operation/event	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot of the aerial application helicopter departed from a chemical truck staging area to a nearby corn field, where he was performing his eighth application flight of the day. There were no witnesses to the accident and the pilot was fatally injured. The accident site was located near the edge of the cornfield, which was bordered by a road, trees, and a powerline. The helicopter's spray boom and one landing gear skid were separated from the fuselage and found in a tree entangled with the power lines. The helicopter's fuselage, engine, and fuel tanks were consumed by a postimpact fire. Given this information, it is most likely that the helicopter impacted the powerline while maneuvering at low level above the corn field.

The pilot had received training about 13 years before the accident to act as pilot-in-command of aerial application operations. The training program included a skills test to demonstrate safe low-level maneuvering and how to approach the working area to locate obstacles. The extent to which the pilot had conducted a preflight assessment of the corn field for obstacles and was aware of the location of the wires could not be determined.

A postaccident autopsy of the pilot's remains identified cardiovascular disease that would have increased his risk of experiencing a sudden impairing or incapacitating cardiac event, such as arrhythmia, chest pain, or heart attack. The autopsy did not provide specific evidence that such an event occurred; however, such an event would also not leave evidence readily identifiable by an autopsy if it occurred shortly before death. Therefore, whether the pilot was incapacitated to some degree by a cardiac event that preceded the wire strike could not be determined.

Probable Cause and Findings

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

The pilot's failure to see and avoid powerlines during an aerial application flight.

Findings

Personnel issues	Monitoring environment - Pilot
Environmental issues	Wire - Awareness of condition

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event)

On August 12, 2023, about 0950 eastern daylight time, a Bell 47G-5 helicopter, N1503L, was destroyed when it was involved in an accident near Mifflinville, Pennsylvania. The pilot was fatally injured. The helicopter was operated as a Title 14 *Code of Federal Regulations* Part 137 aerial application flight.

The pilot's brother, who was also a helicopter pilot, stated that on the day of the accident, he was operating a truck with chemicals in it and the pilot was flying the aerial application helicopter. The pilot had already made about seven application flights that morning and had just taken off from near the truck with the eighth load. The truck was parked in a field about 2 miles away from the corn field that the pilot was spraying. The pilot's brother subsequently received a telephone call and learned that the helicopter had crashed. As he was driving up to the accident site, the pilot's brother noticed power lines down in the street; he also noticed the power lines entangled with the helicopter's skid, and the spraying boom located in a tree by the road.

The accident site was in the corn field about 20 yards from the road. The helicopter came to rest on its left side and a postaccident fire consumed the engine and fuel tanks. The tail rotor was found about 20 yards from the main wreckage. The spray boom and one skid were found about 30 yards away in a tree entangled in the powerlines.

The pilot completed an aerial application training program and was signed off to act as pilot in command of aerial applications on July 3, 2010. The training program consisted of a skills test to demonstrate safety pertaining to low-level maneuvering and how to approach the working area to locate obstacles.

Forensic Pathology Associates, Allentown, Pennsylvania, performed an autopsy of the pilot's remains for the Columbia County Coroner's Office. According to the autopsy report, the pilot's cause of death was multiple injuries, and his manner of death was accidental. The pilot's autopsy identified coronary artery disease, including an area of plaque causing 90% narrowing of the obtuse marginal artery (a branch of the left circumflex coronary artery), as well as up to 25% narrowing of the other coronary arteries by plaque. The heart was described as enlarged, with right ventricular dilatation and left ventricular hypertrophy. There was a 0.5 cm × 0.5 cm × 0.3 cm area of white discoloration of the anterior left cardiac ventricle. Microscopic examination of the heart muscle showed enlarged muscle cells.

Pilot Information

Certificate:	Commercial	**Age:**	39,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	January 11, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 26, 2023
Flight Time:	1325 hours (Total, all aircraft), 490 hours (Total, this make and model), 175 hours (Last 90 days, all aircraft), 74 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	**Registration:**	N1503L
Model/Series:	47G-5	**Aircraft Category:**	Helicopter
Year of Manufacture:	1971	**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	25042
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	April 14, 2023 100 hour	**Certified Max Gross Wt.:**	2850 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	21036 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	VO-435-B1A
Registered Owner:	TRIPLE F FLYING INC	**Rated Power:**	260 Horsepower
Operator:	TRIPLE F FLYING INC	**Operating Certificate(s) Held:**	Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	AVP,951 ft msl	**Distance from Accident Site:**	32 Nautical Miles
Observation Time:	09:54 Local	**Direction from Accident Site:**	52°
Lowest Cloud Condition:		**Visibility**	9 miles
Lowest Ceiling:	Overcast / 10000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	21°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mifflinville, PA	**Type of Flight Plan Filed:**	None
Destination:	Mifflinville, PA	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	On-ground
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	41.004602,-76.288061(est)

Administrative Information

Investigator In Charge (IIC):	Boggs, Daniel
Additional Participating Persons:	Craig Musser; FAA/FSDO; Harrisburg, PA
Original Publish Date:	July 22, 2025
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=192850