Aviation Investigation Final Report

Location:	Townsend, Montana	**Accident Number:**	WPR21LA236
Date & Time:	June 15, 2021, 17:00 Local	**Registration:**	N398M
Aircraft:	Bell UH-1H	**Aircraft Damage:**	Destroyed
Defining Event:	Settling with power/vortex ring state	**Injuries:**	5 None
Flight Conducted Under:	Public aircraft		

Analysis

The pilot reported that, during the approach to the landing area, he made visual contact with the airport manager who cleared him to land on the west end of the pull-off tarmac. The pilot noted evidence of wind from the blowing willows from south-west. He initiated a left downwind approach, and upon turning from base to final at 500 ft above ground level, the helicopter started to settle with power and the pilot experienced a nearly direct tailwind. Due to the approach speed and proximity to the ground, the pilot was unable to fly out, so he leveled the helicopter and committed to landing. The helicopter touched down hard, spun right about 120° and rolled left upside down. The helicopter was destroyed by impact forces and postaccident fire. The pilot reported that there were no mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

Probable Cause and Findings

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

The pilot's failure to maintain helicopter control after an encounter with settling with power during approach at an altitude that was too low for recovery, which resulted in a hard landing.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	Aircraft control - Pilot
Aircraft	Descent rate - Attain/maintain not possible

Factual Information

History of Flight

Landing-flare/touchdown	Settling with power/vortex ring state (Defining event)

Pilot Information

Certificate:	Commercial	**Age:**	57,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	April 21, 2021
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 18, 2021
Flight Time:	8079 hours (Total, all aircraft), 2681 hours (Total, this make and model), 6429 hours (Pilot In Command, all aircraft), 99 hours (Last 90 days, all aircraft), 34 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Passenger Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	4-point
Instrument Rating(s):		**Second Pilot Present:**	
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Passenger Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	Center
Other Aircraft Rating(s):		**Restraint Used:**	4-point
Instrument Rating(s):		**Second Pilot Present:**	
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Passenger Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	4-point
Instrument Rating(s):		**Second Pilot Present:**	
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Passenger Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	Left
Other Aircraft Rating(s):		**Restraint Used:**	4-point
Instrument Rating(s):		**Second Pilot Present:**	
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	**Registration:**	N398M
Model/Series:	UH-1H	**Aircraft Category:**	Helicopter
Year of Manufacture:	1965	**Amateur Built:**	
Airworthiness Certificate:	None	**Serial Number:**	65-09984
Landing Gear Type:	High skid	**Seats:**	8
Date/Type of Last Inspection:	December 7, 2020 Annual	**Certified Max Gross Wt.:**	9500 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo shaft
Airframe Total Time:	14620 Hrs at time of accident	**Engine Manufacturer:**	LYCOMING
ELT:	C91 installed, not activated	**Engine Model/Series:**	T53-L-703
Registered Owner:	USDA FOREST SERVICE FEPP	**Rated Power:**	1800 Horsepower
Operator:	USDA FOREST SERVICE FEPP	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KHLN,3868 ft msl	**Distance from Accident Site:**	33 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	302°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	310°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.84 inches Hg	**Temperature/Dew Point:**	32°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	HELENa, MT	**Type of Flight Plan Filed:**	Company VFR
Destination:	TOWNSEND HELISPOT, MT	**Type of Clearance:**	None
Departure Time:	16:35 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:	4 None	**Aircraft Fire:**	On-ground
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	5 None	**Latitude, Longitude:**	46.3245,-111.291

Administrative Information

Investigator In Charge (IIC):	Smith, Maja
Additional Participating Persons:	
Original Publish Date:	August 20, 2021
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=103312