Aviation Investigation Final Report

Location:	Iliamna, Alaska	**Accident Number:**	ANC14LA046
Date & Time:	June 25, 2014, 14:47 Local	**Registration:**	N115CX
Aircraft:	DEHAVILLAND DHC 2	**Aircraft Damage:**	Minor
Defining Event:	Miscellaneous/other	**Injuries:**	1 Serious, 1 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

The commercial pilot was participating in a mission that included another airplane and two boat operators who were moving two open, 18-ft skiffs downriver. The pilot reported that, after the two boat operators departed, he started the float-equipped airplane and departed in the same direction that the boat operators had traveled. He added that he maintained a low altitude and that, after he passed the first boat, he "felt the airplane start to sink" and that, when he pulled back on the yoke to arrest the sink, he felt the back of the float hit something. The airplane had struck one of the boat operators.

GPS data for the flight showed that the airplane did not climb after takeoff but instead remained at very low altitude and followed the river channel for more than 1 mile in the same direction that the boat operators had traveled. The first boat operator reported seeing the airplane pass directly over him about 15 or 20 ft above the water before proceeding toward the other boat operator, dropping down, and then hitting the other boat operator. He described the event as a "buzz job" and said that the pilot had buzzed them before.

Although the pilot reported that the airplane sank unexpectedly after he passed the first boat operator, his chosen low altitude and flightpath placed the airplane in dangerous proximity to the boat operators (which was inconsistent with federal regulations) and allowed no margin to arrest a sink rate and avoid the collision. The other company pilot reported that there was no mission- or airplane performance-related reason for the airplane to be operating at such a low altitude over the river in the area where the collision occurred.

Probable Cause and Findings

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

The pilot's improper decision to operate the airplane at low altitude and deliberately in close proximity to the boat operators, which resulted in a collision with a boat operator.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	(general) - Pilot
Environmental issues	Ground vehicle - Not specified

Factual Information

History of Flight

Maneuvering-low-alt flying	Miscellaneous/other (Defining event)
Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT)

On June 25, 2014, about 1447 Alaska daylight time, a float-equipped de Havilland DHC-2 airplane, N115CX, registered to RBG Bush Planes, LLC, struck a boat operator after takeoff from the Mulchatna River about 50 miles west of Iliamna, Alaska. The airline transport pilot was uninjured, the boat operator sustained serious injuries, and the airplane sustained minor damage. The flight was operated under the provisions of 14 Code of Federal Regulations (CFR) Part 91 with no flight plan filed. Visual meteorological conditions prevailed. The flight was en route to Ekwok, Alaska.

The pilot and the boat operator were part of a group of four people that included another pilot in a separate airplane and another boat operator in a separate boat. The four were working together to move two open, 18-foot skiffs downriver to Ekwok.

The pilot reported on NTSB form 6120.1 that the two boat operators departed in the two boats and headed downriver before he started his airplane. He stated that he started his airplane and, after clearing the area, he gave the airplane full throttle and proceeded westbound. He stated that, "after reaching step, I consciously thought of maintaining a low altitude after lifting off to maintain ground effect while I bled off the flaps and increased airspeed." He stated that, after takeoff, he "maintained…altitude while traveling down river." He said that he saw one boat off his right side and believed that the other boat would also remain off to his right side. The pilot stated that, shortly after he passed the first boat, he "felt the plane start to sink." The pilot stated that, when he pulled back slightly on the yoke to arrest the sinking movement, he "felt the back of the float strike something." The airplane had struck and seriously injured one of the boat operators. The pilot stated that he "continued on, gained altitude, and immediately returned to see one boat in the middle of the river spinning in circles." The pilot then landed the airplane on the river to assist the injured boat operator, and the injured boat operator's boat collided with the airplane.

A review of GPS data from the airplane's Garmin GPSMap 496 unit revealed that, after takeoff, the airplane's flight path followed the main channel and bends of the Mulchatna River, heading generally southwest and remaining low over the river. Topographical map data showed that the width of the river channel over which the airplane flew varied generally from about 340 to 400 feet, and the river banks and terrain were generally level and wooded with no rapidly rising terrain. The GPS data showed that the straight-line distance (not accounting for river bends) between the airplane's initial data point and the area on the river were the airplane's path began a circling, climbing turn over the land was about 1.6 nautical miles.

The other company pilot who was participating in the mission in the other airplane on the day of the accident was interviewed by the NTSB IIC and FAA inspectors. The other company pilot reported that

he had departed from the river in his airplane after the accident airplane departed and that the accident airplane was not in his sight at the time that the collision with the boat operator occurred. In response to questioning as to whether there were any mission-related or airplane performance-related reasons that would require the accident airplane to be flown below 500 feet agl over the river in the area in which the collision occurred or within 500 ft of the boat operators, the other company pilot responded, "no." A review of information provided by the Alaska State Troopers revealed that the other boat operator described to a Trooper that his boat was a few hundred yards upriver of the accident boat operator when he saw the collision occur. He said that the accident airplane came from behind him and flew directly over him at an altitude of about 15 to 20 feet then proceeded toward the other boat operator. He said that the airplane "dropped down lower" and ran straight into the boat operator. In response to the Trooper's questions, the other boat operator described the event as a "buzz job" and said that the pilot "has buzzed us before."

Title 14 CFR 91.119(c) states that, when flying over areas that are not congested, and except when necessary for takeoff or landing, no person may operate an aircraft below "an altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure." Title 14 CFR 91.13 states that "no person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another."

According to company maintenance personnel, the damage to the airplane was sustained during the post-landing collision with the boat.

ADDITIONAL INFORMATION:

The initial GPS data point for the accident flight was at 1443:28 in a slough east of the main river channel at a groundspeed of 0 knots and a GPS data altitude of 240 feet. Between 1444:24 and 1445:56, the airplane's path proceeded into the main river channel and extended southwest on the river as the airplane accelerated from 3 kts to 53 kts groundspeed; GPS data altitudes during this time were between 257 and 273 ft msl. Between 1446:15 and 1446:58 as the airplane accelerated from 71 kts to 95 kts, the airplane's path continued southwest over the river; GPS data altitudes during this time were 281 ft msl, 286 ft msl, then 273 feet msl. The data showed that, after 1446:58, the airplane's path began to enter a left turn and gain altitude, diverging from the river, heading over the land, and reaching a GPS data altitude of 344 ft msl during the next 9 seconds. The data showed that the flight path then continued as circling maneuvers over the river and the land that concluded with a descent over the river with a groundspeed that slowed below airplane flying speed (26 kts at 1448:30); all subsequent GPS data points for the airplane showed groundspeeds below airplane flying speed. The airplane's path proceeded to the general area that it had previously overflown and circled. A review of data points for the airplane captured after the airplane slowed below flying speed showed a GPS data altitude of 270 ft msl for a data point near the general area of the river that the airplane had previously overflown and circled (the data point was captured at 1449:14 and showed a groundspeed of 28 kts).

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	34
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	December 10, 2013
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	May 22, 2014
Flight Time:	9525 hours (Total, all aircraft), 2030 hours (Total, this make and model), 8900 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DEHAVILLAND	**Registration:**	N115CX
Model/Series:	DHC 2	**Aircraft Category:**	Airplane
Year of Manufacture:	1957	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1151
Landing Gear Type:	N/A; Float	**Seats:**	8
Date/Type of Last Inspection:	May 14, 2014 Annual	**Certified Max Gross Wt.:**	5600 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	12799.1 Hrs at time of accident	**Engine Manufacturer:**	Pratt & Whitney
ELT:	C126 installed, not activated	**Engine Model/Series:**	R-985-AN-14B
Registered Owner:	RBG BUSH PLANES LLC	**Rated Power:**	450 Horsepower
Operator:	RBG BUSH PLANES LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PAIG,90 ft msl	**Distance from Accident Site:**	39 Nautical Miles
Observation Time:	22:56 Local	**Direction from Accident Site:**	152°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.67 inches Hg	**Temperature/Dew Point:**	14°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Iliamna, AK	**Type of Flight Plan Filed:**	None
Destination:	EKWOK, AK (KEK)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Minor
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	1 Serious	**Aircraft Explosion:**	None
Total Injuries:	1 Serious, 1 None	**Latitude, Longitude:**	59.89611,-156.506103(est)

Administrative Information

Investigator In Charge (IIC):	Gagne, Catherine
Additional Participating Persons:	Hugh Youngers; FAA - FSDO; Anchorage, AK
Original Publish Date:	July 11, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89550