



# Aviation Investigation Final Report

<b>Location:</b>	Los Angeles, California	<b>Accident Number:</b>	WPR11LA042
<b>Date &amp; Time:</b>	November 8, 2010, 14:07 Local	<b>Registration:</b>	N422QX
<b>Aircraft:</b>	BOMBARDIER INC DHC-8-402	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Birdstrike	<b>Injuries:</b>	77 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

## Analysis

During the approach to land, the flight crew reported a bird strike to the leading edge of the right wing. The crew declared an emergency and made an uneventful landing at their destination. A postaccident examination of the airplane revealed a 12-inch-diameter hole in the leading edge of the right wing centered between the right engine nacelle and the right wing tip. The damaged area was covered in bird remains, which were identified as the remains of a Common Loon (*Gavia immer*). The average weight for the species is about 10.9 pounds.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An in-flight collision with a bird.

## Findings

<b>Environmental issues</b>	Animal(s)/bird(s) - Effect on equipment
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## Factual Information

### History of Flight

Enroute-descent

Birdstrike (Defining event)

#### HISTORY OF FLIGHT

On November 8, 2010, at 1407 Pacific standard time (PST), Horizon Airlines flight 2306, a Bombardier DHC-8-402, N422QX, encountered a bird strike near Los Angeles, California. Horizon Air Industries, Inc., was operating the airplane as a scheduled domestic passenger flight under the provisions of 14 Code of Federal Regulations (CFR) Part 121. The airline transport rated captain and first officer, 2 flight attendants, and 73 passengers were not injured. The flight departed Redding (RDD), California, about 1247, as a non-stop to Los Angeles (LAX), California. Visual meteorological (VMC) conditions prevailed, and an instrument flight rules (IFR) flight plan had been filed.

The captain reported while on the approach for landing at LAX they encountered a bird strike to the leading edge of the right wing. The flight crew reported they never saw the bird before it hit the airplane. A review of the airplane flight data recorder (FDR) and the cockpit voice recorder (CVR) established the bird strike occurred 18 nautical miles north of LAX at an altitude of 7,500 feet mean sea level (msl), and the airspeed was 234 knots.

The crew declared an emergency and made an uneventful landing, and taxied to the passenger terminal where the passengers were deplaned.

An examination of the damage revealed a 12-inch-diameter hole in the leading edge of the right wing centered between the right engine nacelle and the right wing tip. The damage area was covered in blood and what appeared to be bird remains.

Samples of the remains were recovered and sent to the Smithsonian National Museum of Natural History Feather Identification Laboratory. They performed DNA analysis, microscopic examination, and whole feather comparisons with museum study skins on the recovered residue and feathers. The analysis identified the residue and feathers as the remains of a Common Loon (*Gavia immer*). The average weight for the species is about 4,980 grams or 10.9 pounds.

## Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	36, Male
<b>Airplane Rating(s):</b>	Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	May 18, 2010
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	March 22, 2010
<b>Flight Time:</b>	9402 hours (Total, all aircraft), 5022 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 46 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Co-pilot Information

<b>Certificate:</b>	Airline transport; Flight instructor	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	November 2, 2009
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	November 21, 2009
<b>Flight Time:</b>	9066 hours (Total, all aircraft), 1976 hours (Pilot In Command, all aircraft), 183 hours (Last 90 days, all aircraft), 71 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BOMBARDIER INC	<b>Registration:</b>	N422QX
<b>Model/Series:</b>	DHC-8-402	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	4150
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	70
<b>Date/Type of Last Inspection:</b>	November 6, 2010 Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	62111 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo prop
<b>Airframe Total Time:</b>	9196 Hrs at time of accident	<b>Engine Manufacturer:</b>	P&W CANADA
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	PW150A
<b>Registered Owner:</b>	HORIZON AIR INDUSTRIES INC	<b>Rated Power:</b>	4580 Lbs thrust
<b>Operator:</b>	HORIZON AIR INDUSTRIES INC	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	QXEA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	LAX, 125 ft msl	<b>Distance from Accident Site:</b>	6 Nautical Miles
<b>Observation Time:</b>	13:53 Local	<b>Direction from Accident Site:</b>	200°
<b>Lowest Cloud Condition:</b>	Scattered / 10000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	11 knots / 19 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	290°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.96 inches Hg	<b>Temperature/Dew Point:</b>	19°C / 7°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Redding, CA (RDD )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Los Angeles, CA (LAX )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	12:47 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	Los Angeles International LAX	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>		<b>IFR Approach:</b>	Visual
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Straight-in

## Wreckage and Impact Information

<b>Crew Injuries:</b>	4 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	73 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	77 None	<b>Latitude, Longitude:</b>	34.236389,-118.339721(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Jones, Patrick
<b>Additional Participating Persons:</b>	Michael Levine; Federal Aviation Administration; Los Angeles, CA
<b>Original Publish Date:</b>	April 20, 2012
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=77755">https://data.ntsb.gov/Docket?ProjectID=77755</a>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).