



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Salt Lake City, Utah	Accident Number:	WPR10LA395
Date & Time:	August 10, 2010, 13:40 Local	Registration:	N14105
Aircraft:	Embraer EMB-145XR	Aircraft Damage:	Substantial
Defining Event:	Birdstrike	Injuries:	50 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

While on the downwind leg of the traffic pattern for the destination airport, the flying pilot transferred his focus from the instrument panel to outside the airplane. Immediately thereafter, he noticed a flock/formation of large birds directly ahead. With the airplane in such close proximity of the birds, he had no time to take evasive action. One of the birds impacted the airplane just aft of the nose cone. The bird, which was later tentatively identified as a White Pelican, penetrated the airplane's skin and entered the forward avionics bay. Neither flightcrew member had seen the birds in time for evasive action to be taken.

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 while on the downwind leg of the traffic pattern during a visual approach.

Findings

Environmental issues	Animal(s)/bird(s) - Contributed to outcome
Personnel issues	Monitoring environment - Flight crew

Factual Information

History of Flight

Approach-VFR pattern
downwind

Birdstrike (Defining event)

On August 10, 2010, about 1340 mountain daylight time, an Embraer EMB-145XR, N14105, collided with a large bird while on a downwind for a visual approach to Salt Lake City International Airport, Salt Lake City, Utah. The two flight crew members, the two cabin crew members, and the 46 passengers were not injured, but the airplane, which was owned and operated by Express Jet Airlines, sustained substantial damage. The 14 Code of Federal Regulations Part 121 scheduled passenger flight, which departed Houston-Bush Airport at 1136 central daylight time, was being operated in visual meteorological conditions (VMC). The airplane was on an Instrument Flight Rules (IFR) flight plan.

According to the pilot, while the airplane was about five miles north of the airport, on a downwind for a visual approach in visual meteorological conditions, it flew through a flock of large birds about 6,900 feet above ground level (agl). A few seconds prior to the impact, as the airplane was being slowed from 280 knots to 190 knots, the Captain, who was the pilot doing the flying, looked at the instrument panel to check his instruments. When he looked back up he saw what he thought was at least six seagulls directly in front of the airplane. Neither he nor the First Officer had seen the birds prior to that moment in time. Because of their close proximity, there was no time to make control inputs to avoid them, and therefore one of the birds impacted the airplane forward of its windscreen. Because the bird penetrated into the forward avionics department, the Captain lost a number of his primary instruments, so he transferred control of the airplane to the First Officer, who completed an uneventful visual approach. When the airplane was inspected by emergency personnel on the taxiway, it was determined that a section of skin about three feet long had been folded back between the nose cone and the Captain's windscreen. Maintenance personnel who made an initial examination of the bird remains identified it as a White Pelican. A review of the data published by the Utah Water Science Center revealed that the Great Salt Lake is home to one of the three largest colonies of White Pelicans in North America, and that the adult birds can weigh as much as 20 pounds.

Pilot Information

Certificate:	Airline transport	Age:	39,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	April 22, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 22, 2010
Flight Time:	5471 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Commercial	Age:	61,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	July 19, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 6, 2010
Flight Time:	3587 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Embraer	Registration:	N14105
Model/Series:	EMB-145XR	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	145649
Landing Gear Type:	Retractable - Tricycle	Seats:	55
Date/Type of Last Inspection:	August 6, 2010 Continuous airworthiness	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	2 Turbo fan
Airframe Total Time:	22070 Hrs at time of accident	Engine Manufacturer:	ROLLS-ROYCE
ELT:	C126 installed, not activated	Engine Model/Series:	AE3007 SER
Registered Owner:	WELLS FARGO BANK NORTHWEST NA TRUSTEE	Rated Power:	7200 Horsepower
Operator:	Express Jet Airlines	Operating Certificate(s) Held:	Flag carrier (121), Supplemental
Operator Does Business As:		Operator Designator Code:	C2XA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KSLC, 4227 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	13:53 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Few / 11000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	16 knots / 24 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	200°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.97 inches Hg	Temperature/Dew Point:	33°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Houston, TX (KIAH)	Type of Flight Plan Filed:	IFR
Destination:	Salt Lake City, UT (KSLC)	Type of Clearance:	IFR
Departure Time:	11:36 Local	Type of Airspace:	

Airport Information

Airport:	Salt Lake City International KSLC	Runway Surface Type:	
Airport Elevation:	4227 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	Visual
Runway Length/Width:		VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	Substantial
Passenger Injuries:	46 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	50 None	Latitude, Longitude:	40.788333,-111.977775(est)

Administrative Information

Investigator In Charge (IIC):	Anderson, Orrin
Additional Participating Persons:	Tom Baird; Salt Lake City FSDO; Salt Lake City, UT
Original Publish Date:	March 16, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=76925

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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](#).