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SOME SIGNIFICANT WILDLIFE STRIKES TO CIVIL AIRCRAFT IN THE UNITED STATES, JANUARY 1990 – APRIL 2011

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The U.S. Department of Agriculture, through an interagency agreement with the Federal Aviation Administration, compiles a database of all reported wildlife strikes to U.S. civil aircraft and to foreign carriers experiencing strikes in the USA. We have compiled 109,085 strike reports from 1,659USA airports and 534 foreign airports for January 1990 through December 2010 (9,597 strikes in 2010), but estimate that this represents only about 39% of the strikes that have occurred. The following examples from the database are presented to show the serious impacts that strikes by birds or other wildlife can have on aircraft. These examples, from throughout the USA, demonstrate the widespread and diverse nature of the problem. The examples are not intended to highlight or criticize individual airports because strikes have occurred on almost every airport in the USA. Many of the strike examples reported here occurred off airport property during approach or departure. For more information on wildlife strikes or to report a strike, visit www.birdstrike.org. or http://wildlife.faa.gov

Date:	11 January 1990
Aircraft:	Hawker Siddeley
Airport:	John Tune (TN)
Phase of Flight:	Takeoff run
Effect on Flight:	Not reported
Damage:	Engine (aircraft damaged beyond repair)
Wildlife Species:	White-tailed deer
Comments from Report: Several deer were struck during takeoff. One was completely ingested in the left engine. The impact tore the engine loose from the aircraft. The aircraft had to be replaced at a cost of $1.4 million.	

Date:	12 June 1990
Aircraft:	Fairchild Metro III
Airport:	Burke Lakefront (OH)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Ingested a gull in #2 engine during landing. Engine was replaced. Time out of service was 24 hours. Cost to replace engine was $17,000.	

Date:	09 October 1990
Aircraft:	Citation 550
Airport:	DeKalb Peachtree (GA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing, engine shut down
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Ingested a bird in #1 engine during takeoff. Vibration increased and the engine was shut down. Fan and inlet guide vanes were destroyed. Time out of service was about 3 days. Cost of repairs estimated at $105,000.	

Date:	05 November 1990
Aircraft:	BAe Jetstream 31
Airport:	Michiana Regional (IN)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff, engine shut down
Damage:	Engines, propellers
Wildlife Species:	Dove
Comments from Report: Doves were ingested in both engines. Engines were destroyed. Time out of service 2 ½ days. Cost of repairs estimated at $1 million.	

Date:	28 August 1991
Aircraft:	Cessna 550
Airport:	Person County (NC)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Dove
Comments from Report: Right engine inlet was damaged by the temperature probe being tossed back and forth prior to going through the fan. All 28 fan blades were bent, torn and chipped. Stator behind fan was damaged. Time out of service was 3 days. Cost of repairs was $160,000.	

Date:	12 November 1991
Aircraft:	DC-10
Airport:	Chicago O'Hare International(IL)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engines
Wildlife Species:	American crow
Comments from Report: The #1 engine was shut down and the plane returned to land after ingesting a crow (or crows) on takeoff. Parts of the engine came out the side and damaged the #2 engine.	

Date:	24 November 1991
Aircraft:	Learjet 35
Airport:	Sullivan County International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine, wing, tail
Wildlife Species:	Gull
Comments from Report: Eight gulls were struck which damaged a wing and the #1 engine, causing an 80% thrust loss. The aircraft landed safely. Time out of service was 3 weeks. Cost of repairs was $340,000.	

Date:	30 December 1991
Aircraft:	Citation 550
Airport:	Angelina County (TX)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Turkey vulture
Comments from Report: Ingested 1-2 vultures in #1 engine during takeoff. Engine had an uncontained failure, fire and vibration with 100% thrust loss. Wing and fuselage received damage from engine shrapnel. Time out of service was 2 weeks. Cost of repairs $552,500.	

Date:	2 February 1992
Aircraft:	Piper 28
Airport:	Sandstone (MN)
Phase of Flight:	Approach
Effect on Flight:	Impacted trees and ground
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: Just prior to touchdown, a deer ran toward and collided with the aircraft. The pilot added power and aborted the landing. Loss of engine power was experienced during the climb and the aircraft crashed into trees then the ground ¼ mile south of airport. Pilot was seriously injured and the aircraft was destroyed. NTSB found that the deer had damaged the gascolator and fuel starvation resulted.	

Date:	5 June 1992
Aircraft:	Starduster SA 300
Airport:	Off airport at Wills Point (TX)
Phase of Flight:	Low level maneuvers
Effect on Flight:	Impacted ground
Damage:	Aircraft destroyed (1 fatality)
Wildlife Species:	Unknown bird
Comments from Report: The pilot was viewed by several witnesses maneuvering his aerobatic airplane at a low altitude over open pasture land. It hit a large black bird. The airplane descended out of control and impacted into a field. A fire consumed the airframe. The bird's carcass was located under the cockpit of the inverted airframe. One fatality. NTSB investigated.	

Date:	10 August 1992
Aircraft:	Cessna 441
Airport:	Lee Gilmer Memorial (GA)
Phase of Flight:	Climb
Effect on Flight:	Impacted ground
Damage:	Aircraft destroyed
Wildlife Species:	Unknown bird
Comments from Report: Immediately after takeoff, aircraft hit birds. Right engine lost power and aircraft would not maintain altitude. Pilot was forced to land in a residential area ¼ mile from Gainesville Airport. Both pilot and passenger were seriously injured. NTSB reported that pilot shut down wrong engine and did not follow emergency checklist. Aircraft valued at between $690,000 and $1.7 million.	

Date:	04 September 1992
Aircraft:	Aero Commander S2R
Airport:	Jay Kay Ranch (TX)
Phase of Flight:	Landing
Effect on Flight:	Swerved to avoid
Damage:	Substantial
Wildlife Species:	Deer
Comments from Report: Pilot lifted off the ground to avoid a deer crossing the runway and settled into some trees. The aircraft was rebuilt.	

Date:	24 October 1992
Aircraft:	B-747
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: Numerous birds were struck on departure. One gull was ingested, causing engine vibration. The aircraft made a precautionary landing. Passengers were put on another aircraft and departed the next day. Four fan blades were bent. Replacement assembly and maintenance had to be flown from Tokyo for repairs. Cost reported to be $750,000 which included hotel, lost revenue and repairs.	

Date:	24 March 1993
Aircraft:	Bell BHT-47
Airport:	Pacific Ocean
Phase of Flight:	En Route
Effect on Flight:	Impacted water
Damage:	Aircraft destroyed
Wildlife Species:	Unknown bird
Comments from Report: During cruise pilot heard a loud bang and felt vibration in rudder pedals then lost all yaw control. Pilot thought the tail rotor struck a large sea bird, as many were in the area. He maintained directional control and tried to lower the helicopter so that the passenger (a ship's captain) could reach small boats being lowered by his ship nearby. The passenger jumped before the pilot gave the okay and was killed. The pilot subsequently made a running landing on the water and was hoisted on board the ship.	

Date:	10 June 1993
Aircraft:	Learjet 25
Airport:	Port Columbus International (OH)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing, engine shut down
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Ingested a bird in #2 engine during climb-out. Engine shut down and was completely destroyed. Time out of service was 2 days. Cost of repairs was $254,000.	

Date:	6 September 1993
Aircraft:	Kitfox 4-1200
Airport:	Mason County (WV)
Phase of Flight:	Approach (6-10' AGL)
Effect on Flight:	Landed short of runway
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft hit a deer on short final and touched down 30' short of runway. The nose wheel broke off and the aircraft skidded 310' feet and was destroyed by fire. NTSB investigated.	

Date:	22 October 1993
Aircraft:	B-757
Airport:	Salt Lake City (UT)
Phase of Flight:	Climb (2,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird (suspect gull)
Comments from Report: A bird was ingested in the #1 engine during climb-out, which caused high pressure turbine damage. The engine was replaced. Cost was $300,000.	

Date:	28 October 1993
Aircraft:	B-757
Airport:	Orlando International (FL)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, tires
Wildlife Species:	Cattle egret
Comments from Report: Takeoff was aborted due to multiple bird strikes (35). Three tires on right gear were blown and aircraft was towed to the gate. Ten to twelve birds were ingested damaging fan blades and the engine cowl.	

Date:	29 October 1993
Aircraft:	Beechcraft 1900
Airport:	Sioux Gateway (IA)
Phase of Flight:	Climb (4,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, wing
Wildlife Species:	Duck
Comments from Report: A duck shattered the windshield and hit the captain, who was injured from flying glass. The wing was also struck and a 1 ft square piece of aluminum was peeled off. Time out of service was 5 days.	

Date:	3 December 1993
Aircraft:	Cessna 550
Airport:	DuPage (IL)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Diverted, emergency landing
Damage:	Engine
Wildlife Species:	Goose
Comments from Report: Struck a flock of geese. A loud bang was followed by unstable flight. Lost power to #2 engine and had a substantial fuel leak. Emergency was declared and aircraft landed safely at Midway. Both engines had to be replaced. Time out of service was 3 months. Cost of repairs was $800,000.	

Date:	16 May 1994
Aircraft:	Bell BHT-47
Airport:	Tulsa, OK
Phase of Flight:	En Route
Effect on Flight:	Impacted ground
Damage:	Aircraft destroyed (1 fatality)
Wildlife Species:	Unknown bird
Comments from Report: Witnesses heard a loud noise and saw an object separate from the second of two helicopters. The helicopter then impacted inverted in the backyard of a residence. The pilot of the first helicopter said he had warned the second pilot of a flock of birds and that he had to bank sharply to avoid them. NTSB reported the probable cause as loss of control due to pilot's improper use of the cyclic and collective controls when he maneuvered abruptly to avoid colliding with a flock of birds. One fatality.	

Date:	18 June 1994
Aircraft:	Cessna 441
Airport:	Fort Frances (Ontario)
Phase of Flight:	Takeoff run
Effect on Flight:	Crashed on airfield
Damage:	Aircraft destroyed
Wildlife Species:	Ring-billed gull
Comments from Report: During takeoff, the left engine ingested gulls and lost power. The pilot could not control the aircraft and crashed on the airfield. The passengers sustained minor injuries and the aircraft was destroyed. (U.S. carrier)	

Date:	15 July 1994
Aircraft:	Cessna 172
Airport:	Indian Shores, FL
Phase of Flight:	En Route
Effect on Flight:	Impacted water
Damage:	Aircraft destroyed (1fatality)
Wildlife Species:	Pelican
Comments from Report: Aircraft was seen flying about 200 ft above the water along the beach. A large bird collided with the windshield. The aircraft rolled inverted and hit the water. The pilot was fatally injured.	

Date:	13 January 1995
Aircraft:	Lockheed L-1011
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Gulls was ingested in the #3 engine on takeoff. Loud booms came from the engine which was then shut down after several compressor stalls. Pilot declared an emergency and returned safely. Time lost was about 24 hours. Cost of repairs was $300,000.	

Date:	14 May 1995
Aircraft:	BAe Jetstream 31
Airport:	Capital (IL)
Phase of Flight:	Climb (200’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Rock dove
Comments from Report: At least two rock doves were ingested in the #1 engine. Engine lost 50% of thrust. Required a complete engine change. Time out of service was 15 hours. Cost was reported at $1.5 million.	

Date:	03 June 1995
Aircraft:	Concorde
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Landing roll
Effect on Flight:	Aircraft was towed to gate
Damage:	Engines
Wildlife Species:	Canada goose
Comments from Report: Aircraft ingested a Canada goose into the #3 engine, which had an uncontained failure causing parts to go into the #4 engine. Both engines were destroyed. Flames and smoke were seen coming from the engines. Aircraft was out of service for 5 days. Cost was over $9 million. The NY Port Authority paid $5.3 million in compensation for losses.	

Date:	19 September 1995
Aircraft:	Airbus 320
Airport:	La Guardia (NY)
Phase of Flight:	Landing
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: Aircraft struck several geese that were on either side of the runway centerline. Tower reported flames coming from the engine. There were no cockpit indications of fire. Two fan blades were damaged and 12 dead geese were removed from the runway. Time out of service was 2 days. Cost was $2.5 million.	

Date:	10 October 1995
Aircraft:	Dassault Falcon 900
Airport:	San Francisco International (CA)
Phase of Flight:	Climb (800' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Goose or heron
Comments from Report: One or two birds struck the #3 engine. Engine was shut down due to vibration and temperature increase. Time out of service was 2 days. Cost was estimated at $1 million.	

Date:	10 December 1995
Aircraft:	B-747
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Approach (7,500' AGL)
Effect on Flight:	Not reported
Damage:	Engines, cowling, wing, fuselage
Wildlife Species:	Snow goose
Comments from Report: As the aircraft broke through a cloudbank, it struck a flock of snow geese, which sounded like sandbags hitting. The impact destroyed one engine, damaged several fan blades on another and extensively damaged the airframe. Repairs cost approximately $6 million.	

Date:	8 January 1996
Aircraft:	B-737
Airport:	Sacramento Metro (CA)
Phase of Flight:	Climb (750' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Duck or goose
Comments from Report: Ingested a bird in #2 engine during climb. Vibration increased and crew throttled back and returned to land. One fan blade separated and other blades were damaged by re-ingestion of broken blade fragments. Engine was replaced.	

Date:	9 January 1996
Aircraft:	B-737
Airport:	Reno/Tahoe International (NV)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing & engine shut down
Damage:	Engine
Wildlife Species:	Snow goose
Comments from Report: Ingested a large bird during rotation. #1 engine failed and sparks were observed. Landed runway 16L because 16R had debris. Three fan blades were fractured with associated damage throughout the engine. Engine was replaced.	

Date:	31 March 1996
Aircraft:	B-737
Airport:	Kansas City International (MO)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Medium to large bird
Comments from Report: Airport operations found a piece of inlet cooling duct on runway from a B-737 that had just taken off. Aircraft returned and landed safely. Engine had several damaged guide vanes. Time out of service was about 24 hours.	

Date:	2 June 1996
Aircraft:	B-737
Airport:	Chicago Midway (IL)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Ingested a gull during climb-out. Tower observed flames from #2 engine and advised pilot who declared an emergency and returned to land without incident. Emergency equipment was on the runway. Aircraft landed using single engine landing procedures. Core and all fan blades were damaged. Engine was rebuilt.	

Date:	8 July 1996
Aircraft:	B-737
Airport:	Nashville International (TN)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	American kestrel
Comments from Report: Ingested a kestrel into the left engine, resulting in a compressor stall and an aborted takeoff. Aircraft overran the runway. Fire/rescue arrived, confirmed no fire and noted tires were deflating and smoking. Evacuation slides were de-armed and cabin doors opened for ventilation. Fire erupted from right brake and was extinguished by fire personnel. Flight attendants heard fireman shout "fire" and commanded an evacuation. One passenger was seriously injured, 4 others received minor injuries.	

Date:	7 August 1996
Aircraft:	B-737
Airport:	Orlando International (FL)
Phase of Flight:	Climb (20' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Duck
Comments from Report: Ingested a duck during climb-out. The engine began a series of compressor stalls. Time out of service was 8 days. Cost was $1,004,000.	

Date:	5 October 1996
Aircraft:	B-727
Airport:	Washington National (DC)
Phase of Flight:	Climb (2,000' AGL)
Effect on Flight:	Precautionary landing and engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Aircraft struck a flock of gulls just after takeoff, ingesting at least one bird. Engine began to vibrate and was shut down. A burning smell entered the cockpit. Emergency was declared and aircraft, carrying HUD Secretary Henry Cisneros along with 52 other passengers, returned to land at Washington National. Airport Fire and Rescue was on hand. Aircraft taxied to the ramp without incident. Engine blades were damaged.	

Date:	November 1996
Aircraft:	B-727
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (25,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Window
Wildlife Species:	Unknown bird
Comments from Report: Bird broke out pane of window. Aircraft returned to ORD from 70 miles south. Dumped 6,000 pounds of fuel. Landing uneventful. (exact date unknown)	

Date:	22 November 1996
Aircraft:	MD-80
Airport:	Sacramento International (CA)
Phase of Flight:	Climb (75' AGL)
Effect on Flight:	Precautionary landing & engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Several gulls were ingested just after takeoff causing the engine to loose power. Engine was shut down and an emergency was declared. The plane was forced to land much heavier than usual because of a full fuel load. There were no injuries and passengers were transferred to a replacement jet. Fan blades and engine were damaged. Runway was closed for approximately ½ hour.	

Date:	13 December 1996
Aircraft:	Beechcraft 1900
Airport:	Arnold Palmer Regional (PA)
Phase of Flight:	Landing roll
Effect on Flight:	Skidded to stop on runway
Damage:	Landing gear
Wildlife Species:	White-tailed deer
Comments from Report: Struck deer on landing causing left main gear to collapse. Propeller blades broke, underside of fuselage, wing tip and aileron flap were damaged. Aircraft was evacuated. No injuries.	

Date:	7 January 1997
Aircraft:	MD-80
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Climb (50' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, wing, radome
Wildlife Species:	Blackbird
Comments from Report: Aircraft struck over 400 birds just after takeoff. Almost every part of the plane was hit. Pilot declared an emergency and returned to land without event. Substantial damage was found on various parts of the aircraft. The #1 engine had to be replaced. Runway was closed for an hour. Personnel were sent to disperse another large flock on the airfield. Cost of repairs was estimated at $219,000. Birds had been attracted to an un-harvested wheat field on the airport.	

Date:	26 January 1997
Aircraft:	B-737
Airport:	Orlando International (FL)
Phase of Flight:	Climb (900' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Sandhill crane
Comments from Report: The aircraft struck a sandhill crane after departing MCO, totally destroying the #1 engine. Pilot made a precautionary landing.	

Date:	27 January 1997
Aircraft:	DC-10
Airport:	Los Angeles International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Crew thinks they hit a gull on takeoff. #3 engine had a vibration with oil quantity fluctuation. When oil quantity dropped to zero, engine was shut down ¾ of the way to Japan. Crew had planned to divert to Anchorage but decided against it due to poor weather. Feathers found in engine after landing. Cost was $1.5 million.	

Date:	28 February 1997
Aircraft:	Beechcraft 1900
Airport:	Charleston/AFB International (SC)
Phase of Flight:	Approach (3,000' AGL)
Effect on Flight:	None
Damage:	Windshield
Wildlife Species:	Egret or Heron (large white)
Comments from Report: Windshield on the right side shattered. Co-pilot received facial abrasions and needed medical attention to remove glass fragments from his eyes.	

Date:	05 April 1997
Aircraft:	Cessna 90 King Air
Airport:	Orlando Executive (FL)
Phase of Flight:	Approach (200' AGL)
Effect on Flight:	Nearly stalled below 150 ft.
Damage:	Radome, nose, propeller
Wildlife Species:	Gull
Comments from Report: Over 1,000 gulls covered the first 1,000 ft of runway. Pilot struck between 11 and 100, which caused a low altitude stall with miraculous recovery. He could not see out of the windshield. Aircraft bounced 4 times upon landing. Pilot believes there was insufficient notification and supervision of the condition on the airport. Time out of service was 10 days. Cost of repairs was $13,000.	

Date:	19 June 1997
Aircraft:	RV 6 - Homebuilt
Airport:	Bountiful Skypark (UT)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Crash landing
Damage:	Entire aircraft
Wildlife Species:	Homing pigeon
Comments from Report: Bird went through the canopy, which started to break apart. The pilot was forced to land in a nearby hayfield. Most of the damage occurred during landing and tip-over. The hay was 2-3 ft tall. The pilot sustained facial lacerations and required stitches. Time out of service was about 6 months. Cost of repairs was $30,000.	

Date:	17 July 1997
Aircraft:	Mitsubishi MU-2
Airport:	Hardin County (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Radome, nose, engines, propeller, landing gear, tail, wings.
Wildlife Species:	Canada goose
Comments from Report: Geese were on the ground extending across the runway and about 50 ft to each side in a line. Time out of service was about 7 weeks. Costs were over $110,000.	

Date:	23 July 1997
Aircraft:	Beechcraft 58
Airport:	Mid-America Industrial (OK)
Phase of Flight:	Landing roll
Effect on Flight:	Other
Damage:	Radome, engines #1 and #2, propeller, landing gear
Wildlife Species:	Deer
Comments from Report: During the landing roll a small herd of deer ran across the runway, directly in front of the plane. One deer struck the nose wheel, then bounced against the nose links causing it to collapse. Both propellers struck the ground. Time out of service was 3 months. Cost of repairs was $80,000.	

Date:	21 August 1997
Aircraft:	B-737
Airport:	Portland International (OR)
Phase of Flight:	Climb (1,400' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, nose, engine #1
Wildlife Species:	Mallard
Comments from Report: Pilot reported striking 12-15 ducks. Aircraft returned and landed safely. Radome and all engine fan blades were replaced. Time out of service was 15 hours. Costs were over $100,000.	

Date:	20 September 1997
Aircraft:	Bell 206
Airport:	12 mi SE of Houma, LA
Phase of Flight:	En Route
Effect on Flight:	Lost control of aircraft
Damage:	Rotor blades, tail, landing gear, lights, air frame
Wildlife Species:	Unknown bird
Comments from Report: Control tube was damaged, causing a hard landing (at 35 mph) which made the rotor blades flex and sever the tail boom. Airframe and skid tubes were damaged. Pilot had a disc compression injury. Time out of service was over 3 months. Cost to repair aircraft was $168,000.	

Date:	26 September 1997
Aircraft:	MD-80
Airport:	Portland International (OR)
Phase of Flight:	Approach
Effect on Flight:	Other
Damage:	Radome, nose
Wildlife Species:	Goose
Comments from Report: A flock of geese was struck on approach. One punctured the radome, which was replaced. Time out of service was 40 hours. Estimated cost was $100,000.	

Date:	08 October 1997
Aircraft:	B-727
Airport:	Orlando International (FL)
Phase of Flight:	Climb (1,750' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Unknown bird
Comments from Report: Right cockpit window shattered. First officer had possible glass in eye.	

Date:	13 October 1997
Aircraft:	B-757
Airport:	Logan International (MA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine, radome
Wildlife Species:	Duck and great blue heron
Comments from Report: Aircraft struck bird on takeoff. Both wings were impacted. The radome was damaged and the engine nacelle had a 2½ foot dent. Four fan blades were damaged.	

Date:	15 October 1997
Aircraft:	B-757
Airport:	Los Angeles International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engines #1 and #2
Wildlife Species:	Rock dove (pigeon)
Comments from Report: Aborted takeoff after striking and ingesting several pigeons. Aircraft returned to the gate and inspection revealed damage to both engines.	

Date:	05 November 1997
Aircraft:	B-737
Airport:	McCarran International (NV)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Pigeon or gull
Comments from Report: Bird was ingested in #2 engine during landing while in reverse thrust. Immediate engine vibration occurred that lasted until a return to idle thrust. At least nine fan blades had significant damage. Time out of service was 3-5 hours.	

Date:	15 November 1997
Aircraft:	Airbus 320
Airport:	John Wayne (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Large bird
Comments from Report: A large bird was ingested into one of the engines, causing a fire. Passengers heard a loud boom, then the aircraft dropped momentarily before recovering altitude. The aircraft circled for 30 minutes before making an emergency landing. Bird hit blades on starboard fan that broke or bent all blades causing damage to cowling and to the system behind the fan. The engine was changed. Time out of service was over 30 hrs. Cost of repairs $300,000 and other cost $800,000.	

Date:	16 November 1997
Aircraft:	BAe Jetstream 41
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Approach
Effect on Flight:	Other
Damage:	Windshield, flight instruments
Wildlife Species:	Gull
Comments from Report: Hit gulls about 20 miles from airport. Both panes of the captain's windshield were shattered, and the captain's flight instruments were knocked out. First officer took over and landed successfully, no injuries. Damage estimated at $50,000.	

Date:	30 November 1997
Aircraft:	Canard Pusher
Airport:	nearest location - Mojave Desert (CA)
Phase of Flight:	En Route
Effect on Flight:	Precautionary landing
Damage:	Canopy, propeller
Wildlife Species:	Unknown bird (maybe duck - web-footed)
Comments from Report: Aircraft was leveled off at 2500 ft AGL, speed 150 mph. Pilot looked up just in time to see a bird about 50 ft above flight path and several hundred feet ahead. Within 2 seconds, bird winged over and dived down striking the canopy head on. Canopy shattered and was completely missing from pilot's head forward. Pilot's headset was knocked off and he sustained facial injury. Pilot recovered headset, declared emergency and turned back to the airport. Glasses protected him from direct wind in his face at 100 mph. Propeller had a chunk missing from each blade and one had a split from tip toward center about 10" long.	

Date:	01 December 1997
Aircraft:	B-737
Airport:	Lehigh Valley International (PA)
Phase of Flight:	Takeoff run
Effect on Flight:	Diverted to PHL
Damage:	Engines #1 and #2
Wildlife Species:	Gull
Comments from Report: Emergency was declared and flight was diverted to Philadelphia. Both engines and cowlings were damaged. Time out of service was 20 hours. Cost of repairs $500,000.	

Date:	13 December 1997
Aircraft:	B-737
Airport:	Wilkes-Barre/Scranton International (PA)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine, nose cowl
Wildlife Species:	White-tailed deer
Comments from Report: Captain radioed tower that he believed he hit something. Damage was found to the nose cowl, engine cowl and one fan blade. Time out of service was 2 days awaiting new parts.	

Date:	17 December 1997
Aircraft:	Bellanca Super Viking
Airport:	Jefferson County (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Aircraft lost power
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft hit a deer on takeoff and lost power, crashing into a heavily wooded area. Aircraft was destroyed. Pilot was life-flighted out, passenger had minor injuries.	

Date:	04 January 1998
Aircraft:	B-737
Airport:	Salt Lake City International (UT)
Phase of Flight:	Climb (200’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Struck large birds. Significant damage to #1 engine. Engine ran rough until touchdown. Engine was shut down after landing.	

Date:	09 January 1998
Aircraft:	B-727
Airport:	Houston Intercontinental (TX)
Phase of Flight:	Climb (6,000’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, radome, right wing
Wildlife Species:	Snow goose
Comments from Report: Aircraft encountered a flock of birds. Three to five birds were ingested. The engine lost all power and was destroyed. The radome was torn from the aircraft, leading edges of both wings were damaged, and a pitot tube was torn off. Intense vibration in airframe and noise level in cockpit increased to the point that communication between crew members became difficult. An emergency was declared. The aircraft returned safely to Houston. Time out of service was 9 days. Cost was $293,537.	

Date:	23 January 1998
Aircraft:	Cessna 208
Airport:	Salt Lake City International (UT)
Phase of Flight:	Approach
Effect on Flight:	Unknown
Damage:	Stabilizer, elevator
Wildlife Species:	Unknown bird (probably a goose)
Comments from Report: Bird strike jammed the elevator. Pilot landed safely using power and elevator trim. Bird hit the end of the left stabilizer and peeled back some skin, which jammed the elevator in the neutral position.	

Date:	27 January 1998
Aircraft:	Cessna 340
Airport:	Wagoner Airstrip (OK)
Phase of Flight:	Landing roll
Effect on Flight:	Other
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft struck 2 deer on landing. The gear collapsed and the fuel tank was punctured, resulting in a fire which destroyed the aircraft.	

Date:	29 January 1998
Aircraft:	Cessna 500
Airport:	Horseshoe Bay Airpark (TX)
Phase of Flight:	Landing roll
Effect on Flight:	Unknown
Damage:	Fuel tank
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft struck a deer on landing. The fuel tank was punctured, spilling 200 gallons of fuel.	

Date:	3 February 1998
Aircraft:	Cessna Citation
Airport:	Watsonville (CA)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Engine shut down
Damage:	Engines #1 and 2, wing, fuselage, tail
Wildlife Species:	Gull
Comments from Report: Flew through a flock of 20 gulls and ingested 1 into right engine, causing it to seize. Replaced right engine, 4 fuselage windows, left leading edge and de-ice boot, both heated leading edges, large fuselage panel and 3 other wing/fuselage panels. Time out of service was 2 months. Cost over $470,000.	

Date:	10 February 1998
Aircraft:	Bell 206
Airport:	Nearest town – Scappoose, OR
Phase of Flight:	En Route
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Mallard
Comments from Report: A news helicopter reported a bird strike 3-5 miles southeast of Scappoose, OR. A mallard came through the windshield. No injuries.	

Date:	24 February 1998
Aircraft:	B-727
Airport:	Austin Bergstrom International (TX)
Phase of Flight:	Climb (1,300' AGL)
Effect on Flight:	Engines shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: The #1 engine compressor stalled, then seized after ingesting large birds. The engine was replaced. Time out of service was 15 hrs. Cost $5 million.	

Date:	24 February 1998
Aircraft:	B-747
Airport:	Nairobi Jomo Kenyatta
Phase of Flight:	Climb
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Lappet-faced vulture
Comments from Report: Engine had an uncontained failure. Time out of service was about 10 days. Cost $3.7-$4.0 million. (U.S. carrier)	

Date:	04 March 1998
Aircraft:	Piper 23
Airport:	Sommerset, NJ
Phase of Flight:	En Route
Effect on Flight:	Lost control of airplane
Damage:	Aircraft destroyed
Wildlife Species:	Unknown bird
Comments from Report: Witness saw the vertical stabilizer begin to oscillate and then separate from the plane. The plane crashed into a multiple family dwelling. NTSB investigation found an impact mark on the horizontal stabilizer which was consistent with a soft-bodied impact. Although no blood or bird remains were found, one witness reported seeing several birds flying in the area at the time of the accident. Both the pilot and a passenger were killed.	

Date:	06 March 1998
Aircraft:	B-727
Airport:	Boise Air Terminal (ID)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: A bird was ingested into one engine, causing an uncontained failure. The engine was shut down and the aircraft landed without incident. The runway was closed for about 1 hour, to remove fan blade parts.	

Date:	09 March 1998
Aircraft:	Merlin IV
Airport:	Denver International (CO)
Phase of Flight:	Approach
Effect on Flight:	Unknown
Damage:	Windshield
Wildlife Species:	Unknown bird
Comments from Report: While inbound to Denver, pilot reported a bird strike on the windshield, which shattered. Pilot reported he was okay, but had taken glass in the face.	

Date:	13 March 1998
Aircraft:	B-727
Airport:	Valencia International (Venezuela)
Phase of Flight:	Climb (3,600’ AGL)
Effect on Flight:	Engines shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Vulture
Comments from Report: On climb-out, pilot saw a large black bird pass over top of the cockpit. It struck the #2 engine, causing severe vibration. Crew secured the engine, dumped 12,000 pounds of fuel, declared an emergency and landed at Valencia. The engine was substantially damaged. Time out of service was 42 hours. (U.S. carrier)	

Date:	24 March 1998
Aircraft:	B-737
Airport:	Near Warrenton, VA
Phase of Flight:	En Route (17,00” AGL)
Effect on Flight:	Unknown
Damage:	Engine cowling
Wildlife Species:	Goose
Comments from Report: Aircraft struck a goose at 17,000 feet. Pilot landed with an engine cowling missing. Virginia State Police were searching for the cowling.	

Date:	04 April 1998
Aircraft:	MD-80
Airport:	La Guardia (NY)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing
Damage:	Radome
Wildlife Species:	Canada goose
Comments from Report: Aircraft struck multiple geese at rotation. Radome had a large hole. The aircraft had an air speed problem. Flight was diverted to Newark.	

Date:	06 April 1998
Aircraft:	Cessna 172
Airport:	Mallards Landing (GA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: Deer crossed in front of aircraft during takeoff with nose gear up. Aircraft swerved to avoid a deer, ran off the runway, flipped over and was destroyed. Pilot was injured.	

Date:	14 April 1998
Aircraft:	B-727
Airport:	Dane Co. Regional (WI)
Phase of Flight:	Climb (1,500’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: A bird was ingested when the aircraft was 2-3 miles from the airport. An emergency landing was made without incident. Even though the C1 fan was damaged beyond limits, the engine remained operational. The engine was replaced. Time out of service was 2 days. Cost of repairs was estimated at $15,000.	

Date:	28 April 1998
Aircraft:	Piper Cherokee
Airport:	Vandenburg (FL)
Phase of Flight:	Climb (550’ AGL)
Effect on Flight:	Engine shut down
Damage:	Aircraft destroyed
Wildlife Species:	Turkey vulture
Comments from Report: During a training flight, the aircraft struck a bird, which damaged the fuel system. The aircraft experienced fuel starvation and subsequently crashed into a field. Cost was $105,000.	

Date:	03 May 1998
Aircraft:	B-767
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Climb (3,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Major vibration after impact during climb power setting. Engine power reduced to idle. Immediate landing and shut down engine while exiting runway.	

Date:	07 May 1998
Aircraft:	B-727
Airport:	Colorado Springs Muni (CO)
Phase of Flight:	Climb (3,500'AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Radome, wing, fuselage, engine
Wildlife Species:	Canada goose
Comments from Report: Aircraft struck several geese just north of the airport. Crew felt moderate to severe vibration due to ingestion of one or more birds. Aircraft lost essential electrical power, which was restored by a generator. The #3 engine had an uncontained failure. Shrapnel was ejected through the engine case, which severed electrical wires and punctured the anti-ice bleed air duct. Radome was cracked, and upper engine cowling and thrust reverser were also damaged. Time out of service was 4 days. Cost was $1.4 million. NTSB investigated.	

Date:	11 May 1998
Aircraft:	B-747
Airport:	Unknown (Buenos Aires to Miami)
Phase of Flight:	Unknown
Effect on Flight:	None
Damage:	Radome, wing, fuselage, engine
Wildlife Species:	Unknown bird
Comments from Report: Crew was unaware bird strike occurred. Damage found during maintenance post flight inspection. Damage pattern indicates bird impacted engine cone and separated into 2 parts, damaging compressor blades in 2 areas 180 degrees apart. Nose cone and 12 compressor blades were damaged. Time out of service was 14 hrs. Cost was $132,000. (U.S. carrier)	

Date:	28 May 1998
Aircraft:	B-767
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Climb (900' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, wing
Wildlife Species:	Canada goose
Comments from Report: One goose was ingested shortly after departure. ARFF responded. The #2 engine's 1st set of fan blades was damaged and there was a hole in the right flap. Aircraft immediately returned to JFK and landed without incident.	

Date:	31 May 1998
Aircraft:	Piper Cherokee
Airport:	Sikeston Memorial Municipal (MO)
Phase of Flight:	Landing roll
Effect on Flight:	Lost control of aircraft
Damage:	Not reported - substantial
Wildlife Species:	White-tailed deer
Comments from Report: Pilot tried to avoid striking a deer on landing, lost control and struck a group of trees. Aircraft had substantial damage and pilot had minor injuries. NTSB investigated.	

Date:	02 June 1998
Aircraft:	B-747
Airport:	Not reported
Phase of Flight:	Climb (11,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: On climb-out, suspected bird strike on #3 engine fan cowling. The cowling broke free, damaging the wing leading edge and upper surface, pneumatic ducting, generator feeder cables and leading edge flap. Time out of service was 2 weeks.	

Date:	04 June 1998
Aircraft:	Cessna Citation
Airport:	Jackson International (MS)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Power pulled back 100%, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Pilot declared an emergency and landed safely after ingesting a bird on takeoff. Time out of service was estimated at 1 week. Cost of repairs was $200,000.	

Date:	28 June 1998
Aircraft:	B-737
Airport:	Norfolk International (VA)
Phase of Flight:	Takeoff run
Effect on Flight:	Engines shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: One gull was ingested, causing the pilot to make a precautionary landing. There was smoke in the cockpit and engine vibration. Three pairs of fan blades were replaced in the #2 engine.	

Date:	05 July 1998
Aircraft:	Piper Comanche
Airport:	Near Fort Myers, FL
Phase of Flight:	En Route (1,000' AGL)
Effect on Flight:	Other
Damage:	Windshield
Wildlife Species:	Double-crested cormorant
Comments from Report: Pilot never saw bird. Cormorant penetrated the windshield. Pilot sustained facial lacerations from the windshield.	

Date:	13 July 1998
Aircraft:	B-757
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Climb (600' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Hawk
Comments from Report: A hawk was ingested into the left engine. Tower observed flames coming from the tailpipe. Aircraft returned and landed without incident with 54 passengers and 33,000 lbs. of fuel. Flames were extinguished quickly and the aircraft taxied to the gate without further incident. Outboard portion of at least 4 blades was damaged, two significantly.	

Date:	14 July 1998
Aircraft:	B-737
Airport:	Nashville International (TN)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Ingested 1 bird at rotation. Caused odor in cabin. Engine ran normally. On arrival at Midway, mechanic found several damaged fan blades.	

Date:	19 July 1998
Aircraft:	B-737
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Climb (3,500' AGL)
Effect on Flight:	Reduced engine power, precautionary landing
Damage:	Engine
Wildlife Species:	Vulture
Comments from Report: Crew saw a flock of vultures prior to impact of 1 or more birds in the vicinity of the #1 engine. Heard impact and smelled freshly baked bird throughout entire cockpit/cabin. Retarded #1 throttle to near idle. Emergency was declared and returned to land uneventfully at DFW.	

Date:	22 July 1998
Aircraft:	Beechcraft 58
Airport:	Antrim County (MI)
Phase of Flight:	Landing roll
Effect on Flight:	Not reported
Damage:	Engines, propellers, landing gear, flaps
Wildlife Species:	White-tailed deer
Comments from Report: Two deer came onto the runway. Each propeller hit a deer cutting them in half. One was thrown into the left gear and left flap. The other deer went under the right wing striking the right flap. Time out of service was 1 month. Cost was $33,000.	

Date:	22 July 1998
Aircraft:	MD-80
Airport:	Burbank (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: An emergency landing was made after the jetliner ingested a gull into one of its two engines at lift-off. The damaged engine was shut down. All 95 passengers were re-routed. Several flights were cancelled.	

Date:	7 August 1998
Aircraft:	Dassault Falcon 20
Airport:	Sioux Gateway (IA)
Phase of Flight:	Climb (1,900’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Bird hit wing, then went into the #1 engine which flamed-out and restarted. Debris from bird packed the air tubes and caused heat distress when engine relit. Time out of service was 5 days. Cost was $59,000.	

Date:	8 August 1998
Aircraft:	B-767
Airport:	Philadelphia International (PA)
Phase of Flight:	Climb (300’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Five blades were damaged. ARFF responded. Inspection found evidence of core ingestion. Time out of service was 8 hrs.	

Date:	11 August 1998
Aircraft:	B-737
Airport:	Philadelphia International (PA)
Phase of Flight:	Takeoff run
Effect on Flight:	Not reported
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: The #1 engine was totaled. Time out of service was 36 hours.	

Date:	15 August 1998
Aircraft:	BAe Jetstream 31
Airport:	Altoona-Blair County (PA)
Phase of Flight:	Landing roll
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Mourning dove & killdeer
Comments from Report: One or more birds were ingested bird. Twenty-two carcasses (mostly mourning doves) were removed from the runway. Engine was removed for overhaul. Outbound flight canceled, 17 passengers displaced. Time out of service was 24 hours. Cost was $56,000.	

Date:	25 August 1998
Aircraft:	ATR 42
Airport:	Reagan Washington National (DC)
Phase of Flight:	Approach (150’ AGL)
Effect on Flight:	None
Damage:	Fuselage
Wildlife Species:	Unknown bird
Comments from Report: Three holes found in bottom of fuselage. Landed without incident. Aircraft was ferried for repairs.	

Date:	29 August 1998
Aircraft:	B-747
Airport:	Unknown
Phase of Flight:	Unknown
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Fan blades were damaged. Evidence of strike found on transit check. Flight crew was unaware of the strike. Time out of service was 2 days. Cost of repair was $75,000.	

Date:	29 August 1998
Aircraft:	Beechcraft 55
Airport:	Quad City (IL)
Phase of Flight:	Touch and go
Effect on Flight:	Aborted takeoff
Damage:	Engines, windshield, wings, landing gear, fuselage
Wildlife Species:	Canada goose
Comments from Report: Aircraft struck a flock of geese while practicing touch and go landings at night. Windshield broke and cut the pilot.	

Date:	31 August 1998
Aircraft:	Cessna 550
Airport:	Renton Municipal (WA)
Phase of Flight:	Landing flare
Effect on Flight:	None
Damage:	Engines, wings, landing gear
Wildlife Species:	Canada goose
Comments from Report: Geese were sleeping on the runway. Several were struck. Wings and flaps were dented and punctured. Fan blades were damaged in #1 engine. Engine was removed and sent to the engine manufacturer for inspection.	

Date:	01 September 1998
Aircraft:	B-767
Airport:	London Heathrow
Phase of Flight:	Approach
Effect on Flight:	Flight cancelled
Damage:	Engines, radome, wings, landing gear
Wildlife Species:	Canada goose
Comments from Report: The #1 engine ingested geese. Every fan blade in the #1 engine was replaced Aircraft was grounded for several days. The radar inside the radome was smashed. 25-30 geese were removed from the runway. Cost of repairs was over $1 million. (U.S. carrier)	

Date:	6 September 1998
Aircraft:	Saab 340
Airport:	Gorman Pass, CA
Phase of Flight:	En Route (12,000 MSL)
Effect on Flight:	Precautionary landing
Damage:	Engine, radome, windshield, nose, propeller, wing, tail, fuselage
Wildlife Species:	Goose/duck
Comments from Report: Left window was 85% covered with blood & remains. Window pressure plate was damaged and the radome was caved in. Estimated cost is $6,500.	

Date:	18 September 1998
Aircraft:	B-737
Airport:	Houston Hobby (TX)
Phase of Flight:	Approach (2,500' AGL)
Effect on Flight:	None
Damage:	Engine, fuselage
Wildlife Species:	Gull
Comments from Report: Two birds were struck. One was ingested in the #2 engine, causing vibration. Entire fan assembly was replaced. Cost was approximately $108,500. Time out of service was 6 hours.	

Date:	22 September 1998
Aircraft:	Cessna 500
Airport:	St. Paul Downtown (MN)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	American kestrel
Comments from Report: Five blades were damaged when a kestrel was ingested. Time out of service was 2 days. Cost was $16,000.	

Date:	23 September 1998
Aircraft:	MD-80
Airport:	La Guardia (NY)
Phase of Flight:	Climb (1,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Hit a small flock of birds at night. One hit the clearview window. One or more were ingested in the #1 engine, breaking compressor blades and damaging the shroud.	

Date:	25 September 1998
Aircraft:	Dassault Falcon 20
Airport:	Birmingham International (AL)
Phase of Flight:	Climb (4,000 AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Hit an unknown number of birds at night. One or more were ingested in the #2 engine, causing vibration and 80% thrust loss. Aircraft returned to the airport and the engine was shut down after landing. Two blades were damaged. Time out of service was 1 week. Cost was $131,000.	

Date:	29 September 1998
Aircraft:	B-747
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Climb (900' AGL)
Effect on Flight:	Precautionary landing, engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Engine was shut down because of vibration. Dumped 120,000 lbs. of fuel and landed uneventfully. Uncontained engine failure. Time out of service 3 days. Cost was $136,858.	

Date:	15 October 1998
Aircraft:	DC-10
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down and precautionary landing
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: One bird was ingested at rotation. Pilot heard a loud thud and was losing power in the #3 engine. A pilot on the ground saw the engine flame out. Engine parts and a carcass were recovered. There was substantial damage. About 26,000 pounds of fuel had to be dumped over the local community and a HAZMAT team was dispatched. Runway was closed for approximately 30 minutes. Over 200 passengers were inconvenienced.	

Date:	19 October 1998
Aircraft:	BAe Jetstream 31
Airport:	Binghamton Regional (NY)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing & engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Pilot reported 1 bird was ingested at rotation. There was a partial loss of power. Aircraft landed safely and the engine was shut down on the taxiway. The crew noticed smoke and flame and discharged fire extinguisher. No injuries occurred during the evacuation.	

Date:	19 October 1998
Aircraft:	Fokker 100
Airport:	Dallas-Fort Worth International (TX)
Phase of Flight:	Climb (350' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Turkey vulture
Comments from Report: Bird hit the #2 engine. Damage was noted immediately. Pilot reduced power to idle and made a precautionary landing. Landing was overweight, which required additional inspections. One engine was replaced.	

Date:	23 October 1998
Aircraft:	Cessna Citation
Airport:	Houston Hobby (TX)
Phase of Flight:	Climb (1,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Wing, radome, tail, fuselage, windshield
Wildlife Species:	Crane
Comments from Report: Pilot reported a flock of about 30 cranes was encountered during climb. Several birds were struck. A precautionary landing was made to inspect aircraft. Time out of service was about 1 month. Cost of repairs $250,000.	

Date:	04 November 1998
Aircraft:	B-747
Airport:	Louisville International (KY)
Phase of Flight:	Climb (1,500' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Snow goose
Comments from Report: A flock of snow geese caused engine damage soon after takeoff. Parts of the aircraft rained down on a barn at Churchill Downs, which housed several valuable racehorses. Pilot made a precautionary landing. No report was filed for this strike.	

Date:	07 November 1998
Aircraft:	Cessna Citation
Airport:	Fort Smith Regional (AR)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine, wing
Wildlife Species:	Dove
Comments from Report: A large flock of doves flew into the aircraft at rotation speed. One engine failed. An emergency landing was made. Leading edge of right wing was also damaged. Right engine fan was destroyed. Time out of service 24 hrs. Cost of repair was $170,000.	

Date:	09 November 1998
Aircraft:	B-737
Airport:	Los Angeles International (CA)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Rock dove (pigeon)
Comments from Report: A large flock of doves flew into the aircraft at rotation. At least 12 were struck. An emergency landing was made. Several engine fan blades were damaged. Other parts were struck, but the damage was undetermined at time of the report. Cost of repair was $63,500.	

Date:	10 November 1998
Aircraft:	Aero Commander 500
Airport:	Philip Billard Municipal (KS)
Phase of Flight:	Climb (3,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, windshield, tail, landing gear
Wildlife Species:	Goose
Comments from Report: Four geese struck the aircraft over Lake Perry. Pilot declared an emergency and returned to land at Billard Airport. Copilot received injuries to hand and arm. Pilot temporarily lost control. There was major damage to the aircraft. Repair cost unknown at this time. Time out of service 2 months and counting, due to unavailable parts.	

Date:	13 November 1998
Aircraft:	B-737
Airport:	Albany County (NY)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Snow bunting
Comments from Report: A flock of buntings was ingested into the #1 engine on rotation, causing a booming sound and flames streaking from the engine. The smell of smoke entered the cabin and the aircraft made an emergency landing. Ninety-one passengers were rebooked on other flights. Time out of service was 12 hours.	

Date:	17 November 1998
Aircraft:	B-737
Airport:	Western Nebraska Regional (NE)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Deer
Comments from Report: Aircraft struck a buck deer on the runway and proceeded with takeoff, then returned to land. There was major damage to the engine. The flight was cancelled; passengers and crew were rerouted the next day. Total cost was $430,000, including repairs, lost revenue, meals and hotel rooms, and other transportation for passengers.	

Date:	24 November 1998
Aircraft:	B-737
Airport:	Baltimore-Washington International (MD)
Phase of Flight:	Climb (3,000' AGL)
Effect on Flight:	Engine shut down and precautionary landing
Damage:	Engine
Wildlife Species:	Goose
Comments from Report: Aircraft made an emergency landing after ingesting a goose into the right engine. One passenger reported, "The plane began jerking around and vibrating and everything started to smell like smoke." The pilot had to shut the engine down and land with one engine. Emergency vehicles were standing by and an inspection was made before the aircraft was allowed to taxi to the gate. Over 100 passengers had to be rebooked on other flights. The engine was replaced.	

Date:	24 November 1998
Aircraft:	Lancair (experimental)
Airport:	Camarillo (CA)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Unknown bird
Comments from Report: Shortly after takeoff, a bird went through the windshield, striking the pilot in the eye. With impaired vision, the pilot returned to land safely at airport.	

Date:	6 December 1998
Aircraft:	B-727
Airport:	Southwest Florida International (FL)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Mottled duck
Comments from Report: Aircraft made an emergency landing after ingesting a bird into one of three engines. Pilot circled for 30 minutes to burn off some of the 39,000 gallons of fuel because they were not at a safe altitude to dump it. Additional fire and rescue crews were called to the scene. Engine had bent blades. All 145 passengers were placed on other flights. No report was filed on this strike. Time out of service was 24 hours. ID by the Smithsonian, Division of Birds.	

Date:	31 December 1998
Aircraft:	MD-80
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (2,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, nose, landing gear door
Wildlife Species:	Canada goose
Comments from Report: Struck numerous geese shortly after takeoff. Pilot circled to burn off some fuel before landing overweight. Emergency equipment was at the runway. Replaced radome. Landing gear door bent. Two crew would not board another aircraft to continue the flight. Time out of service was 8 hours.	

Date:	03 January 1999
Aircraft:	BAe 146
Airport:	Westchester County (NY)
Phase of Flight:	Descent (3,000' AGL)
Effect on Flight:	First officer took over flight
Damage:	Engine cowl, radome, radar unit
Wildlife Species:	Mallard
Comments from Report: Aircraft was over the Hudson River Valley at 250 mph when it struck a flock of ducks, which completely obscured the captain's window and ½ of the first officer's window. The first officer took control of the aircraft and landed. The radome was caved in and the radar unit was damaged. A duck was ingested through the engine and a 2-ft by 4-in strip of sheet metal was ripped off the top of the engine cowl.	

Date:	16 January 1999
Aircraft:	Raytheon Hawker 800
Airport:	Manassas Regional (VA)
Phase of Flight:	Climb (300' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, landing gear
Wildlife Species:	Unknown bird
Comments from Report: Ingested a large bird after takeoff. The engine cowling was damaged, 12 fan blades were bent along with numerous inlet guide vanes and 2 compressor blades. The right hand stall vane was missing and 2 tires had to be replaced. Time out of service was 24 hours. Cost of repairs was $307,000.	

Date:	25 January 1999
Aircraft:	Dassault Falcon 10
Airport:	Lunken (OH)
Phase of Flight:	Climb (75' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: Ingested a duck shortly after takeoff. Engine experienced an uncontained failure and was destroyed. Aircraft was towed to the ramp. Time out of service was 2 ½ days. Cost of repairs was $800,000.	

Date:	8 February 1999
Aircraft:	Beechcraft 1900
Airport:	General Mitchell (WI)
Phase of Flight:	Approach (3,000' AGL)
Effect on Flight:	Engine shut down
Damage:	Wing
Wildlife Species:	Canada goose
Comments from Report: Twenty miles northeast of the airport, a goose passed through the leading edge, a fuel cell and a wing spar, lodging just in front of the aileron. Bird entered the fuel tank causing a leak. The aircraft landed safely with 1 engine out. Wing damage greatly affected the flight. Time out of service was 10 days. Repair cost was $30,000. Other costs totaled $75,000.	

Date:	22 February 1999
Aircraft:	B-757
Airport:	Cincinnati/Northern Kentucky International (KY)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Emergency landing
Damage:	Engine #1 and #2, wing
Wildlife Species:	European starling
Comments from Report: At rotation a flock of starlings crossed in front of the aircraft. First officer tried to climb over them, but struck several hundred. Both engines ingested birds and were damaged. There was a massive clean up of 400 birds. NTSB investigated. Cost of repairs was approximately $500,000.	

Date:	25 February 1999
Aircraft:	Learjet 35
Airport:	Kansas City Downtown (MO)
Phase of Flight:	Approach (2,000' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine, wing
Wildlife Species:	Snow goose
Comments from Report: On approach to Kansas City Downtown Airport, a flock of snow geese was encountered over Kansas City International Airport. One hit the copilot's side window, blocking visibility; another was ingested by an engine which shut down. At least 8 birds hit the aircraft. The wing leading edge was damaged severely on both sides. Five carcasses were found on Kansas City International Airport runway. A single engine landing was accomplished. Aircraft was out of service 3 months. Cost totaled $501,800.	

Date:	04 March 1999
Aircraft:	DC-9
Airport:	Kansas City International (MO)
Phase of Flight:	Approach (800' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine #1 and #2
Wildlife Species:	Snow goose
Comments from Report: Aircraft struck a flock of snow geese and ingested birds in both engines. One engine shut down and the other was severely damaged but continued working. The aircraft landed without incident. NTSB investigated.	

Date:	05 March 1999
Aircraft:	B-737
Airport:	New Orleans International (LA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Ingested 1 medium-sized bird on takeoff. Aircraft returned to the airport with 6 damaged fan blades.	

Date:	16 March 1999
Aircraft:	DC-9
Airport:	Greater Pittsburgh International (PA)
Phase of Flight:	Approach
Effect on Flight:	Unknown
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: Two geese were struck on final approach. One engine was destroyed. Time out of service was 17 hours.	

Date:	16 March 1999
Aircraft:	SA-226
Airport:	Boise Air Terminal (ID)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing
Damage:	Nose, engine
Wildlife Species:	Mallard
Comments from Report: Strange sound heard at rotation followed by a strange smell in cabin. Made a precautionary landing. The SAS Vane was removed by the strike and the bird was ingested into a compressor, where it bent an impeller blade. Time out of service was three weeks. Engine repairs cost $37,500 and lost revenue was $27,000.	

Date:	17 March 1999
Aircraft:	Learjet 35
Airport:	Fort Lauderdale Executive (FL)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Egret or gull
Comments from Report: A flock of egrets or gulls was struck on takeoff. Aborted takeoff was uneventful. Four engine fan blades were bent and compressor also had bent blades. Time out of service was 3 days. Cost was $87,500 for repairs and loss of revenue.	

Date:	09 April 1999
Aircraft:	Learjet 25
Airport:	Omaha Eppley Airfield (NE)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Both engines
Wildlife Species:	Gull
Comments from Report: A flock of gulls was struck on takeoff. Both engines sustained substantial damage. Aircraft returned and landed without incident.	

Date:	07 May 1999
Aircraft:	B-737
Airport:	Lincoln Municipal (NE)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk and gulls
Comments from Report: A flock of gulls and a red-tailed hawk were struck on rotation. Aircraft returned and landed without incident. Flight was cancelled. The #1 engine had an uncontained failure and was replaced. Engine parts were found on the runway. ID of ingested bird by the Smithsonian, Division of Birds.	

Date:	11 May 1999
Aircraft:	Cessna Citation
Airport:	Long Beach (CA)
Phase of Flight:	Approach (2,500' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Rock dove (pigeon)
Comments from Report: Pilot believes a pigeon was ingested. The bird hit the temperature probe, which destroyed all 28 fan blades. Time out of service was 3 weeks. Repair cost estimated at $150,000. Company rented an engine while repairs were being made.	

Date:	13 May 1999
Aircraft:	B-747
Airport:	Narita International (Japan)
Phase of Flight:	Not reported
Effect on Flight:	Not reported
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Unknown number of birds ingested into #4 engine. All 38 blades were replaced. (U.S. carrier)	

Date:	19 May 1999
Aircraft:	B-757
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (5,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: An unknown number of gulls were ingested into the #1 engine 50 miles from the airport. Aircraft returned to land. Flight was cancelled. Time out of service was about 23 hours. Cost of repair estimated at $76,000.	

Date:	20 May 1999
Aircraft:	BAe Jetstream 31
Airport:	Kent County International (MI)
Phase of Flight:	Approach (1,500' AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Aircraft ingested a medium-sized bird which required an engine change. Time out of service was 2 days. Cost of repairs was $200,000.	

Date:	22 May 1999
Aircraft:	Saab 340
Airport:	Purdue University (IN)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine, propeller, lights
Wildlife Species:	Canada goose
Comments from Report: Aircraft struck at least 4 geese. The propeller on each engine was damaged. Time out of was service over 3 days. Cost was $1.2 million.	

Date:	12 June 1999
Aircraft:	Beechcraft 90
Airport:	Westchester County (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Landing gear, nose, engines, propellers, wings, fuselage, lights
Wildlife Species:	Coyote
Comments from Report: Aircraft struck a coyote at night. Nose gear was torn from aircraft, causing other parts of plane to be damaged. Time out of service was 5 months. Lost revenue was $55,000 and cost of repairs was $550,000.	

Date:	28 July 1999
Aircraft:	B-767
Airport:	Ben Gurion International (Israel)
Phase of Flight:	Climb
Effect on Flight:	Engine shut down, emergency landing
Damage:	Engine, cowling, radome, landing gear
Wildlife Species:	Yellow-legged gull
Comments from Report: Aircraft ingested a flock of birds shortly after takeoff and made an emergency landing. Crew reported a fireball exiting from the exhaust and engine vibration. Engine was shut down. Engine had an uncontained failure. Large hole in engine cowl from fan blades. Overweight landing blew tires. Eight tires and brakes had to be replaced. More than 200 passengers had to be put on other flights. (U.S. carrier)	

Date:	31 July 1999
Aircraft:	B-737
Airport:	Baltimore Washington International (MD)
Phase of Flight:	Takeoff run
Effect on Flight:	Emergency landing, engine shut down
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Aircraft ingested a gull. The engine was shut down and an emergency was declared. The aircraft landed without incident and had to wait 4 days for a replacement engine.	

Date:	5 August 1999
Aircraft:	DC-10
Airport:	Detroit Metropolitan (MI)
Phase of Flight:	Landing roll
Effect on Flight:	Engine shut down
Damage:	Engine #1 and #3
Wildlife Species:	Canada goose
Comments from Report: Aircraft hit several geese upon landing. The #1 engine flamed out and was shut down immediately. Engines 1 and 3 were replaced. Total cost $700,000.	

Date:	13 September 1999
Aircraft:	B-737
Airport:	Chicago Midway (IL)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: Aircraft ingested a red-tailed hawk on takeoff, destroying the engine. Time out of service was 6 days. Cost of repairs and other costs totaled $476,250.	

Date:	19 September 1999
Aircraft:	MD-83
Airport:	Wichita Mid-Continent (KS)
Phase of Flight:	Climb (50’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, landing gear, light, windshield wiper
Wildlife Species:	European starling
Comments from Report: Aircraft hit 30 starlings just after lift off. Burning smell noted. Emergency declared and aircraft returned to land. Birds found imbedded in landing gear and windshield wipers. The engine had several nicked blades, the nose gear down-lock spring was broken, a taxi light lens was missing and one windshield wiper arm was bent. Secretary of Agriculture Dan Glickman was on board.	

Date:	15 October 1999
Aircraft:	Cessna 182
Airport:	Air Haven (NY)
Phase of Flight:	Landing roll
Effect on Flight:	Flight delayed
Damage:	Wing, landing gear, propeller, fuselage
Wildlife Species:	White-tailed deer
Comments from Report: Pilot veered to avoid deer on runway and went into an embankment. Left wing snapped in half. Propeller and left landing gear were destroyed and the fuselage was damaged. Time out of service was 3 months. Cost to repair was $90,000.	

Date:	15 October 1999
Aircraft:	B-767
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Landing roll
Effect on Flight:	Other
Damage:	Engine
Wildlife Species:	Osprey
Comments from Report: Osprey holding fish on centerline was ingested into #1 engine. Seven fan blades were damaged. The flight was delayed 1 hour. Cost of repairs was $35,000.	

Date:	20 October 1999
Aircraft:	MD-80
Airport:	Philadelphia International (PA)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Gull or goose
Comments from Report: Burning smell in cabin after bird was ingested. Plane started to shake. Emergency landing was made. Captain reported #2 engine a complete loss.	

Date:	07 November 1999
Aircraft:	American AA-1B
Airport:	Lake Viking (MO)
Phase of Flight:	Landing flare
Effect on Flight:	Left runway
Damage:	Nose landing gear, wing (maybe more)
Wildlife Species:	Deer
Comments from Report: The aircraft struck a 12-point buck during the landing flare at night. The deer hit the front and right wing of the plane causing it to veer off the runway and stop nose down, 50 feet off the runway. The nose strut was found near the deer on the runway. Damage was substantial. NTSB investigated.	

Date:	15 November 1999
Aircraft:	Beechcraft 65
Airport:	Alpine-Casparis Muni (TX)
Phase of Flight:	Takeoff run
Effect on Flight:	Emergency landing
Damage:	Wing, landing gear
Wildlife Species:	White-tailed deer
Comments from Report: The pilot attempted to rotate the aircraft in order to avoid the deer, but the landing gear hit the deer. Ground personnel could not tell if there was any damage during a flyby. The tower could not see the right main landing gear. The pilot elected to land gear up; however, the right main landing gear had not retracted. There was substantial damage to the right wing spar, landing gear and wheel assembly.	

Date:	17 November 1999
Aircraft:	Learjet 60
Airport:	Truckee-Tahoe (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Other
Damage:	Not reported
Wildlife Species:	Mule deer
Comments from Report: Aircraft struck a deer on takeoff. A fire ensued, causing substantial damage. Time out of service was 2 weeks. Cost of repairs was $82,000. Other costs totaled $120,000.	

Date:	23 November 1999
Aircraft:	Bell 206
Airport:	4 miles NE of Addison, TX
Phase of Flight:	En Route (1,200' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Duck
Comments from Report: A traffic helicopter pilot saw 3-4 ducks. One hit the windshield, shattering it and leaving an 18" hole. Duck entered cockpit, hit pilot on left arm then hit rear seat passenger, knocking his headset off. Passenger was taken to the hospital. No serious injuries. Time out of service was 36 hours. Cost of repairs was $1,500.	

Date:	01 December 1999
Aircraft:	B-727
Airport:	Philadelphia International (PA)
Phase of Flight:	Climb (5,000' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine, wing
Wildlife Species:	Snow goose
Comments from Report: While climbing, aircraft hit 2-10 birds. Location was 5-8 miles west of airport. The engine was shut down and the aircraft returned to land. There was a hole in the wing and the engine was destroyed. Time out of service was 3 days. Cost of repairs was $449,000.	

Date:	03 December 1999
Aircraft:	Beechcraft 58
Airport:	Festus Memorial (MO)
Phase of Flight:	Takeoff (rotation)
Effect on Flight:	None
Damage:	Landing gear, wing, engine, propeller
Wildlife Species:	Deer
Comments from Report: During rotation, a deer collided with the landing gear. Indicators showed no problem. Upon landing, the left main gear collapsed damaging the left wing, engine and prop.	

Date:	11 December 1999
Aircraft:	B-747
Airport:	Toledo Express (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: A hawk hit the nose bullet, which shattered and entered the engine. Caller to sheriff reported hearing a large boom and seeing one of the engines on fire as aircraft took off. Fuel was dumped and aircraft returned to land. Pieces of fan blades put large holes in the nose cowling. The engine was shut down due to vibration. Time out of service was 3 ½ days. Cost to repair was $1.3 million.	

Date:	02 January 2000
Aircraft:	Hawker 800
Airport:	Fort Myers International (FL)
Phase of Flight:	Approach (200’ AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown, suspect gull
Comments from Report: Engine ingested at least 1 gull. No abnormal engine indications. Maintenance found damaged stator vanes and compressor blades. Time out of service was 4 days. Cost was $90,000.	

Date:	07 February 2000
Aircraft:	DC-10-30
Airport:	Subic Bay (Philippines)
Phase of Flight:	Climb (250’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Fruit bat
Comments from Report: Engine ingested at least 1 bat. Vibration was felt. Five damaged fan blades had to be replaced. Time out of service was 3 days. Cost of repairs was $61,000. Other related costs totaled $3,008,400. (U.S. carrier)	

Date:	19 February 2000
Aircraft:	B-737
Airport:	Chicago Midway (IL)
Phase of Flight:	Climb (10’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: Just after rotation on takeoff, a large bird was ingested and the engine vibration was high. Fan blades were damaged. The engine was operated at reduced thrust for the remainder of the flight. The landing was uneventful.	

Date:	21 February 2000
Aircraft:	Airbus 320
Airport:	San Diego International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, landing light
Wildlife Species:	Gull
Comments from Report: Engine had several bent fan blades and a landing light was broken from striking a flock of gulls. Takeoff was aborted and the aircraft returned to the gate. About 30 gull carcasses were removed, closing the runway for 15 minutes and causing 7 departure delays. The airline cancelled two flights, inconveniencing 110 passengers. Cost for repairs and lost revenue was $157,000.	

Date:	22 February 2000
Aircraft:	Airbus 320
Airport:	Philadelphia International (PA)
Phase of Flight:	Climb (1,000' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Goose
Comments from Report: Two geese were ingested, destroying the #1 engine. Overweight landing was made and emergency equipment was standing by. Time out of service was 2 days. Cost estimated at $2.5 million.	

Date:	24 February 2000
Aircraft:	BAe 125-800
Airport:	Floyd Jones Memorial (MO)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine, wing, airbrakes
Wildlife Species:	Deer
Comments from Report: Deer strike damaged the left wing flap, which, in turn, struck and damaged the engine cowling. Time out of service was 1 month. Cost to repair was $200,000.	

Date:	25 February 2000
Aircraft:	B-737
Airport:	Sacramento International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: The aircraft returned to the airport after a bird strike on takeoff. The pilots heard a loud bang and the plane suddenly yawed. The air cooler was plugged and 7 fan blades were damaged.	

Date:	02 March 2000
Aircraft:	Beechcraft 350
Airport:	Ryan Field (MN)
Phase of Flight:	Descent (3,000' AGL)
Effect on Flight:	None
Damage:	Horizontal stabilizer
Wildlife Species:	Canada goose
Comments from Report: Goose strike damaged the left horizontal stabilizer leading edge. Time out of service was 17 days. Costs for repairs and lost revenue were $225,000.	

Date:	05 March 2000
Aircraft:	B-747
Airport:	Forbes Field (KS)
Phase of Flight:	Climb (2,500' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Ingested bird caused a compressor stall and flameout at 2500 feet AGL. The flight was diverted to Minneapolis St. Paul Airport. Engine was removed and replaced, also replaced nose cowl. Cost of repairs was $445,990.	

Date:	29 March 2000
Aircraft:	B-767
Airport:	Dulles International (DC)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Bonaparte's gull
Comments from Report: Ingested a flock of gulls and returned to the airport. Fan blades were damaged. Passengers were put on later flights. Cost of repairs was $65,000.	

Date:	12 April 2000
Aircraft:	Cessna 500
Airport	Southeast Texas Regional (TX)
Phase of Flight:	Climb
Effect on Flight:	Engine shut down
Damage:	Engine, landing gear
Wildlife Species:	Laughing gull
Comments from Report: The left engine ingested a flock of gulls at lift-off. The engine fan was a total loss. The right main landing gear heat shield broke. Time out of service was 3 days. Cost $247,000.	

Date:	19 April 2000
Aircraft:	Piper 28
Airport:	Cedar City Regional (UT)
Phase of Flight:	Climb (2,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield, fuselage
Wildlife Species:	Golden eagle
Comments from Report: An eagle shattered the windshield and injured the passenger (instructor), who was taken to the hospital with serious injuries. The eagle also hit the avionics bay and the elevator control horn which pitched the aircraft into a dive. The pilot was able to regain control and landed safely at Provo Municipal. The pilot believes the eagle intentionally attacked the plane.	

Date:	25 April 2000
Aircraft:	Saab 340
Airport:	Houghton Memorial (MI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, prop
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft collided with two deer during takeoff just before V1. The left engine was substantially damaged.	

Date:	28 April 2000
Aircraft:	B-727
Airport:	Kansas City International (MO)
Phase of Flight:	Climb (150' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: The #1 engine was destroyed when a goose was ingested. The flight returned safely. Seven flights were cancelled. Cost including repairs and lost revenue was $250,000.	

Date:	19 May 2000
Aircraft:	Learjet 25
Airport:	Allen County (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: The #2 engine was destroyed when a bird was ingested. Pilot declared emergency. The aircraft was diverted to another airport. Cost for repairs and lost revenue was $113,000.	

Date:	25 May 2000
Aircraft:	Cessna 310
Airport:	L M Clayton (MT)
Phase of Flight:	Climb (600' AGL)
Effect on Flight:	Lost control
Damage:	Aircraft destroyed
Wildlife Species:	Canada goose
Comments from Report: Aircraft collided with geese shortly after departure. Windshield shattered, right wing and fuel tank ripped off on impact. The aircraft was destroyed in a post-crash fire. Pilot was hospitalized with burns and lacerations.	

Date:	01 June 2000
Aircraft:	B-747
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine, wing
Wildlife Species:	Canada goose
Comments from Report: Aircraft hit 3 geese on departure and returned to land. One goose was ingested in the #2 engine, which was shut down. Emergency team responded but aircraft taxied to the ramp without incident. Damage was estimated at $1.5 million.	

Date:	06 June 2000
Aircraft:	Hawker Siddeley HS.125
Airport:	Burke Lakefront (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Aircraft ingested a gull. Engine was replaced.	

Date:	11 June 2000
Aircraft:	B-737
Airport:	Boston Logan (MA)
Phase of Flight:	Climb (800' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Large birds were ingested by the #1 engine, damaging several fan blades and the booster. Pilot made a precautionary landing. Engine was changed because it could not be repaired on the wing. Time out of service was 24 hours. Estimated cost was $158,000.	

Date:	26 June 2000
Aircraft:	Saab 340
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine #1 and #2
Wildlife Species:	Unknown bird
Comments from Report: Takeoff was aborted after birds were ingested in both engines. The runway was closed for cleaning. Aircraft returned to the gate. Inspection found damage to both propellers.	

Date:	26 June 2000
Aircraft:	DC-10
Airport:	Osaka International (Japan)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Takeoff was aborted after a large bird was ingested in the #3 engine. Ten fan blades were replaced. Time out of service was 36 hours. Cost of repairs was $195,000 and lost revenue was estimated at $3 million. (U.S. carrier)	

Date:	27 June 2000
Aircraft:	BAe Jetstream 32
Airport:	W.B. Hartsfield Atlanta International (GA)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Two medium-sized birds were ingested. The compressor blades were bent. Cost of repairs was $300,000.	

Date:	18 July 2000
Aircraft:	Cessna 650
Airport:	Teterboro (NJ)
Phase of Flight:	Climb (10’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine #1 and #2
Wildlife Species:	European starling
Comments from Report: Just after takeoff, the aircraft struck a flock of starlings. Both engines ingested birds and were damaged. Emergency equipment was standing by as the plane made an immediate return to the field. Over 40 carcasses were removed from the runway. Time out of service was 3 days. Costs totaled $85,000.	

Date:	23 August 2000
Aircraft:	B-747
Airport:	Philadelphia International (PA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, wing
Wildlife Species:	Canada goose
Comments from Report: The aircraft flew through a flock of about 30 geese and ingested 1 or 2 in the #1 engine. The high-speed, aborted takeoff resulted in 9 flat tires. The aircraft was towed to the ramp. Time out of service was 3 days. Engine was a total loss. Cost $3 million.	

Date:	27 August 2000
Aircraft:	B-747
Airport:	Los Angeles International (CA)
Phase of Flight:	Climb (500' AGL)
Effect on Flight:	Emergency landing
Damage:	Engine
Wildlife Species:	Western gull
Comments from Report: At least one western gull was ingested just after takeoff. Bystanders on a beach heard a giant backfire and saw the jet spewing 8- 10-ft flames. Three pieces of the engine fell to the ground; one 5-ft piece landed on a beach where people were having a cookout. No one was injured. The pilot dumped 83 tons of fuel over the ocean for over an hour and then made an emergency landing. The flight had 449 passengers onboard who were not able to get another flight to Amsterdam until the next day. The costs reported do not include room and board. Time out of service was 3 days. Cost of repairs was $400,000.	

Date:	31 August 2000
Aircraft:	B-737
Airport:	LaGuardia (NY)
Phase of Flight:	Descent (10,000' AGL)
Effect on Flight:	Depressurized cabin
Damage:	Windshield
Wildlife Species:	Canada goose
Comments from Report: Middle and inner panes were shattered when a bird hit the windshield, spraying glass all over the cockpit. The captain was cut. Windshield was making a creaking sound and glass shards were still coming off so pilot slowed the aircraft and depressurized the cabin. Both pilots had ringing in their ears for several hours. Time out of service was 2 days.	

Date:	08 September 2000
Aircraft:	B-727
Airport:	Piedmont Triad International (NC)
Phase of Flight:	Climb (3,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: A medium-sized bird was ingested into the #3 engine, causing the suppression liner to pass through the engine. The aircraft returned to the airport. Time out of service was 3 days. Cost totaled $160,000.	

Date:	22 September 2000
Aircraft:	Hawker Siddeley HS.125
Airport:	Birmingham International (AL)
Phase of Flight:	Climb (20’ AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: A flock of small birds was ingested on climb. The engine had to be replaced due to damaged blades. Time out of service was 5 days.	

Date:	23 September 2000
Aircraft:	Beechcraft 58
Airport:	Greenville-Spartanburg International (SC)
Phase of Flight:	Approach (2,500’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Vulture
Comments from Report: Bird was soaring above aircraft, then folded its wings and dived. It made a 1 foot sq. hole in windshield, ripping off the headset and cutting the pilot. Blood and remains splattered throughout the plane, odor was awful and wind noise was extreme. Cost was approximately $80,000.	

Date:	24 October 2000
Aircraft:	Hawker Siddeley HS.125
Airport:	Detroit City (MI)
Phase of Flight:	Climb (300’AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Bird went through the right engine. The compressor stalled but continued to run. Declared emergency and made single engine landing. The engine fan assembly had 18 damaged blades. Time out of service was 1 week. Cost estimated at $84,000.	

Date:	25 October 2000
Aircraft:	DC-9-50
Airport:	Detroit Metropolitan Wayne County (MI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Brakes, tires
Wildlife Species:	Unknown bird
Comments from Report: A flock of birds was struck during takeoff, which damaged the brakes and tires. Takeoff was aborted. All 4 brakes and tires were replaced.	

Date:	03 November 2000
Aircraft:	B-737
Airport:	La Guardia (NY)
Phase of Flight:	Climb (400’ AGL)
Effect on Flight:	Engine shut down, precautionary landing at JFK
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: The engine must be replaced due to extensive damage after ingesting gulls. ID by the Smithsonian, Division of Birds. The engine shut down and then restarted in flight. Aircraft was diverted to JFK for emergency landing.	

Date:	08 November 2000
Aircraft:	Saab 340
Airport:	Aberdeen Regional (SD)
Phase of Flight:	Approach (400’ AGL)
Effect on Flight:	Aircraft was grounded
Damage:	Fuselage, wiper, propeller, side window
Wildlife Species:	Snow goose
Comments from Report: A flock of snow geese was struck. The windshield wiper broke off and hit the prop which broke it into several pieces then threw it through the fuselage. One passenger received a leg injury from a piece of metal and was taken to the hospital. Both engines ingested birds; there were three holes in the fuselage, and a side window was broken.	

Date:	09 November 2000
Aircraft:	Airbus 319
Airport:	Memphis International (TN)
Phase of Flight:	Climb (1,000’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: A bird was ingested into the #2 engine. The aircraft returned to the airport. The first stage fan blades were replaced along with the forward and aft spinners.	

Date:	03 December 2000
Aircraft:	RV-6 (homebuilt)
Airport:	Santa Maria (CA)
Phase of Flight:	Approach (2,000’ AGL)
Effect on Flight:	Aircraft was grounded
Damage:	Windshield, stabilizer, wing
Wildlife Species:	Red-tailed hawk
Comments from Report: A hawk broke the windshield causing pieces of the windshield to dent the leading edge of the stabilizer and rudder. A passenger received cuts. Medical expenses totaled about $1,000. Time out of service was 2 months. Cost was estimated at $3,000 to $5,000.	

Date:	6 December 2000
Aircraft:	Embraer 120
Airport:	Yeager (WV)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Propeller, fuselage
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft collided with 2 deer just after landing. The tip of a propeller blade (4" x 3") separated and punctured the fuselage, injuring a passenger, who later died.	

Date:	05 January 2001
Aircraft:	B-757
Airport:	Miami International (FL)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Precautionary landing, engine shut down
Damage:	Engine
Wildlife Species:	Turkey vulture
Comments from Report: The #2 engine ingested one or more turkey vultures just after lift off. There were at least 20 circling vultures. The engine failed and the captain returned to land without incident. Time out of service was 1 week. Cost estimated at $1.1 million.	

Date:	14 January 2001
Aircraft:	Learjet 60
Airport:	Troy Municipal (AL)
Phase of Flight:	Landing roll
Effect on Flight:	Lost control, ran off runway
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: The Learjet collided with two deer and ran off the end of the runway into a ditch because the thrust reversers would not operate. The aircraft burst into flames. Rescuers kept the fire from reaching the pilots for about 40 minutes until they could be removed. The pilot and first officer had serious injuries and were flown to a hospital. Cost to replace aircraft $9.5 million. Other costs $25,000.	

Date:	21 January 2001
Aircraft:	MD-11
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff, engine shut down
Damage:	Engine, landing gear
Wildlife Species:	Herring gull
Comments from Report: The #3 engine ingested a herring gull. The engine stall blew off the nose cowl which was sucked back into the engine and shredded. The engine had an uncontained failure. The pilot aborted takeoff and blew two tires. 217 passengers were safely deplaned and rerouted to other flights. ID by the Smithsonian, Division of Birds.	

Date:	25 February 2001
Aircraft:	Beechcraft 95
Airport:	San Antonio International (TX)
Phase of Flight:	Approach (150’ AGL)
Effect on Flight:	None
Damage:	Windshield, radio
Wildlife Species:	Black vulture
Comments from Report: Pilot saw bird overhead. Bird tucked and dove at aircraft shattering the right windscreen. Two passengers received minor injuries. Pilot could not contact tower because the radios were inoperable due to the bird strike. The plane landed without incident. Time out of service was 5½ months. Cost for repairs and hospital totaled $20,400.	

Date:	04 March 2001
Aircraft:	Bombardier de Havilland Dash 8
Airport:	Portland International (OR)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Engine, wing, prop, cone
Wildlife Species:	Rock dove
Comments from Report: During departure, a rock dove was ingested. The aircraft returned to land without incident. The engine was replaced. Aircraft was out of service 2 days. Estimated cost of repairs was $752,500.	

Date:	08 March 2001
Aircraft:	Bell 206
Airport:	Barnes-Jewish Hospital Helipad (MO)
Phase of Flight:	Approach (500’ AGL)
Effect on Flight:	None
Damage:	Windshield
Wildlife Species:	Duck
Comments from Report: Aircraft was transporting a heart patient to Barnes-Jewish Hospital, when a duck crashed through the windshield. Pilot was slightly injured and was partially incapacitated. The duck ended up in the patient’s lap.	

Date:	08 March 2001
Aircraft:	Eurocopter AS 350
Airport:	Verrazano Bridge, Linden, NJ
Phase of Flight:	En Route (1,100’ AGL)
Effect on Flight:	None
Damage:	Windshield
Wildlife Species:	Gull
Comments from Report: A gull crashed through the right front window and exited through the right door. The passenger seated in the right front seat received minor scratches to the head. Aircraft was out of service 1 week. Cost of repairs was $12,000.	

Date:	02 April 2001
Aircraft:	B-767-300
Airport:	Charles de Gaulle (Paris, France)
Phase of Flight:	Climb (14,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Nose, radome, wing, fuselage, tail
Wildlife Species:	Northern shoveler
Comments from Report: Aircraft struck a flock of shovelers, causing dents and 11 punctures. One bird penetrated the cockpit, resulting in depressurization. The flight crew was splattered with bird debris and insulation. The windshield was covered with blood. The pilot had to use an oxygen mask. Aircraft returned safely to the airport. Cost of repairs estimated at over $1 million. ID by the Smithsonian, Division of Birds. (U.S. carrier)	

Date:	03 April 2001
Aircraft:	Bombardier de Havilland Dash 8
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine, prop, wing,
Wildlife Species:	Rock dove
Comments from Report: Aircraft struck 8 birds on departure and returned, landing without incident. Damage included the leading edge of one wing, prop, cone, and #1 engine. Engine was replaced. Time out of service was 2 days. Estimated cost of repairs was $752,500.	

Date:	09 April 2001
Aircraft:	B-737-300
Airport:	Cleveland-Hopkins International (OH)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	American wigeon
Comments from Report: Aircraft made an emergency landing after ingesting a bird shortly after takeoff. Fan blades were damaged and pilot reported smoke in the cockpit and damage to the canopy. Time out of service was 8 hours. Cost of repairs $360,000. ID by the Smithsonian, Division of Birds.	

Date:	22 April 2001
Aircraft:	Edge 360
Airport:	Barksdale AFB (LA)
Phase of Flight:	
Effect on Flight:	Precautionary landing
Damage:	Damaged beyond repair
Wildlife Species:	Unknown bird
Comments from Report: During an air show, aircraft was flying at 200mph and about 30 feet above the ground when a bird hit the propeller. The aircraft hit the grass infield, bent the landing gear, then bounced back into the air. Pilot had 2 cracked vertebrae and was hospitalized. The plane was severely damaged and will likely never fly again. NTSB report does not mention bird strike.	

Date:	26 April 2001
Aircraft:	B-757-200
Airport:	Detroit Metropolitan (MI)
Phase of Flight:	Climb (300' AGL)
Effect on Flight:	Precautionary landing, engine shut down
Damage:	Engine
Wildlife Species:	Snow goose
Comments from Report: After takeoff, flight crew saw several bird strikes to left engine. Engine made loud rumbling noise, EGT rose above 700 degrees and smoke entered the cabin. An emergency was declared and the engine was shut down. Landed without incident.	

Date:	03 May 2001
Aircraft:	Airbus 319
Airport:	San Diego International (CA)
Phase of Flight:	Climb (700' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Engine ran rough following bird ingestion. Pilot declared an emergency and returned to land. Eight fan blades were replaced. Cost was $125,000 and time out of service was 16 hours.	

Date:	16 May 2001
Aircraft:	DC-10
Airport:	Dayton International (OH)
Phase of Flight:	Climb (50' AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Compressor blades were damaged when 2-10 birds were ingested. The engine was removed and several sets of fan blades were replaced. The wing flap track canoe fairing had a large dent and a 4-inch crack. Time out of service was 4 days.	

Date:	08 June 2001
Aircraft:	Airbus 300
Airport:	Newark International (NJ)
Phase of Flight:	Approach (150' AGL)
Effect on Flight:	None
Damage:	Engine, wing
Wildlife Species:	Canada goose
Comments from Report: Geese (2-10) were ingested, damaging many fan blades. The engine was removed and several sets of fan blades were replaced. Time out of service was 4 days. Cost $2.8 million.	

Date:	09 June 2001
Aircraft:	Airbus 300
Airport:	Dayton International (OH)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: Canada goose was ingested into the #2 engine shortly after lift off. Engine had an uncontained failure; parts of the engine were found on the runway. A precautionary landing was made. Time out of service was 4 days. Cost to replace engine was $2 million.	

Date:	30 June 2001
Aircraft:	Cessna 152
Airport:	Warrenton-Fauquier (VA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Horizontal stabilizer, elevator
Wildlife Species:	White-tailed deer
Comments from Report: During takeoff from a touch and go landing, a deer was hit, which buckled the left horizontal stabilizer and tore off the left elevator. Student pilot made an uneventful emergency landing in a field adjacent to the airport. Aircraft was substantially damaged.	

Date:	15 July 2001
Aircraft:	Beechcraft 90
Airport:	Ashe County (NC)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Propeller, engine, wing, gear door
Wildlife Species:	White-tailed deer
Comments from Report: During takeoff, a deer was struck. The pilot made a precautionary landing. Damage included a bent prop blade, dented nacelle and wing, and the main gear door was partially sheared off. Time out of service was 1 month. Cost $160,000.	

Date:	18 July 2001
Aircraft:	B-737-200
Airport:	Elko Municipal (NV)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: During takeoff, a bird was ingested. The engine was replaced, due to damaged compressor blades. Time out of service was about 4 days. Cost of repairs $895,000.	

Date:	31 July 2001
Aircraft:	B-737-500
Airport:	Dulles International (DC)
Phase of Flight:	Approach (100’ AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: A Canada goose was ingested during approach. The oil cooler was plugged with bird remains. A set of fan blades and the oil cooler were replaced. Time out of service was 6 days. Cost of repairs was $430,000. ID by the Smithsonian, Division of Birds.	

Date:	03 August 2001
Aircraft:	DC-8
Airport:	Orlando International (FL)
Phase of Flight:	Climb (800’ AGL)
Effect on Flight:	Diverted flight
Damage:	Engines #1 and #2
Wildlife Species:	Unknown bird
Comments from Report: Plane struck multiple birds. Two of the three engines were damaged. The flight was diverted to land at another airport. The fuel line was broken, causing loss of fuel on one engine, and compressor blades were damaged on the other. Pilot declared a fuel emergency.	

Date:	03 September 2001
Aircraft:	B-737
Airport:	New Orleans International (LA)
Phase of Flight:	Climb (14,000-20,000’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, wing, fuselage, tail
Wildlife Species:	Blue-winged teal
Comments from Report: Plane struck multiple birds and returned to airport. Significant damage occurred to the radome, fuselage, leading edges of right wing and right horizontal stabilizer. ID by the Smithsonian, Division of Birds.	

Date:	29 October 2001
Aircraft:	B-737-400
Airport:	Buffalo Niagara International (NY)
Phase of Flight:	Approach (100’ AGL)
Effect on Flight:	Engine shut down
Damage:	Engine, radome, wing
Wildlife Species:	Canada goose
Comments from Report: Aircraft hit a flock of geese and ingested some into both engines. The left engine was shut down and later replaced. The radome and wing were also damaged. Time out of service was 3 days. ID by Central Science Lab.	

Date:	01 November 2001
Aircraft:	Beechcraft 1900
Airport:	Hancock County (ME)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine, prop
Wildlife Species:	White-tailed deer
Comments from Report: Struck a deer just after touchdown. One of the composite propeller blades was missing and had separated from the hub. It was found 300 feet from the collision site. The firewall was cracked and one remaining prop blade was bent. Time out of service was 2 weeks. Cost of repairs and lost revenue $292,000.	

Date:	03 November 2001
Aircraft:	Cessna Citation II
Airport:	Lakefront (LA)
Phase of Flight:	Climb (1,200' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, wing
Wildlife Species:	Duck
Comments from Report: Aircraft flew into a flock of ducks shortly after takeoff and ingested some. The temperature probe broke off and went through the fan. Inlet fan blades broke, damaging the inlet. Right wing was dented. Time out of service was 1 month. Cost of repairs $605,000.	

Date:	20 November 2001
Aircraft:	B-727
Airport:	Memphis International (TN)
Phase of Flight:	Approach (1,700' AGL)
Effect on Flight:	None
Damage:	Windshield, nose, wing
Wildlife Species:	Snow goose
Comments from Report: Approximately 25 birds were seen. One bird penetrated the cockpit, spraying the pilot with blood and remains. Two other birds penetrated the right wing near the leading edge slats. Time out of service was 1 week. Cost of repairs and lost revenue was $700,000.	

Date:	30 November 2001
Aircraft:	Airbus 300
Airport:	Logan International (MA)
Phase of Flight:	Takeoff run
Effect on Flight:	Diverted to JFK
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: Aircraft ingested a herring gull on takeoff from Boston. One engine had bent fan blades. Flight was diverted to JFK due to bad weather in Boston. ID by the Smithsonian, Division of Birds.	

Date:	06 December 2001
Aircraft:	B-737
Airport:	Detroit Metropolitan (MI)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Aircraft struck a flock of gulls and ingested one. The engine rolled back, and then started compressor stalls. The pilot pulled the throttle back to idle. An emergency landing was made, due to engine flame out. The engine was replaced. Cost estimated at $2.3 million.	

Date:	25 January 2002
Aircraft:	Learjet 60
Airport:	Naples Municipal Airport (FL)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Muscovy duck
Comments from Report: Duck was ingested into #1 engine. Bird remains were evident throughout the core and bypass sections of engine. Time out of service was 5 days. Cost of repairs was $443,000.	

Date:	26 January 2002
Aircraft:	B-757
Airport:	Denver International (CO)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Great horned owl
Comments from Report: Engine ingested a great horned owl, which caused engine vibration. Aircraft returned to land at DEN. Many fan blades were damaged. Remains were removed for ID. Maintenance thought there was fur and feathers in the engine. Time out of service was 3 days. Cost $500,000. ID by the Smithsonian, Division of Birds.	

Date:	21 February 2002
Aircraft:	Beechcraft 1900
Airport:	Phoenix Sky Harbor International (AZ)
Phase of Flight:	Climb (400’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Wing, fuel tank
Wildlife Species:	Northern pintail
Comments from Report: Bird penetrated right wing, and fuel was rapidly leaking out. Emergency landing made. Passengers safely deplaned. ID by the Smithsonian, Division of Birds.	

Date:	24 February 2002
Aircraft:	Fokker-100
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Climb (6,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, nose, wing
Wildlife Species:	Greater white-fronted goose
Comments from Report: Aircraft struck a flock of geese and ingested one after takeoff. Engine vibration caused crew to reduce power to idle. Aircraft nose was damaged. Several blades were deformed. Engine was replaced. Cost of repairs and lost revenue totaled $654,000. Time out of service was 8 days. ID by the Smithsonian, Division of Birds.	

Date:	09 March 2002
Aircraft:	CRJ 200
Airport:	Dulles International (DC)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, windshield, fuselage
Wildlife Species:	Wild turkey
Comments from Report: Aircraft struck wild turkeys. One shattered the windshield, spraying the cockpit with glass fragments and remains. Another hit the fuselage and was ingested. There was a 14 inch by 4 inch section of fuselage skin damaged below the windshield seal on the flight officer's side. Time out of service was at least 2 weeks. Estimated cost of repairs was $200,000.	

Date:	27 March 2002
Aircraft:	MD-83
Airport:	Lambert-St. Louis International (MO)
Phase of Flight:	Climb (2,500')
Effect on Flight:	Precautionary landing
Damage:	Engine, windshield
Wildlife Species:	Mallard
Comments from Report: While climbing out at 2,500' AGL, the aircraft hit at least 2 ducks. One hit the captain's windshield covering the entire area with remains. The other hit the right wing leading edge and left a hole "the size of a melon." Flight returned to St. Louis. Time out of service was 19 hours. Estimated cost of repairs was $60,000. ID by the Smithsonian, Division of Birds. Birds were first reported as geese.	

Date:	11 April 2002
Aircraft:	Cessna 208
Airport:	Baltimore-Washington International (MD)
Phase of Flight:	Approach (2,500' AGL)
Effect on Flight:	Other
Damage:	Windshield
Wildlife Species:	Horned grebe
Comments from Report: Bird came through the windshield, injuring the pilot. ID by the Smithsonian, Division of Birds. Time out of service was 3 days. Cost of repairs $18,000.	

Date:	18 April 2002
Aircraft:	Piper 23
Airport:	Blue Grass (KY)
Phase of Flight:	Descent (3,000' AGL)
Effect on Flight:	Slowed airspeed
Damage:	Fuselage
Wildlife Species:	Common loon
Comments from Report: Bird was seen just prior to impact in full dive configuration. It hit directly over pilot's head. The overhead reading light and air vent were discharged from the panel, striking a passenger. Aircraft was slowed to 100 kts. After landing, the aircraft was escorted by fire and emergency equipment. ID by the Smithsonian, Division of Birds. Time out of service was 3 months. Cost of repairs was $6,000.	

Date:	23 April 2002
Aircraft:	Piper 32
Airport:	George R. Carr Memorial (LA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Wing, fuel tank, horizontal stabilizer
Wildlife Species:	White-tailed deer
Comments from Report: During takeoff, the aircraft's left wing hit a deer that crossed in front of it. The pilot aborted takeoff and returned to the hangar. The left wing spar, left flap and horizontal stabilizer were damaged and the left fuel tank was ruptured. Time out of service was 11 weeks. Estimated cost was $42,000. NTSB investigated.	

Date:	08 May 2002
Aircraft:	Beechjet 400
Airport:	Burke Lakefront (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engines
Wildlife Species:	Gull (ring-billed and herring)
Comments from Report: Pilot revved engines to move gulls from runway. The gulls lifted off, then as the aircraft took off, returned to the runway and were struck. Both engines ingested gulls and were damaged beyond repair. One had an uncontained failure. Aircraft was towed to the hanger. Airport operations recovered 14 carcasses. Estimated cost was $1 million for repairs and $0.5million in lost revenue. ID by the Smithsonian, Division of Birds. NTSB investigated.	

Date:	01 June 2002
Aircraft:	Cessna 172
Airport:	Navajo Dam Airport (NM)
Phase of Flight:	Approach
Effect on Flight:	Avoidance maneuver
Damage:	Wings
Wildlife Species:	Unknown bird
Comments from Report: Student pilot, doing touch and go landings, executed an abrupt right turn to avoid striking a bird. A wind gust pushed the plane to the right. The aircraft touched down and then veered off the runway. The right wing hit a tree and the left wing hit the ground.	

Date:	06 June 2002
Aircraft:	Cessna 172
Airport:	Orlando-Sanford International (FL)
Phase of Flight:	Descent (1,100'AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Turkey vulture
Comments from Report: Vulture smashed through the windshield and the right side door blew open. The instructor's headset flew out the open door. Bird ended up in baggage compartment. Student pilot was cut on face and arms, instructor cut on face and arm. Time out of service was 2 days. Cost of repairs was $1,000.	

Date:	08 June 2002
Aircraft:	Cessna Citation
Airport:	John F. Kennedy Memorial (WI)
Phase of Flight:	Landing roll
Effect on Flight:	Avoidance maneuver
Damage:	Wing, fuselage, nose
Wildlife Species:	White-tailed deer
Comments from Report: Pilot was warned of deer on airfield. Deer was chased away but as the aircraft landed, a second deer ran onto the active runway. The pilot swerved to avoid the deer but it hit just below the pilot's window, scraped against the static ports, and hit the left wing root fairing. The aircraft was ferried to a maintenance base for repairs. Time out of service was 6 weeks. Cost was at least $125,000.	

Date:	15 June 2002
Aircraft:	Kitfox 4-1200
Airport:	Near Virginia, MN
Phase of Flight:	En Route (800' AGL)
Effect on Flight:	Emergency landing off airport
Damage:	Destroyed
Wildlife Species:	Unknown bird
Comments from Report: During cruise flight at 800' AGL pilot smelled fuel followed by loss of engine power and smoke. The windshield began to melt. He did not see flames, but the smoke in the cabin was very thick. Aircraft touched down near a lakebed, coasted about 250 ft and the right main entered a wet area and dug in which flipped the plane on its back. Aircraft was destroyed during the post-impact fire. Pilot found the charred remains of a bird among the engine remains. He said the propeller spinner had impact damage and the fuel line was severed. NTSB investigated.	

Date:	08 July 2002
Aircraft:	Cessna 560
Airport:	Santa Barbara Municipal (CA)
Phase of Flight:	Approach (500' AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Hit a medium-sized black bird on short final. Landing was uneventful. After shutdown, found excessive amount of oil draining from engine. Time out of service was 9 days.	

Date:	08 July 2002
Aircraft:	CRJ 200
Airport:	South Bend Michigan Regional (IN)
Phase of Flight:	Landing roll
Effect on Flight:	Not reported
Damage:	Wing
Wildlife Species:	White-tailed deer
Comments from Report: Hit deer during landing roll. Right inboard flap and flap actuators had to be replaced. Time out of service was 2 days. Cost of parts was $195,000.	

Date:	10 July 2002
Aircraft:	B-737
Airport:	Sarasota/Bradenton International (FL)
Phase of Flight:	Climb
Effect on Flight:	Diverted, precautionary landing
Damage:	Engine, tail, nose cowl
Wildlife Species:	Unknown bird
Comments from Report: Strike occurred at rotation. Aircraft made an overweight landing. There were golf ball-sized holes in some of blades. Four pairs of blades were replaced. The nose cowl was punctured in two places. Horizontal stabilizer was dented. Time out of service was over 24 hours.	

Date:	26 July 2002
Aircraft:	B-757
Airport:	San Francisco International (CA)
Phase of Flight:	Climb
Effect on Flight:	Engine reacted
Damage:	Engine #1 and #2, radome
Wildlife Species:	Unknown bird
Comments from Report: The aircraft hit 40-50 large birds. Engines reacted but continued running with no abnormal indications. Upon landing, found both engines had fan blade and acoustic damage. Several sets of fan blades were replaced. Cost of repairs was $300,000.	

Date:	04 August 2002
Aircraft:	Airbus 310
Airport:	Changi International (Singapore)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Unknown
Comments from Report: Large bird was ingested during takeoff. Engine damage included fan blades, compressor blades, exit guide vanes and bases, and a dented nose inlet cowl. Aircraft was out of service 40 hours. Estimated cost of repairs was $570,700. (U.S. carrier)	

Date:	05 August 2002
Aircraft:	B-757
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: Normal takeoff. At 300 feet, vibration and flutter started in right engine. As climb continued, vibration got worse, power was reduced on the engine and vibration stopped at idle. Declared precautionary emergency and returned to airport. Made a single engine landing without incident. Upon inspection, found blade damage due to bird ingestion. Replaced 6 pairs of fan blades. Flight was delayed 18 hours.	

Date:	07 August 2002
Aircraft:	B-757
Airport:	San Francisco International (CA)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Rock dove
Comments from Report: Shortly after rotation, a flock of 40-45 pigeons flew into the aircraft. Multiple bird strikes. At least two were ingested into left engine. Engine surged and vibrated briefly. Declared emergency and returned to airport with both engines running. Taxied to gate after fire chief cleared the aircraft. Several fan blades were damaged.	

Date:	10 August 2002
Aircraft:	C-500
Airport:	Griffing Sandusky (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Nose gear, fuselage, forward pressure bulkhead
Wildlife Species:	White-tailed deer
Comments from Report: At rotation, a deer hit the nose gear. Pilot diverted to Toledo Express Airport. He made passes over rescue personnel, who verified the nose gear was not fully extended. Pilot burned additional fuel, shut down engines, fuel and generators, then landed and came to rest on fork of nose gear and gear doors. Substantial damage to bottom of fuselage, forward pressure bulkhead and nose gear. Cost of repairs was $2000 and cost of rental aircraft was $40,000. Aircraft out of service at least 3 months.	

Date:	12 September 2002
Aircraft:	Hawker Mark 20
Airport:	Orlando Executive (FL)
Phase of Flight:	Climb (700' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield, canopy
Wildlife Species:	Egret
Comments from Report: Hit 2 egrets with bubble canopy, slightly aft of pilot's head. Canopy disintegrated, departed aircraft along with most of the frame rails and emergency escape panel. Canopy debris struck and damaged both sides of the horizontal stabilizer and damaged the vertical fin. Debris landed in a residential area. Time out of service was 8 weeks. Estimated cost of repairs was $20,000 - $30,000 with estimated other costs at $80,000.	

Date:	13 September 2002
Aircraft:	BA - 41
Airport:	Dayton International (OH)
Phase of Flight:	Climb (50' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, propeller
Wildlife Species:	European starling
Comments from Report: Aircraft returned after ingesting 24-30 starlings. One turbine blade bent beyond limits. The engine was replaced. Time out of service was 30 hours. Estimated cost $172,000.	

Date:	17 September 2002
Aircraft:	DC-9-30
Airport:	La Crosse Municipal (WI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Radome, engine
Wildlife Species:	Canada goose
Comments from Report: Hit 4 geese during takeoff. Aborted takeoff at 100 knots. The radome was cracked. One bird was ingested, causing damage to the 3rd stage engine fans. The engine was removed and replaced.	

Date:	23 September 2002
Aircraft:	MD-83
Airport:	San Diego International (CA)
Phase of Flight:	Climb (14,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, wing
Wildlife Species:	Northern pintail
Comments from Report: Hit 2-10 ducks. Plane was rerouted to Los Angeles and made a precautionary landing. Radome and bulkhead were penetrated. Remains found in landing gear compartment. Leading edge of wing was also penetrated. ID by the Smithsonian, Division of Birds.	

Date:	6 October 2002
Aircraft:	B-737
Airport:	Newark International (NJ)
Phase of Flight:	Approach (10' AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: Hit at least 8 geese on landing flare. Two birds were found in the engine (1 in core). Nose cowl and 9 blades were damaged. Engine was removed. Cost for repairs $1.4 million. ID by the Smithsonian, Division of Birds.	

Date:	6 October 2002
Aircraft:	CRJ 200
Airport:	Salt Lake City International (UT)
Phase of Flight:	Approach (1,600' AGL)
Effect on Flight:	None
Damage:	Radome, wing, engine
Wildlife Species:	Canada goose
Comments from Report: Hit 5 geese on final approach. Damage included radome, left wing root and #1 engine and nacelle. Time out of service was 3 days.	

Date:	13 October 2002
Aircraft:	B-737-300
Airport:	Piedmont Triad International (NC)
Phase of Flight:	Approach (10' AGL)
Effect on Flight:	None
Damage:	Engine #1 and #2, wing
Wildlife Species:	Canada goose
Comments from Report: Hit flock of Canada geese on landing flare. Geese were ingested in both engines. No immediate effect. There was an odor in the cabin. Both nose cowls were replaced as well as a full set of fan blades on the left engine and 3 pairs of fan blades on the right engine. ID by the Smithsonian, Division of Birds.	

Date:	14 October 2002
Aircraft:	Bombardier de Havilland Dash 8
Airport:	Albany International (NY)
Phase of Flight:	Approach (3,000' AGL)
Effect on Flight:	Disconnected auto pilot to avoid flock
Damage:	Tail, wing, engine
Wildlife Species:	Canada goose
Comments from Report: Pilot saw a large flock of birds and disconnected the autopilot to try to avoid them but several hit with a big thud. Aircraft handled normally and landed without incident. At the gate, a bird was found protruding from the wing, with fuel leaking out. Another hole was found in the horizontal stabilizer. Fire and rescue were called when the engine began to smoke. ID by the Smithsonian, Division of Birds.	

Date:	19 October 2002
Aircraft:	B-767
Airport:	Boston Logan (MA)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine, landing lights
Wildlife Species:	Double-crested cormorant
Comments from Report: Encountered a flock of over 20 birds. At least one was ingested. There were immediate indications of the engine surging on the right side; compression stall and smoke came from engine. The engine was shutdown. Overweight landing with one engine was made without incident. Aircraft was towed to the gate. Nose cowl was dented and punctured. There was significant fan blade damage with abnormal engine vibration. One fan blade was found on the runway. Because pieces of the engine exited through the front it was considered a contained failure. Aircraft was towed to the ramp. Hydraulic lines were leaking and several bolts were sheared off inside the engine. Many pieces fell out when the cowling was opened. Time out of service was 3 days. Cost of repairs was $1.7 million NTSB investigated.	

Date:	12 November 2002
Aircraft:	Eurocopter/Kawasaki BK 117
Airport:	Near Tequesta, FL
Phase of Flight:	En Route (800' AGL)
Effect on Flight:	Emergency landing
Damage:	Unknown
Wildlife Species:	Vulture
Comments from Report: Emergency medical helicopter hit a flock of vultures. One medical technician was struck and received minor injuries. The helicopter was forced to make an emergency landing due to damage. This was a back-up aircraft so the county's emergency service was without any helicopters for about a day. (Strike not reported to FAA, so information is missing.)	

Date:	3 December 2002
Aircraft:	Learjet 36
Airport:	Astoria Regional (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff, ran off runway
Damage:	Aircraft destroyed
Wildlife Species:	Elk
Comments from Report: A Learjet was destroyed after collision with multiple elk and subsequent runway overrun. Impact forces and post crash fire destroyed the airplane. Crew believes a piece of the animal was ingested into the left engine, causing it to catch fire. No one was injured. Fire was fanned into the aircraft by fire department helicopter, which drove burning fuel into the airframe. Cost was $5 million. NTSB investigated.	

Date:	13 December 2002
Aircraft:	Bombardier de Havilland Dash 8
Airport:	Charlotte/Douglas Intl(NC)
Phase of Flight:	Landing roll
Effect on Flight:	Aircraft towed off runway
Damage:	Landing gear
Wildlife Species:	White-tailed deer
Comments from Report: The impact with the large buck caused the nose gear to collapse. The deer was cut in two. Time out of service was 38 days. Cost was $224,960.	

Date:	8 January 2003
Aircraft:	Bombardier de Havilland Dash 8
Airport:	Rogue Valley International (OR)
Phase of Flight:	Approach (1,300' AGL)
Effect on Flight:	First officer took over controls after pilot was injured
Damage:	Radome, windshield, propeller, operating systems
Wildlife Species:	Lesser scaup
Comments from Report: Aircraft collided with a flock of lesser scaup. The windshield was shattered, seriously injuring & incapacitating the pilot, who turned control over to the first officer for landing. Partial loss of electrical power rendered primary navigational flight & avionics displays inoperative. Numerous red fail lights and engine fire lights illuminated. Crew also found there was no elevator trim and the nose wheel steering did not work after touchdown. Birds penetrated the radome and damaged the DC power and instruments systems. An emergency was declared. The pilot was treated for cuts and glass in his eyes. Time out of service was 3 weeks. ID by the Smithsonian, Division of Birds. NTSB investigated.	

Date:	9 March 2003
Aircraft:	Piper 34
Airport:	Lakefront (LA)
Phase of Flight:	Approach (800'AGL)
Effect on Flight:	None
Damage:	Windshield
Wildlife Species:	Red-breasted merganser
Comments from Report: Aircraft struck two mergansers over Lake Pontchartrain. One penetrated the right windshield; the other shattered the left windshield.	

Date:	11 March 2003
Aircraft:	B-757
Airport:	Newark International (NJ)
Phase of Flight:	Climb (400' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: Engine ingested a goose, causing an uncontained failure. The engine was replaced. ID by the Smithsonian, Division of Birds. Time out of service was 2 days. Cost $740,000.	

Date:	30 March 2003
Aircraft:	Beech A36
Airport:	Tavernaero Park (FL)
Phase of Flight:	Takeoff run
Effect on Flight:	Evasive action
Damage:	Aircraft destroyed
Wildlife Species:	Dog
Comments from Report: Pilot saw the dog during takeoff. He pulled up to avoid it and rolled left. The wing hit the ground and the aircraft impacted trees. Minor injuries were reported.	

Date:	31 March 2003
Aircraft:	Embraer 135
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Climb (400' AGL)
Effect on Flight:	Precautionary landing
Damage:	Wing
Wildlife Species:	Double-crested cormorant
Comments from Report: Bird collided with the right wing. Aircraft returned to the airport for inspection. The leading edge had a large dent.	

Date:	24 May 2003
Aircraft:	DC-10
Airport:	Oakland International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Emergency landing
Damage:	Engine, landing gear
Wildlife Species:	Great egret
Comments from Report: Engine ingested a great egret, causing an emergency landing. Substantial damage to the #3 engine, resulting in NTSB and FAA investigations. Aircraft was vectored over the ocean to dump 13,000 pounds of fuel. Damage to thrust reversers, nose cowl and right main gear tire. The engine was replaced. Costs totaled $1,840,800. ID by the Smithsonian, Division of Birds.	

Date:	10 June 2003
Aircraft:	Aerostar 601
Airport:	Martin State (MD)
Phase of Flight:	Climb (1,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield, side window
Wildlife Species:	Black vulture
Comments from Report: Aircraft hit the vulture about 1 mile west of airport. Pilot saw bird just prior to strike. Bird came through the windshield on right side and slightly injured the copilot. An emergency was declared. Windshield was destroyed along with right side forward window. Time out of service was 2 weeks. Cost of repairs was $8,000.	

Date:	08 July 2003
Aircraft:	Cessna 172
Airport:	Near McKinney, TX
Phase of Flight:	En Route (800' AGL)
Effect on Flight:	Crashed in field
Damage:	Wings, engine, (possibly more)
Wildlife Species:	Unknown bird (suspect vulture)
Comments from Report: Pilot made Mayday call to DFW tower after hitting a bird with the left wing. He said he could not keep the aircraft straight with the power on. He thought they were going to be all right and wanted someone to pick them up after they landed in a field. The plane came to rest upright with the engine partially separated from the firewall. The left wing was separated at the wing attach points and both wings had leading edge damage. Someone on the ground saw the plane hit with left wing first and found two people had been killed. The fuel tanks had ruptured and were leaking but no fire was evident when the Fire Department arrived. The pilot did not say what kind of bird had been struck, but the Air Safety Inspector said it was possibly a buzzard.	

Date:	13 August 2003
Aircraft:	Airbus 310
Airport:	Memphis International (TN)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: The aircraft struck a flock of small birds at touchdown. The #2 engine ingested 4-5 birds. Eight fan blades were replaced. Time out of service was 29 hours. Estimated cost of repairs was $106,000.	

Date:	14 August 2003
Aircraft:	B-737-300
Airport:	Indianapolis International (IN)
Phase of Flight:	Approach (500' AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: The aircraft ingested a large bird. The #2 engine vibration monitor increased but all other indications were normal. Eleven fan blades were replaced. Time out of service was 24 hours. Estimated cost of repairs was $84,700.	

Date:	16 August 2003
Aircraft:	MD-80
Airport:	Leon, Mexico
Phase of Flight:	Climb
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: The aircraft struck a flock of birds just after rotation. Passengers heard multiple banging sounds and an explosion as the plane lurched, struggling to gain altitude. Smoke came from the engine and was noticed in the cabin. One engine was shut down because of fire danger. An emergency landing was made. Time out of service was 2 days. Cost of repairs was $243,000. (U.S. carrier).	

Date:	19 August 2003
Aircraft:	Beechcraft 1900
Airport:	Muskegon County (MI)
Phase of Flight:	Landing roll
Effect on Flight:	Engines shut down
Damage:	Engine
Wildlife Species:	White-tailed deer
Comments from Report: After touching down, the aircraft was decelerating when two deer crossed the runway. The smaller of the deer hit the right engine propeller. The crew shut down both engines. The right engine and mounts received substantial damage. NTSB investigated.	

Date:	04 September 2003
Aircraft:	Fokker 100
Airport:	LaGuardia (NY)
Phase of Flight:	Climb (125' AGL)
Effect on Flight:	Engine shut down, emergency landing
Damage:	Engine, nose, fuselage
Wildlife Species:	Canada goose
Comments from Report: The aircraft struck a flock of geese shortly after takeoff. Engine had an uncontained failure. Pilot was unable to shut it down with the fuel cutoff lever so the fire handle was pulled. The engine shut down, but vibration continued. The aircraft would neither climb nor accelerate. Vibration increased with speed so they kept the speed below 180 knots. The flight was diverted to JFK where an uneventful landing was made. NTSB found a 20 by 36-inch wide depression on right side of nose behind radome; maximum depth was 3-4 inches. Impact marks on right wing. A fan blade separated from the disk and several fan blades were deformed. Holes were found in the engine cowling and the fuselage was penetrated by a fan blade. Remains were recovered and identified by Wildlife Services. Both the Captain and First Officer received prestigious awards for their superior airmanship under extremely challenging circumstances.	

Date:	29 September 2003
Aircraft:	Airbus 320
Airport:	Dulles International (DC)
Phase of Flight:	Approach (2,500' AGL)
Effect on Flight:	Smoke and bad odor in cockpit
Damage:	Engine
Wildlife Species:	Great blue heron
Comments from Report: Three great blue herons appeared in front of the aircraft then we heard a thump. Pilot smelled smoke and a bad odor which spread to cabin. Engine system indicators were normal. Found remains of 1 or 2 birds in the engine. The engine was removed. One flight was cancelled. Time out of service was 3 days. Cost of repairs $1.3 million. ID by the Smithsonian, Division of Birds.	

Date:	22 October 2003
Aircraft:	Cessna 152
Airport:	Pierson, FL
Phase of Flight:	En Route (1,000' AGL)
Effect on Flight:	Crash landing
Damage:	Windshield, landing gear, nose, fuselage, tail
Wildlife Species:	Black vulture
Comments from Report: The aircraft struck a black vulture while doing maneuvers during a student pilot lesson near Lake Disston. The windshield was missing and the pilot could not maintain altitude after applying full throttle and called Mayday. Aircraft hit nose first in a field and came to a stop inverted. Instructor and student received minor injuries. FAA Inspector recovered part of the windshield. Nose gear and main landing gear were broken. Vertical stabilizer and bottom of fuselage were buckled. ID by the Smithsonian, Division of Birds.	

Date:	03 November 2003
Aircraft:	Bushby Mustang II
Airport:	Buckingham Field (FL)
Phase of Flight:	Descent (1,000' AGL)
Effect on Flight:	None
Damage:	Windshield, nose
Wildlife Species:	Unknown bird
Comments from Report: Damage to forward fuselage in front of windshield and to instrument panel on right side. Passenger was hit in face and received a split lip, black eyes and 3 broken teeth. Time out of service was about 25 hours. Replacement for windshield and canopy was $6,000. Medical and dental costs totaled $5,900.	

Date:	12 November 2003
Aircraft:	Learjet 24
Airport:	St. Louis Downtown (IL)
Phase of Flight:	Climb (500' AGL)
Effect on Flight:	Engines shut down, forced landing in a field
Damage:	Aircraft destroyed
Wildlife Species:	Blackbird (suspected)
Comments from Report: The pilot heard a loud thump on the right wing as he flew through a flock of small blackbirds shortly after takeoff. Both engines lost power, the plane crashed into a field and caught fire. At least two on board were injured. NTSB preliminary report does not indicate anything about birds. No carcasses were found on the airport runway or in adjacent fields. Cost was $750,000.	

Date:	12 November 2003
Aircraft:	Saab 340
Airport:	Minneapolis St. Paul International (MN)
Phase of Flight:	Approach (3,200' AGL)
Effect on Flight:	None
Damage:	Vertical stabilizer, wing
Wildlife Species:	Canada goose
Comments from Report: The aircraft struck a flock of geese on approach. Vertical stabilizer had two large holes and the left wing leading edge was dented. NTSB investigated. ID by the Smithsonian, Division of Birds. Time out of service was 22 days. Estimated costs totaled $173,000.	

Date:	15 November 2003
Aircraft:	MD-82
Airport:	Newark International (NJ)
Phase of Flight:	Approach (3,000' AGL)
Effect on Flight:	Lost control, engine shut down
Damage:	Radome, bulkhead, fuselage, wing, window, nose cowl, nose gear,
Wildlife Species:	Snow goose (suspected)
Comments from Report: The aircraft struck large birds followed by an explosion from the right engine. Pilot lost then regained control and landed without incident. Evidence of ingestion found in both engines. Engines were borescoped and determined to be serviceable. Significant damage to radome, nose gear and leading edge of left wing. Time out of service was 2 weeks.	

Date:	22 December 2003
Aircraft:	B-747-400
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: Pilot hit 2 birds upon takeoff. Aircraft circled about 2 hours to burn off fuel before returning to the airport. Three fan blades were damaged. Airline had to provide overnight accommodations and meals for 308 passengers. Repair time was 11 hours with an additional 9 hours of downtime for crew rest.	

Date:	26 December 2003
Aircraft:	B-737
Airport:	Lambert-St. Louis International (MO)
Phase of Flight:	Climb (2,900' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, nose, wing, tail, lights
Wildlife Species:	Snow goose
Comments from Report: The aircraft struck approximately 3 geese on climb at night and returned to land. Engine ingested at least part of a bird with no damage. Radome was dented and nose peeled up. Horizontal stabilizer was dented. Several passenger windows had feathers stuck in them. Aircraft was ferried to Texas for repair. ID by the Smithsonian, Division of Birds. Time out of service was 11 days. Costs totaled $502,000.	

Date:	22 January 2004
Aircraft:	Augusta Westland Helicopter
Airport:	Palm Beach International (FL)
Phase of Flight:	Approach (500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Osprey
Comments from Report: An osprey crashed into the windshield, forcing the pilot to land at Palm Beach International Airport. The windshield shattered and caused minor injuries to the pilot, the only person on board. Most of the windshield departed the aircraft. Interior was quite a mess. Time out of service was 3 weeks. Cost was $16,000.	

Date:	29 January 2004
Aircraft:	Diamond DA 20
Airport:	Near Baltimore, MD
Phase of Flight:	En Route (2,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Tail, horizontal stabilizer, prop, wing
Wildlife Species:	Tundra swan
Comments from Report: Aircraft encountered about 10 swans. The pilot tried to avoid them but hit one. It cracked the prop, bounced off right wing and entire swan lodged in the tail. Pilot returned to Baltimore-Washington International. ID by the Smithsonian, Division of Birds. Cost was $15,000.	

Date:	8 February 2004
Aircraft:	Eurocopter BO 105
Airport:	Baton Rouge (LA)
Phase of Flight:	En Route (700' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	American bittern
Comments from Report: Approximately 3 miles south of Baton Rouge Metropolitan Airport, a helicopter hit an American bittern, which broke out the copilot's windshield. The body came into the cockpit on short final; before that it was wedged into the windshield. Time out of service was about 3 days. Cost of repairs was $5,000.	

Date:	17 February 2004
Aircraft:	B-757-200
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: The aircraft hit 5 mallards and returned with one engine out. At least 1 bird was ingested and parts of 5 birds were collected from the runway. Engine was not repairable and had to be replaced. Time out of service was 3 days. Cost was $2.5 million.	

Date:	19 March 2004
Aircraft:	Helicopter
Airport:	Near Mooreland, OK
Phase of Flight:	En Route (3,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Duck
Comments from Report: Duck crashed through the windshield of a medical center helicopter. Paramedic suffered only bruises to chest and arms. A safe landing was made and the patient was taken by ambulance to a hospital along with the helicopter crew.	

Date:	26 March 2004
Aircraft:	RV-6
Airport:	Adams Field (AR)
Phase of Flight:	Approach (2,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Lesser scaup
Comments from Report: Duck crashed through the windshield at night, momentarily blinding pilot who was covered with duck blood. Pilot increased speed for landing due to increased drag from hole in windshield. Time out of service was about 3 weeks. Cost to repair was $1,000.	

Date:	30 March 2004
Aircraft:	B-747
Airport:	Louisville International (KY)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Engines
Wildlife Species:	European starling
Comments from Report: Just after takeoff, about 60-100 starlings were struck and ingested into the #3 and #4 engines. The engines lost power but were not shut down. An emergency was declared and the aircraft returned to the airport safely. Several blades had to be replaced.	

Date:	15 April 2004
Aircraft:	Airbus 319
Airport:	Portland International (OR)
Phase of Flight:	Climb (800' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Great blue heron
Comments from Report: A heron was ingested, causing extensive damage to the right engine. Pilot shut the engine down as a precaution and made an emergency landing. Runway was closed 38 minutes for cleaning. Flight was cancelled. Engine and nose cowl were replaced. Time out of service was 3 days. Damage totaled $388,000.	

Date:	14 June 2004
Aircraft:	B-737-300
Airport:	Greater Pittsburgh International (PA)
Phase of Flight:	Landing roll
Effect on Flight:	Ran off runway
Damage:	Landing gear
Wildlife Species:	Great horned owl
Comments from Report: The aircraft struck an owl with the front main gear severing a cable. The steering failed, the aircraft ran off the runway and became stuck in mud. Passengers were bused to the terminal. They replaced 2 nose wheels, 2 main wheels and brakes. Time out of service was 24 hours. Cost was estimated at $20,000.	

Date:	14 July 2004
Aircraft:	B-737-500
Airport:	San Francisco International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Barn owl
Comments from Report: The #1 engine ingested a barn owl on takeoff. Engine vibration went to full scale and a precautionary landing was made. Four pairs of fan blades were replaced. Time out of service was 8 hours. Repair cost was $16,000; other costs totaled $54,000.	

Date:	2 August 2004
Aircraft:	B-747-400
Airport:	Bangkok International (Thailand)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Landing gear
Wildlife Species:	Spotted dove
Comments from Report: The #2 engine ingested a dove, causing an aborted takeoff. Pilot ordered an evacuation for safety because a tire had blown and the brake caught fire. Four passengers received minor injuries. The engine was not damaged. ID by the Smithsonian, Division of Birds. Time out of service was 4 days. Repair cost was $47,310; hotel costs estimated at $36,100. Medical bills and meals were not included in costs (U.S. carrier).	

Date:	18 August 2004
Aircraft:	Pilatus PC-12
Airport:	Show Low Regional (AZ)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Propeller, wing, fuselage fuel tank
Wildlife Species:	Elk
Comments from Report: Pilot struck an elk which stopped directly in front of the aircraft during landing roll at night The inboard portion of the left wing sustained substantial damage causing a fuel leak. The prop was also damaged. Airport Directory recommended a low pass before a night landing. Time out of service was 4 months. Costs totaled $418,192	

Date:	20 August 2004
Aircraft:	Beechcraft 58
Airport:	Groveton-Trinity County (TX)
Phase of Flight:	Landing roll
Effect on Flight:	Avoidance maneuver, ran off runway
Damage:	Aircraft destroyed
Wildlife Species:	White-tailed deer
Comments from Report: Not a strike, but affected the flight. Pilot saw 3 deer on the left side of the runway at touchdown. When the pilot tried to avoid the deer, the aircraft left the runway, hit trees in a ravine and was consumed by fire. Tall grass on both sides of the runway hid the deer. The airport was not fenced. Published airport information remarked that deer were on and in vicinity of the airport. NTSB investigated.	

Date:	31 August 2004
Aircraft:	B-737-800
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (4,800' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Double-crested cormorant
Comments from Report: One engine ingested a large bird about 5 miles from the airport. A precautionary landing was made due to engine vibrations. Fluid was leaking from the aircraft. Six fan blades were replaced. ID by the Smithsonian, Division of Birds. Approximate time out of service was 6 hours. Cost of repairs was estimated at $61,000; other costs $7,000.	

Date:	16 September 2004
Aircraft:	B-747-400
Airport:	Gander International (Newfoundland, Canada)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Ring-billed gull
Comments from Report: Immediately after takeoff rotation, flight crew reported a loud bang followed by aircraft yaw to left. Flight engineer advised captain of engine failure. Fuel was dumped and the aircraft made a 3-engine landing at the airport. Extensive fan blade damage. ID by the Smithsonian, Division of Birds (U.S. carrier).	

Date:	16 September 2004
Aircraft:	MD-80
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (3,000' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Double-crested cormorant
Comments from Report: The aircraft struck a flock of cormorants. Several birds were ingested, causing an engine failure and fire. Debris fell from the engine onto a neighborhood in suburban Chicago. Aircraft made an emergency landing. ID by the Smithsonian, Division of Birds. Estimated cost of damage was $179,000; other costs $6,885.	

Date:	16 September 2004
Aircraft:	A-300
Airport:	San Antonio International (TX)
Phase of Flight:	Climb (1,200' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, bulkhead
Wildlife Species:	Unknown bird
Comments from Report: Aircraft had major damage due to a large bird strike. Major damage to radome and forward pressure bulkhead. Flight cancelled. Time out of service was 17 days. Cost of repairs was $142,000. Other costs totaled $300,000. One flight was cancelled.	

Date:	13 October 2004
Aircraft:	Rockwell AC 690
Airport:	Winder Barrow (GA)
Phase of Flight:	Climb (50' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine, propeller, wing, fuselage, landing gear, tail
Wildlife Species:	Canada goose
Comments from Report: The aircraft struck at least 17 geese on climb. The #1 engine failed due to ingestion. Aircraft diverted to another airport and landed safely. 14 carcasses found on departure runway. Remains of 3 other geese found on engine inlet. Time out of service was over 6 days. Cost of repairs was $600,000 and other costs totaled $2,000. ID by the Smithsonian, Division of Birds.	

Date:	19 October 2004
Aircraft:	CRJ 100
Airport:	Bishop International (MI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Wing, landing gear
Wildlife Species:	White-tailed deer
Comments from Report: The aircraft struck 2 deer on takeoff. The landing gear door and left inboard flap were damaged. Passengers had to be put up overnight as this was the last flight of the day. Time out of service was 2 days. Cost of repairs was estimated at $100,000.	

Date:	24 October 2004
Aircraft:	B-767
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Passerine
Comments from Report: The aircraft struck a flock of birds on takeoff. A compressor stall caused the engine to flame out. Local residents reported seeing flames coming from the plane. Approximately 11,000 gallons of fuel were dumped over Lake Michigan before returning to land. (Conflicting information about fuel dump on strike reports.) Feathers were sent to the Smithsonian, Division of Birds for identification. Could only identify species as passerines. Time out of service was about 4 days. Cost of fuel lost was $15,000.	

Date:	02 November 2004
Aircraft:	MD-80
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Ring-billed gull
Comments from Report: The aircraft made an emergency landing after ingesting a bird in the #2 engine. Oil and fuel were leaking from the engine. Smears of remains from two impact areas were sent to the Smithsonian, Division of Birds for identification. Feathers could only be identified as gull. DNA sample provided a positive ID to species.	

Date:	04 November 2004
Aircraft:	C-310
Airport:	Sundance Airpark (OK)
Phase of Flight:	Landing roll
Effect on Flight:	Propellers hit runway
Damage:	Landing gear, propellers, engines, nose
Wildlife Species:	White-tailed deer
Comments from Report: The aircraft hit a deer upon landing. Deer hit left prop, then went into lower nose cone, where it took out the front landing gear causing the plane to drop onto its nose. Both propellers hit the runway. Initial estimates are $50,000 to $70,000. Three deer were removed from the private airport.	

Date:	07 November 2004
Aircraft:	EMB-145
Airport:	Kalamazoo/Battle Creek International (MI)
Phase of Flight:	Climb
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine, wing
Wildlife Species:	Trumpeter swan
Comments from Report: Multiple bird strike. Pilot shut the right engine down and made an emergency landing. Leading edge of wing was dented. Engine was replaced. ID by the Smithsonian, Division of Birds. Cost of repairs was estimated at $450,000.	

Date:	19 November 2004
Aircraft:	B-757
Airport:	San Francisco International (CA)
Phase of Flight:	Approach (100’ AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Brown pelican
Comments from Report: Bird flew into left engine. Numerous fan blades damaged beyond repair. Pilot shut the engine down. Landing was normal. All fan blades were replaced. ID by the Smithsonian, Division of Birds. Time out of service was 4 days. Cost of repairs was $216,000.	

Date:	08 December 2004
Aircraft:	MD-80
Airport:	Sacramento International (CA)
Phase of Flight:	Climb (5,500’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, wing
Wildlife Species:	Northern pintail
Comments from Report: Passengers reported seeing a flock of geese at time of strike. Radome was dented over 1/3 of surface and wing was punctured and dented. ID by the Smithsonian, Division of Birds. Cost of repairs estimated at $200,000.	

Date:	13 December 2004
Aircraft:	Beechcraft 90
Airport:	Monroe-Walton County (GA)
Phase of Flight:	Climb (3’ AGL)
Effect on Flight:	Other
Damage:	Engines, propellers, wing, landing gear, nose, fuselage
Wildlife Species:	White-tailed deer
Comments from Report: Struck a deer during the landing flare. The nose gear collapsed, both prop assemblies and engine nacelles were condemned. Both engines had substantial damage. Right flap and fuselage were damaged. Time out of service was 6 months, cost was $710,000.	

Date:	07 January 2005
Aircraft:	Hawker 1000
Airport:	Bowerman (WA)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Engine #1 and #2
Wildlife Species:	Dunlin
Comments from Report: Area is a wildlife refuge with known hazards but no specific warning was issued. Pilot pulled up to avoid birds. Core ingestion in both engines. Aircraft was not flyable. Company had to rent two engines while the damaged ones were being torn down for inspection and repair. The landing gear was covered with small birds. Airport personnel believe the birds were dunlins.	

Date:	12 January 2005
Aircraft:	B-747
Airport:	Tokyo International (Japan)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, wing
Wildlife Species:	Hooded crow
Comments from Report: Flight crew saw 2 birds on centerline. They also saw a large crane-like bird pass under the nose and a crow passing off to the left. They heard a loud bang and the aircraft yawed left. Takeoff was aborted. Two fan blades broke though the cowl, others were damaged. All fan blades were replaced. A leading edge flap panel was damaged by broken fan blades. ID by the Smithsonian, Division of Birds. (U.S. carrier)	

Date:	02 February 2005
Aircraft:	Piper 28
Airport:	Brandywine (PA)
Phase of Flight:	Climb
Effect on Flight:	Precautionary landing
Damage:	Propeller, wing
Wildlife Species:	Canada goose
Comments from Report: Significant damage to the wing at the point where it attaches to the fuselage. Although there was minor propeller damage, the engine had to be torn down for inspection. Time out of service was 1 month. Cost of repairs, $15,000.	

Date:	18 February 2005
Aircraft:	MD-10
Airport:	Oakland (CA)
Phase of Flight:	Climb (1,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Bird was ingested in the #2 engine, which caused a major vibration to the tail. Emergency landing was made after dumping fuel. The inlet fan had lost 2 blades; 1 exited from the side, punching a hole in the acoustic panel. Fan blades were replaced and panel was repaired. Time out of service was 2 weeks. Cost of repairs, $59,000 and other costs totaled $105,000.	

Date:	20 February 2005
Aircraft:	Cessna Citation Ultra
Airport:	Miami International (FL)
Phase of Flight:	Climb
Effect on Flight:	None
Damage:	Tail
Wildlife Species:	Turkey vulture
Comments from Report: Hit a turkey vulture after departure. Impact did not appear to be that hard. No indications on the controls of any major damage. Reduced speed as a preventive measure. After landing, found a hole about 1 foot in diameter in the tail. The tail was replaced. ID by the Smithsonian, Division of Birds. Time out of service was 2.5 months. Cost of repairs estimated to be $25,000.	

Date:	27 February 2005
Aircraft:	B-737-300
Airport:	Orlando International (FL)
Phase of Flight:	Takeoff run
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Strike had no effect on engine operation. After landing, they found several N1 stage blades dented. Eight pairs of blades were replaced. Cost $160,000.	

Date:	4 March 2005
Aircraft:	B-757-200
Airport:	Mineta San Jose International (CA)
Phase of Flight:	Climb (5’ AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: A flock of gulls and other small birds landed on the runway as the aircraft was rotating for takeoff. The left engine ingested at least 1. The aircraft returned to the airport on the right engine while emergency vehicles stood by. The plane taxied to the gate. Several fan blades were bent. No major engine parameter variations reported. Remains were not saved for ID.	

Date:	30 March 2005
Aircraft:	SA 227
Airport:	Dade-Collier Training and Transportation (FL)
Phase of Flight:	Landing roll
Effect on Flight:	Not reported
Damage:	Propeller, fuselage
Wildlife Species:	White-tailed deer
Comments from Report: During landing, while engines were in reverse, last deer in a group of 8 hit the prop, causing it to detach and puncture the fuselage. Also damaged were the nose wheel steering and right engine nacelle. Aircraft was a write-off due to cost of repairs ($580,000) being close to the plane’s value of $650,000.	

Date:	1 April 2005
Aircraft:	B-757-200
Airport:	Oakland International (CA)
Phase of Flight:	Climb (600' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Common loon
Comments from Report: Common loon was ingested into the engine core during climb-out. An emergency was declared and the aircraft diverted to SFO. Aircraft landed safely. Engine was not shut down. Vibration and burning smell reported by flight attendant. Fan blades and nose cowl were damaged. Engine was replaced. ID by the Smithsonian, Division of Birds. Costs reported at over $1.5 million.	

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Date:	9 April 2005
Aircraft:	B-737-300
Airport:	Chicago O' Hare International (IL)
Phase of Flight:	Climb (1,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, horizontal stabilizer, engine
Wildlife Species:	Unknown bird
Comments from Report: Hit several birds. The #2 engine ingested birds into the core and had to be removed for repair. Also damaged were radome, left wing, vertical fin and pitot static probe. Aircraft was ferried out for repairs. Time out of service was 15 days. Cost of engine repairs was $40,000.	

Date:	17 April 2005
Aircraft:	Bell 407
Airport:	Near Brentford, SD
Phase of Flight:	En Route (1,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Blue-winged teal
Comments from Report: On the way to the scene of an auto accident at night, a helicopter was hit by 3 ducks. The windshield shattered and blood from the ducks temporarily blinded the pilot. His crew helped direct him to a safe landing spot on a road. Time out of service was 8 hours. Cost of repairs was $1,440.	

Date:	20 April 2005
Aircraft:	B-777
Airport:	Unknown (DEN-SFO)
Phase of Flight:	En Route
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Engine was replaced due to blade damage found in three stages. Time out of service was 9 days. Cost of repairs at least $2 million.	

Date:	24 April 2005
Aircraft:	B-747
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Great black-backed and herring gulls
Comments from Report: The aircraft hit several gulls at rotation and shut down the #2 engine due to vibration. Aircraft returned to land after dumping 18,700 pounds of fuel. Several fan blades had to be replaced, others repaired. Passengers were delayed about 3 hours. Several great black-backed gulls were found on the runway. ID for herring gull by Smithsonian, Division of Birds.	

Date:	9 May 2005
Aircraft:	Rockwell NA 265
Airport:	Brownwood Regional (TX)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff, overran runway
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: A loud bang was heard followed by plane swerving left as aircraft was about to takeoff. Captain aborted takeoff due to rapidly losing directional control. Plane overran runway, hit a fence and trees, crossed a road and came to rest in a plowed field. Fuel was leaking from left wing. Evidence of bird residue was found in the left engine. No serious injuries to those on board. NTSB report was source for this strike. Expert on birds in engines suggested that it would be unusual to find remains in the hot section of an engine and not find any on the 1st stage blades.	

Date:	31 May 2005
Aircraft:	B-757
Airport:	Lihue International (HI)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Barn owl
Comments from Report: Pilots saw bird go by right side of aircraft, then felt a vibration in the right engine. A precautionary landing was made at a nearby airport. Damage was found to the acoustic liner, several fan blades, LPC and HPC. Engine was removed for repairs. ID by the Smithsonian, Division of Birds. Time out of service was 4 days; cost was over $1 million.	

Date:	10 June 2005
Aircraft:	DC-9-30
Airport:	Kansas City International (MO)
Phase of Flight:	Climb (10' AGL)
Effect on Flight:	Emergency landing
Damage:	Engine
Wildlife Species:	American kestrel
Comments from Report: First officer saw small bird fly in front of the aircraft and disappear to the left. At rotation, the aircraft began to vibrate, yawed to the left and made several loud banging noises as the compressor stalled in the left engine. Pilot notified the tower and made an emergency landing that was uneventful. The engine was run at idle until after landing. Several fan blades were damaged along with the fan case. The flight was cancelled. ID by the Smithsonian, Division of Birds. Cost of repairs estimated at $800,000.	

Date:	24 June 2005
Aircraft:	A-310
Airport:	Subic Bay (Philippines)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, cowling, wing
Wildlife Species:	Philippine duck
Comments from Report: Engine had multiple birdstrikes on takeoff roll. A loud bang was heard, followed by vibration and pull to right. Fan blades were badly damaged. A large section of the nose cowl was torn from nacelle. Fan cowling was damaged. The #3 flap fairing was damaged by engine shrapnel. The engine and cowling were replaced. ID by the Smithsonian, Division of Birds. Time out of service was 4 days. Cost of repairs estimated at $9,456,000 (U.S. carrier).	

Date:	4 August 2005
Aircraft:	C-421
Airport:	Rooke Field (TX)
Phase of Flight:	Landing roll
Effect on Flight:	Separated nose gear
Damage:	Nose landing gear, propellers
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft hit a deer while landing, which caused the nose gear to collapse. Both propellers were damaged. Cost of repairs estimated at $100,000.	

Date:	17 August 2005
Aircraft:	C-421
Airport:	Merritt Island (FL)
Phase of Flight:	Descent (2,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Wing, tip tank, electronics
Wildlife Species:	Black vulture
Comments from Report: Collision with a black vulture ripped the aircraft wing and punctured a fuel tank, causing fuel to spray out. The strike also damaged the light that confirmed the landing gear was down. Pilot was not sure if gear was down and called for an emergency landing. State Secretary of Transportation was onboard along with other dignitaries. ID by the Smithsonian, Division of Birds.	

Date:	23 August 2005
Aircraft:	MD 520
Airport:	Near Phoenix, AZ
Phase of Flight:	En Route (400' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, rotor blades
Wildlife Species:	American coot
Comments from Report: Bird hit windscreen and shattered left side, injuring the pilot. A precautionary landing was made at the Coliseum. Rotor blades were scratched and will be replaced. Time out of service estimated at 3-4 weeks. Cost for windscreen was $30,000. ID by the Smithsonian, Division of Birds.	

Date:	1 September 2005
Aircraft:	Falcon 20
Airport:	Lorain County (OH)
Phase of Flight:	Climb (15' AGL)
Effect on Flight:	Overran runway
Damage:	Aircraft damaged beyond repair
Wildlife Species:	Mourning dove
Comments from Report: Shortly after rotation, aircraft hit a flock of birds, causing the #1 engine to flame out. As the gear was retracted, they hit another flock, which caused the #2 engine RPM to roll-back. The pilot was not able to sustain airspeed or altitude and crash-landed, sliding through a ditch and airport perimeter fence, crossing a road and ending in a corn field. Aircraft sustained major structural damage beyond economical repairs. Both pilots were taken to hospital. Only the copilot sustained minor injuries. The NTSB investigated. Costs totaled $1.4 million.	

Date:	3 September 2005
Aircraft:	B-757
Airport:	Cleveland Hopkins International (OH)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Avoidance maneuver
Damage:	Engines
Wildlife Species:	European starling
Comments from Report: Pilots saw large flock of starlings just after rotation. First officer pulled up, trying to avoid major part of the flock. They heard birds hit and immediately a foul smell entered cockpit. Engine instruments remained normal and flight continued to ORD. Both engines sustained damage. Approximately 50 starlings were found on the runway 3 hrs after the strike. Time out of service was approximately 2 days, and cost was estimated at $425,000.	

Date:	12 September 2005
Aircraft:	Piper Aztec
Airport:	Anoka County (MN)
Phase of Flight:	Landing roll
Effect on Flight:	Not reported
Damage:	Engine, prop, wing, landing gear
Wildlife Species:	White-tailed deer
Comments from Report: Deer was cut in two by propeller. Photos show significant damage to landing gear. Time out of service was 3 days, and cost totaled $50,000.	

Date:	13 September 2005
Aircraft:	DC-10
Airport:	Forth Worth Meacham International (TX)
Phase of Flight:	Landing roll
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Rock pigeon
Comments from Report: Ingested about 15-20 pigeons in the #3 engine on landing. Engine change required. ID by the Smithsonian, Division of Birds. Aircraft was out of service for 1 week. Cost estimated at $1.5 -$2 million.	

Date:	30 September 2005
Aircraft:	DC-10-10
Airport:	Unknown
Phase of Flight:	Unknown
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Wood duck
Comments from Report: During maintenance inspection, evidence of strike was found on the #1 engine. Spinner had a large dent and some fan blades were bent. Engine was borescoped. Complete set of fan blades was replaced. ID by the Smithsonian, Division of Birds. Cost of repairs was $40,000. Aircraft was out of service for 2 days.	

Date:	16 October 2005
Aircraft:	Beechcraft 1900
Airport:	Ogdensburg International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Nose gear collapsed
Damage:	Aircraft destroyed
Wildlife Species:	Coyote
Comments from Report: Aircraft struck a coyote during takeoff. The nose gear collapsed, causing the plane to skid to a stop on the runway. Propeller blades went through the skin of the aircraft. Insurance declared aircraft a total loss. Cost of repairs would have been $1.5 million.	

Date:	17 October 2005
Aircraft:	Beechcraft 400
Airport:	Nut Tree (CA)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine, landing gear, fuselage, pitot tube
Wildlife Species:	Wild turkey
Comments from Report: Aircraft struck approximately 20 wild turkeys on landing rollout. One engine had to be replaced after a bird was ingested. The other engine had evidence of a strike and was borescoped. A tire had a 1” strip of tread missing, and the right wing stall strip was dented. Pitot tube was replaced. Aircraft was out of service for 4 days and costs totaled over $76,000.	

Date:	1 November 2005
Aircraft:	A-300
Airport:	Joe Foss Field (SD)
Phase of Flight:	Climb (5,100' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: While climbing through 6,500 feet, the #2 engine sustained a bird strike from a single large bird. Flight crew reported engine vibrations and considerable noise. They kept the engine running at idle, declared an emergency and returned to the airport, landing uneventfully. Several fan blades were damaged, along with the acoustic liner and inlet guide vanes. Flight was delayed about 3 hrs. Aircraft was substituted and engine and inlet cowl were replaced. ID by the Smithsonian, Division of Birds. Cost was $518,000.	

Date:	6 November 2005
Aircraft:	MD-80
Airport:	Found at Seattle Tacoma International (WA)
Phase of Flight:	Unknown
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	American robin
Comments from Report: Pilot was unaware of strike. Flight was from LAS to SEA. Damage to the spinner was found during preflight inspection. Outbound flight was cancelled. ID by the Smithsonian, Division of Birds. Cost of repairs was $80,000.	

Date:	30 November 2005
Aircraft:	B-747
Airport:	Denver International (CO)
Phase of Flight:	Approach (1,200' AGL)
Effect on Flight:	None
Damage:	Engines, wing
Wildlife Species:	Canada goose
Comments from Report: On approach, both engines were struck by geese. No abnormal engine parameters were noted. The #1 engine was shut down after landing. Two fan blades on the #1 engine and 9 fan blades on the #2 engine were damaged. Core ingestion in both engines. Number 3 and 4 engines had no evidence of any strikes. The left outboard mid-flap had a 6 inch hole. The right outboard flap inboard canoe was also penetrated. A leg with webbed foot was protruding from the hole. ID by the Smithsonian, Division of Birds. Cost $194,000.	

Date:	13 December 2005
Aircraft:	Embraer 145
Airport:	Harrisburg International (PA)
Phase of Flight:	Approach (5,000' AGL)
Effect on Flight:	Compressor stalls
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: During approach, the crew saw a streak out the left window followed by a jolt. A smell was immediately detected. Crew turned off the LH pack and reduced power to idle to slow the plane. Engine experienced violent compressor stalls when power was increased. ID by the Smithsonian, Division of Birds.	

Date:	28 December 2005
Aircraft:	B-737-300
Airport:	Chicago Midway International (IL)
Phase of Flight:	Climb (300' AGL)
Effect on Flight:	Precautionary landing, flight diverted to ORD
Damage:	Engine
Wildlife Species:	Snowy owl
Comments from Report: One large bird was ingested into the #2 engine. A precautionary landing was made at Chicago O'Hare. One engine was destroyed. Passengers were put on other flights. ID by the Smithsonian, Division of Birds. Aircraft was out of service at least 24 hours.	

Date:	28 December 2005
Aircraft:	B-737-500
Airport:	Sacramento International (CA)
Phase of Flight:	Climb (800' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Pilot saw a large white bird fly by, heard a loud pop, then the left engine began vibrating. Aircraft returned to the airport. All fan blades were replaced. Passengers were put on other flights. Cost of repairs was $210,400.	

Date:	30 December 2005
Aircraft:	Bell 206
Airport:	Near Washington, LA
Phase of Flight:	En Route (500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Aircraft damaged beyond repair
Wildlife Species:	Vulture
Comments from Report: Pilot looked up from instruments to see a large vulture crashing into the windshield. He was temporarily blinded by blood and wind. After regaining control, the pilot tried to land in a bean field nearby, but blood was hampering his vision and the left skid hit the ground first causing the aircraft to tip on its side. Pilot was taken to the hospital and had several surgeries to repair his face, teeth and eye. Cost of aircraft repairs was $1.5 million.	

Date:	7 January 2006
Aircraft:	B-757
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Great blue heron
Comments from Report: Bird was ingested during takeoff. Engine was shut down and a one-engine landing was made. Fan section of the engine was replaced. ID by the Smithsonian, Division of Birds. Time out of service was 15 hours. Cost was $244,000.	

Date:	9 January 2006
Aircraft:	Cessna 310
Airport:	Near St. Charles, MO
Phase of Flight:	En Route (1,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Wing, fuel tank
Wildlife Species:	Mallard
Comments from Report: Bird hit aircraft about 10 miles west of St. Charles County Smartt Airport. The pilot said there were no problems controlling the plane after impact. A fire in the right wing tip tank was noticed by the pilot after landing. The fire department arrived about 20 minutes later but did not have foam, and the fire burned for 20 more minutes until an explosion caused the fire to go out. NTSB report found the strobe light assembly electrical short caused the fire. ID by the Smithsonian, Division of Birds. Time out of service was 6 months and cost totaled $174,420.	

Date:	12 January 2006
Aircraft:	Piper 28
Airport:	West Branch Community (MI)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Wing
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft hit a deer while landing. Substantial damage to wing. Cost of repairs was $32,000 and time out of service was 40 days. NTSB investigated.	

Date:	21 January 2006
Aircraft:	Cessna 210
Airport:	Orlando Executive (FL)
Phase of Flight:	Approach (2,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Black vulture
Comments from Report: Bird crashed through the windshield. The instructor was cut by Plexiglas on head and face. Aircraft landed safely. Time out of service was 24 hours. Cost was $3,500.	

Date:	1 February 2006
Aircraft:	Bombardier de Havilland Dash 8
Airport:	Boise Air Terminal (ID)
Phase of Flight:	Approach (1,500' AGL)
Effect on Flight:	None
Damage:	Tail
Wildlife Species:	Bald eagle
Comments from Report: Birdstrike took out the leading edge of the tail. Aircraft was ferried out for repairs. ID by the Smithsonian, Division of Birds.	

Date:	17 February 2006
Aircraft:	B-757-200
Airport:	Daniel Oduber Quiros International (Costa Rica)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Crested caracara
Comments from Report: Birdstrike took out the #1 engine. Aircraft landed without incident. ID by the Smithsonian, Division of Birds. (U.S. carrier)	

Date:	28 February 2006
Aircraft:	Cessna 172
Airport:	Near Titusville, FL
Phase of Flight:	En Route (2,500' AGL)
Effect on Flight:	Emergency landing off airport
Damage:	Windshield
Wildlife Species:	Ring-billed gull
Comments from Report: While on traffic enforcement detail, the windshield was shattered by a gull. The pilot was forced to make an emergency landing in a cow pasture. During the landing, the aircraft clipped a fence. Pilot was taken to the hospital, treated and released. ID by the Smithsonian, Division of Birds from photograph.	

Date:	1 March 2006
Aircraft:	Airbus 320
Airport:	Washington Dulles International (DC)
Phase of Flight:	Approach (100' AGL)
Effect on Flight:	Flight cancelled
Damage:	Engine
Wildlife Species:	European starling
Comments from Report: Over 270 carcasses were removed from the runway threshold. One brown-headed cowbird was in the group. Many parts of the aircraft were struck and both engines ingested birds. Damage was found in the #1 engine and it was removed The flight was cancelled. Aircraft was out of service for 24 hours. Costs totaled $1.3 million.	

Date:	2 March 2006
Aircraft:	SA-227 Metroliner
Airport:	Salt Lake City International (UT)
Phase of Flight:	Climb (600' AGL)
Effect on Flight:	Emergency landing at airport
Damage:	Wing
Wildlife Species:	Common goldeneye
Comments from Report: Right wing of aircraft was penetrated and badly dented. Pilot declared an emergency, returned to airfield and landed without incident. Aircraft needed extensive repair. ID by the Smithsonian, Division of Birds.	

Date:	8 March 2006
Aircraft:	Cessna 172
Airport:	Near Mina, NV
Phase of Flight:	En Route (2,500' AGL)
Effect on Flight:	Emergency landing at airport
Damage:	Windshield, wings, tail, fuselage
Wildlife Species:	Unknown bird
Comments from Report: Birdstrike caused the windshield to implode; the doors blew open, and the plane went into a spin and a spiral. Aircraft recovered at 500ft AGL. Pilot was able to land safely at KTPH. Wings were damaged by the force of the plane in the spin. Aircraft was out of service for 7 months. Costs estimated at $15,700 plus medical bills for cuts and hypothermia which burned the lungs, throat and eyes of one of the passengers. Injuries reported for three people.	

Date:	13 March 2006
Aircraft:	RV-6A
Airport:	Miller Airpark (NC)
Phase of Flight:	Landing roll
Effect on Flight:	Aircraft flipped over
Damage:	Aircraft destroyed
Wildlife Species:	Eastern cottontail rabbit
Comments from Report: After touchdown, the nose started to drop and the plane flipped over. A dead rabbit was found prior to where the nose gear started making a trench in the grass. Blood test on the gear was positive. NTSB concluded that the rabbit caused the damage. The pilot sustained minor cut on scalp but was hospitalized for observation. Cost of the aircraft was $78,000.	

Date:	22 March 2006
Aircraft:	Airbus 319
Airport:	General Mitchell International (WI)
Phase of Flight:	Approach
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: While on 2 mile final, 1 or 2 large birds were ingested. The engine shut down and the pilot called an emergency. Fire trucks inspected and followed aircraft to gate. Pilots did not know they had hit birds, as it was dark. There was major damage to the core and the engine was replaced. ID by the Smithsonian, Division of Birds. Cost of repair was $2,675,600.	

Date:	15 April 2006
Aircraft:	CRJ 200
Airport:	Detroit Metropolitan (MI)
Phase of Flight:	Climb (500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Northern pintail
Comments from Report: Just after takeoff, aircraft had multiple birdstrikes. Left engine ingested a bird causing vibration and burning smell. An emergency was declared, and the aircraft landed safely back at the airport. One type of duck found along runway was a scaup. Remains from engine were identified by the Smithsonian, Division of Birds. Time out of service was 43 hours, and cost of repairs was $71,000.	

Date:	17 April 2006
Aircraft:	Learjet 60
Airport:	Palm Beach International (FL)
Phase of Flight:	Climb (2,000' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Black vulture
Comments from Report: Black vulture was ingested, and the engine was shut down in flight. An uneventful landing was made on one engine. Engine was damaged beyond repair. ID by the Smithsonian, Division of Birds. Time out of service was 3 days, and cost of new engine was $750,000.	

Date:	18 April 2006
Aircraft:	B-737-300
Airport:	Cincinnati/Northern Kentucky International (KY)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Unknown
Comments from Report: Medium-sized black bird was ingested during landing roll. Two fan blades damaged. Remains exited through the bypass section. Borescope inspection found distress, and the engine was removed. Cost of repairs was estimated at $1.1 million.	

Date:	24 April 2006
Aircraft:	Cessna 560
Airport:	Little Rock Adams Field (AR)
Phase of Flight:	Approach (800' AGL)
Effect on Flight:	None
Damage:	Wing
Wildlife Species:	Unknown
Comments from Report: Large area of wing leading edge dented. Removed and replaced outer section of wing leading edge. Aircraft out of service for 1 week. Cost $19,000 for repairs.	

Date:	6 May 2006
Aircraft:	Airbus 319
Airport:	Portland International (OR)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: The #1 engine ingested a hawk during takeoff, causing vibration. An Alert 1 landing was made. Three fan blades were replaced. Flight was cancelled. Cost of repairs was $83,200.	

Date:	14 May 2006
Aircraft:	B-747
Airport:	Sydney International (Australia)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine, radome
Wildlife Species:	White-breasted sea eagle
Comments from Report: Bird was ingested during takeoff, causing the engine to surge. Takeoff was aborted. There was extensive fan blade damage. The first stage fan blades on the #1 engine and the radome were replaced. Flight was cancelled. (U.S. carrier)	

Date:	16 May 2006
Aircraft:	Bell 206
Airport:	Near Sweetwater, TX
Phase of Flight:	En Route (3,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, rotor, antennas
Wildlife Species:	Duck
Comments from Report: During a patient transfer to Abilene Regional Hospital, aircraft hit a flock of what was believed to be ducks. The pilot saw 5-6 medium-sized birds just before they hit the windshield. The cockpit instantly became noisy, and debris was strewn about. A large piece of the windshield landed in the pilot's lap. The aircraft was vibrating and an emergency was declared. They landed at the nearest airport, 10 miles away. The patient was transferred to a land unit for care until another helicopter arrived to finish the flight. Large amounts of remains were found in the cowling, cross tubes, flight steps and bent antennas. A groove was found in the underside of the main rotor blade, which probably accounted for the vibration. This was determined to have been damaged by the windshield. Time out of service was 1 week. Cost of repairs was estimated at $48,100.	

Date:	18 May 2006
Aircraft:	DA-10
Airport:	John H Batten (WI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Front fan on the right engine was damaged. Twelve fan blades were replaced. Aircraft was out of service for 6 days. Costs totaled $60,000.	

Date:	22 May 2006
Aircraft:	Airbus 320
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Osprey
Comments from Report: Bird was ingested into left engine. Several blades were damaged.	

Date:	23 May 2006
Aircraft:	Beechcraft 60
Airport:	Camdenton Memorial (MO)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff, departed end of runway
Damage:	Aircraft damaged beyond repair
Wildlife Species:	White-tailed deer
Comments from Report: Just prior to rotation at 110 knots, the aircraft hit a deer with the nose, then left main gear, causing it to twist. Pilot pulled the power to idle, swerved sharply and ran off the runway down an embankment. Damaged parts included nose, radome, radar, both engines and propellers, and landing gear. Cost of aircraft was $175,000.	

Date:	26 May 2006
Aircraft:	Beechcraft 55
Airport:	Near Casa Grande, AZ
Phase of Flight:	En Route (2,500' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Red-tailed hawk
Comments from Report: The hawk shattered the windshield and hit the pilot in the right eye, knocking his headset and glasses off. The pilot had difficulty seeing, due to swollen right eye and need for glasses in his left eye. Wind and engine noise made it almost impossible to hear the tower where he called for an emergency landing. Pilot was treated and released from the hospital.	

Date:	26 May 2006
Aircraft:	MU-2
Airport:	Houston-Hobby (TX)
Phase of Flight:	Approach (100' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Rock pigeon
Comments from Report: Bird hit the #2 engine, propeller, wing, fuselage and tail. Cost to repair engine was $200,000. Other costs totaled $5,000.	

Date:	18 June 2006
Aircraft:	MD-11
Airport:	Subic Bay International (Philippines)
Phase of Flight:	Climb (400' AGL)
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Fruit bat suspected
Comments from Report: Maintenance found 8 damaged fan blades and fan case liner segment damage. Engine was borescoped. Aircraft was out of service for 27 hours. Cost of repairs was $99,800. (U.S. carrier)	

Date:	22 June 2006
Aircraft:	Cessna 172
Airport:	Mount Olive Muni (NC)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Nose, propeller, landing gear, engine
Wildlife Species:	White-tailed deer
Comments from Report: Deer ran into front of plane. It was not seen until the shadows appeared in the landing lights. Aircraft was out of service for 2 weeks. Cost of repairs was $8,000; other costs totaled $1,000.	

Date:	26 June 2006
Aircraft:	B-757
Airport:	Dallas-Fort Worth (TX)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Rock pigeon
Comments from Report: Initial inspection showed 9 bent compressor blades. Aircraft was taken out of service for closer inspection.	

Date:	03 August 2006
Aircraft:	Cessna Citation 560
Airport:	Angola Tri-State (IN)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff, ran off end of runway
Damage:	Engine, brake line
Wildlife Species:	Canada goose
Comments from Report: Left engine ingested birds, causing an uncontained failure. Aircraft went off the runway during the aborted takeoff. Top cowling and fan were replaced. ID by the Smithsonian, Division of Birds. Aircraft was out of service for 13 days, and costs were estimated at $750,000.	

Date:	13 August 2006
Aircraft:	B-737-800
Airport:	Salt Lake City International (UT)
Phase of Flight:	Climb (1,300‘ AGL)
Effect on Flight:	Precautionary landing
Damage:	Nose, engine, cowling
Wildlife Species:	American white pelican
Comments from Report: Bird was hit while turning over the Great Salt Lake. Pilot saw about 8 birds flying in front of the aircraft. One hit the AOA sensor then hit the #2 engine cowling, causing a large gash. A fan blade was also damaged. ID by the Smithsonian, Division of Birds. Aircraft was out of service for 12 hours, and costs were estimated at $100,000.	

Date:	18 August 2006
Aircraft:	CRJ 200
Airport:	Salt Lake City International (UT)
Phase of Flight:	Climb (500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Both engines
Wildlife Species:	Northern pintail
Comments from Report: Pilot saw 2 birds on take-off climb and felt them hit the engines. Engines began to vibrate. Aircraft landed without incident and was towed to the hanger. ID by the Smithsonian, Division of Birds. Time out of service was over 24 hours and costs to repair engines totaled $811,825.	

Date:	6 September 2006
Aircraft:	Cessna 206
Airport:	The Eastern Iowa (IA)
Phase of Flight:	Climb (2,130' AGL)
Effect on Flight:	Precautionary landing
Damage:	Wing, light
Wildlife Species:	Red-tailed hawk
Comments from Report: Birdstrike pushed the leading edge of the left wing into the spar. ID by the Smithsonian, Division of Birds. Time out of service was one month. Costs totaled $61,500.	

Date:	1 November 2006
Aircraft:	B-767
Airport:	San Francisco International (CA)
Phase of Flight:	Climb (35' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	White-tailed kite
Comments from Report: Spinner cap hit. Eleven nonconsecutive fan blade tips damaged. ID by the Smithsonian, Division of Birds. Time out of service was 24 hours. Costs totaled $500,000.	

Date:	26 November 2006
Aircraft:	B-737-500
Airport:	Denver Intl
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Great horned owl
Comments from Report: Aircraft made an emergency landing after ingesting a "coyote" into the #2 engine. The engine was shut down due to severe vibration. All first stage fan blades were replaced. Cost was estimated at $35,000 to $40,000. Aircraft was out of service for 13 hours. Remains in freezer looked more like feathers than fur, according to WS biologist. Correct ID by the Smithsonian, Division of Birds	

Date:	8 December 2006
Aircraft:	B-767
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Climb (1,000 ‘ AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Great blue heron
Comments from Report: The captain saw 2 birds during takeoff and returned to JFK on Alert 3-3. One badly damaged great blue heron was recovered from the runway. The carcass appears to have gone through the #2 engine. Passengers were put on a replacement aircraft. The engine was replaced.	

Date:	14 December 2006
Aircraft:	Hughes 369
Airport:	Fresno, CA
Phase of Flight:	En Route (500’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Gull
Comments from Report: The birdstrike occurred about 6 miles away from Fresno Airport. The sheriff was in pursuit of a theft in progress when a gull shattered the windshield on the observer’s side. The observer had minor bruises and was flown to a medical center. The aircraft was put on a flatbed and taken to the Fresno Airport. The gull was either a ring-billed or California, based on photos.	

Date:	26 December 2006
Aircraft:	Airbus 320
Airport:	Long Beach (CA)
Phase of Flight:	Climb
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine
Wildlife Species:	Unknown
Comments from Report: Bird was ingested into the #1 engine. The pilot heard a loud noise during takeoff and shut the engine down. The flight landed about ½ hour later after burning off fuel. Emergency crews were standing by but were not needed. Bird carcasses were found on the airfield. Cost for repair was $15,500. Time out of service was 14 hours.	

Date:	29 December 2006
Aircraft:	Vans RV-4
Airport:	Grants Pass (OR)
Phase of Flight:	Climb (1,220’ AGL)
Effect on Flight:	Impacted terrain
Damage:	Prop, wing, fuselage, landing gear, tail
Wildlife Species:	Canada goose
Comments from Report: A goose hit the propeller and the aircraft began to shake violently. Pilot returned to the airport and was coming in high and fast so he attempted a go-around. The engine stalled and the plane hit the ground 500 feet beyond the departure end of the runway. Both passenger and pilot received serious injuries. Cost was reported as $30,000. NTSB investigated.	

Date:	27 January 2007
Aircraft:	Cessna 172
Airport:	Orlando Sanford International (FL)
Phase of Flight:	Climb (1,300' AGL)
Effect on Flight:	Precautionary landing
Damage:	Aircraft destroyed
Wildlife Species:	Turkey vulture
Comments from Report: As pilot departed the airport with a new student, a vulture hit the right wing, causing the plane to turn right, severely limiting pilot's ability to control the plane. The plane went into a spiral; the pilot made a forced landing in a field. When the nose wheel dug into the ground it separated bringing the plane to a stop. NTSB investigated. The aircraft was destroyed. No injuries.	

Date:	28 January 2007
Aircraft:	B-737-300
Airport:	San Jose International (CA)
Phase of Flight:	Climb (150' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Gull
Comments from Report: Encountered a flock of gulls just prior to entering the cloud deck. Several thumps were heard, followed by a strong smell of roasted gull. The engine vibration level increased, and the plane returned to land. Engine parts were found on the runway along with several gulls. Fan blades were bent and cracked and the heat shielding was damaged.	

Date:	3 March 2007
Aircraft:	Hughes 369
Airport:	Gustavus, AK
Phase of Flight:	Hover
Effect on Flight:	Abrupt landing
Damage:	Tail rotor
Wildlife Species:	Moose
Comments from Report: A moose, which had been tranquilized for tagging, charged the helicopter and damaged the tail rotor, forcing it to the ground. The helicopter had to be lifted from the scene because it could not fly. The moose was euthanized due to serious injury.	

Date:	5 March 2007
Aircraft:	B-737
Airport:	Portland International (OR)
Phase of Flight:	Approach (300' AGL)
Effect on Flight:	Flight cancelled
Damage:	Engine
Wildlife Species:	Greater white-fronted goose
Comments from Report: The aircraft was 1 mile west of PDX when 2-10 geese were struck. At least 1 was ingested. There was no internal damage to the engine, but there was major damage to the cowling. The following flight was cancelled. Cost of repairs was $494,660 and cost due to customer impact was $250,000. Time out of service was 24 hours.	

Date:	15 March 2007
Aircraft:	B-767-300
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (700' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, pitot, cowl, nose, AOA sensor, fuselage
Wildlife Species:	Canvasback duck
Comments from Report: Just after the aircraft departed, flames were seen shooting out of the #1 engine. The aircraft returned to land overweight on one engine and was towed to the terminal. Remains of nine ducks were found near the departure end of runway 9R. ID by the Smithsonian, Division of Birds. Time out of service was 12 days. Estimated cost for repairs was $1.8 million. Cost for aircraft time out of service was $309,000. Cost to house 165 passengers was not reported.	

Date:	28 April 2007
Aircraft:	A-300
Airport:	Cleveland Hopkins International (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Herring gull
Comments from Report: A gull was ingested in the #2 engine, damaging 5 fan blades and resulting in a high-speed rejected takeoff. Aircraft was out of service for 32 hours. Cost of repairs was $144,750. Other costs were $19,700. ID by the Smithsonian, Division of Birds.	

Date:	4 May 2007
Aircraft:	Cessna 180
Airport:	Lopez Island (WA)
Phase of Flight:	Takeoff run
Effect on Flight:	Nosed over
Damage:	Empennage
Wildlife Species:	Canada goose
Comments from Report: The pilot tried to avoid geese during taxi down the runway. He jammed on the brakes and a tailwind gust flipped the aircraft over. There was substantial damage to the empennage. NTSB investigated.	

Date:	21 May 2007
Aircraft:	Cessna 525
Airport:	Near Beverly, MA
Phase of Flight:	En Route (3,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Engine, fuselage, windshield
Wildlife Species:	White-winged scoter
Comments from Report: The aircraft hit a flock of scoters while en route to the Beverly Airport. An emergency was declared. The flight was diverted to Hanscom, and landed without incident. Both engines and the fuselage were damaged. Birds were reported as geese; correct ID by the Smithsonian, Division of Birds. Time out of service was 8 weeks. Costs for repairs were $230,000; other costs were $200,000.	

Date:	3 June 2007
Aircraft:	Airbus 320
Airport:	Metro Oakland International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Engine vibration
Damage:	Engine
Wildlife Species:	Rock pigeon
Comments from Report: The aircraft hit a large flock of pigeons. There was a noticeable change in engine sound and a loud thump was heard. Because engine instruments were in the normal range, the flight continued. After landing, 3 bent fan blades were found. Time out of service was 8 hours.	

Date:	3 June 2007
Aircraft:	Schweizer 300
Airport:	Near Eden Prairie, MN
Phase of Flight:	En Route (800' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield and instrument console
Wildlife Species:	Bald eagle
Comments from Report: Three miles from the airport, an eagle crashed through the helicopter's windshield and slammed into the chest of a passenger. She lost consciousness temporarily and suffered a fractured shoulder. Pilot landed safely and passenger was taken to the hospital with several injuries. Aircraft damage estimated at $10,000. Aircraft was out of service for 3 weeks.	

Date:	4 June 2007
Aircraft:	Learjet 36
Airport:	Bismarck Municipal (ND)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: A mallard was ingested into the #2 engine. The engine was totally destroyed. Fan blades perforated the cowling. ID by the Smithsonian, Division of Birds. Cost totaled $250,000.	

Date:	24 June 2007
Aircraft:	Embraer 145
Airport:	Memphis International (TN)
Phase of Flight:	Climb (300' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: A hawk was ingested into the #1 engine, causing erratic pressure readings and oil loss. The flight was diverted to Shreveport and later cancelled. The engine had bent compressor fan blades and broken stator vanes. ID by the Smithsonian, Division of Birds.	

Date:	7 July 2007
Aircraft:	B-767-400
Airport:	Fiumicino (Rome)
Phase of Flight:	Climb (20' AGL)
Effect on Flight:	Precautionary landing
Damage:	Both engines, landing gear
Wildlife Species:	Yellow-legged gull
Comments from Report: The engine ingested gulls during takeoff and dumped fuel before returning to land. Birds hit the cockpit window, right engine nose cowl, wing, and right main undercarriage. The main gear struts were deflated. Some of the fan blades had large chunks taken out. The left engine had many fan blades damaged midway along the blade leading edge. Both engines were replaced. ID by an ornithologist, who is a member of Bird Strike Committee Italy, and verified by the Smithsonian, Division of Birds. Time out of service was 1 week. Cost for repairs was approximately $785,000. No cost reported for landing fees, passengers and crew hotel, and rebooking on other airlines. (U.S. carrier)	

Date:	8 July 2007
Aircraft:	Cessna 182
Airport:	Matinicus Island (ME)
Phase of Flight:	Approach (50' AGL)
Effect on Flight:	Crash landing
Damage:	Aircraft destroyed
Wildlife Species:	Bald eagle
Comments from Report: On final approach, the pilot swerved to avoid an eagle, hit the tree tops near the runway, and crashed. The aircraft was destroyed and two people were injured. NTSB investigated.	

Date:	9 July 2007
Aircraft:	B-737-300
Airport:	Birmingham International (AL)
Phase of Flight:	Takeoff run
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Mourning dove
Comments from Report: The engine ingested doves during takeoff with no apparent effect on the flight. Maintenance found 6 fan blades damaged. All 38 fan blades were replaced. Cost was estimated at $900,000. ID by the Smithsonian, Division of Birds.	

Date:	19 July 2007
Aircraft:	MD-10-10
Airport:	El Paso International (TX)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Unknown
Comments from Report: The aircraft returned to the gate after ingesting small birds during takeoff. One engine was replaced, along with the fire bottle and nose cowl. Time out of service was 3 days. Costs totaled $516,712.	

Date:	20 July 2007
Aircraft:	Cessna 150
Airport:	Watts-Woodland (CA)
Phase of Flight:	Approach (1,000' AGL)
Effect on Flight:	Crashed in a field
Damage:	Aircraft destroyed
Wildlife Species:	Hawk
Comments from Report: A hawk broke through the windshield during approach. The pilot tried to land at the airport, but the aircraft was losing power, so he opted for a crash landing in a tomato field. The plane landed and flipped upside down. Both the pilot and his passenger sustained minor injuries. The aircraft was valued at $25,000 and other costs totaled $10,000.	

Date:	20 July 2007
Aircraft:	Schweizer G-164B
Airport:	Walker Field (IA)
Phase of Flight:	Climb (50' AGL)
Effect on Flight:	Overran runway
Damage:	Aircraft destroyed
Wildlife Species:	Unknown bird
Comments from Report: The aircraft was substantially damaged during an emergency landing following a loss of engine power after takeoff. When the engine lost power the aircraft settled to the ground, but the pilot was not able to stop the aircraft on the remaining runway. The plane hit a fence, then a ditch and nosed over. Bird remains were found near midfield on the centerline. NTSB investigated. Cost to replace the aircraft was $210,000.	

Date:	1 August 2007
Aircraft:	Cessna 180
Airport:	Sky Harbor (MN)
Phase of Flight:	Landing roll
Effect on Flight:	Aborted landing
Damage:	Wing, fuselage, other unknown parts
Wildlife Species:	Canada goose
Comments from Report: The aircraft was substantially damaged when it impacted terrain during an aborted landing attempt. The pilot was lowering the tail wheel when he hit 2 geese. The plane started turning right and the pilot tried to correct using left brake and rudder and right aileron controls. He then added full power to get back in the air. The left wing hit the runway and the aircraft flipped over onto its back. NTSB investigated.	

Date:	17 August 2007
Aircraft:	CRJ 700
Airport:	Port Columbus International (OH)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	European starling
Comments from Report: A flock of over 300 starlings was hit during takeoff. The runway was closed for 40 minutes to remove 38 carcasses. Emergency landing due to lost engine thrust. Engine damage consisted of bent fan blades and several damaged compressor blades. Time out of service was 3 days. Cost was $35,000.	

Date:	20 August 2007
Aircraft:	Citation 650
Airport:	Benton Harbor (MI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Radome, landing gear, fuselage, pitot tube
Wildlife Species:	White-tailed deer
Comments from Report: The pilot saw 2 deer and hit 1. Damage consisted of a cracked radome, bent nose gear door and the pitot tube was pushed into the fuselage skin. Cost of repairs and lost revenue was $97,186. Time out of service was 31 days.	

Date:	25 August 2007
Aircraft:	B-737-300
Airport:	El Paso International (TX)
Phase of Flight:	Climb (12,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Nose, tail
Wildlife Species:	Marbled godwit
Comments from Report: A loud bang was heard in the cockpit during climb, followed by rushing air as the cabin began to depressurize. The cabin alt horn sounded and oxygen masks were put on as the aircraft descended to 10,000 feet. After landing at El Paso, two large holes were found; one under the captain's side by his foot and the other in the left horizontal stabilizer. The cockpit on the first officer's side was dented. Blood and feathers were found. No birds were seen in flight. Ground crew said "turkey buzzards" were in the area. ID by the Smithsonian, Division of Birds. Cost of repairs was $144,000. Time out of service was 2 days.	

Date:	28 August 2007
Aircraft:	CRJ 700
Airport:	Louisville International (KY)
Phase of Flight:	Approach (2,300' AGL)
Effect on Flight:	Emergency landing
Damage:	Nose, fuselage
Wildlife Species:	Black vulture
Comments from Report: The pilot declared an emergency after a vulture smashed in the front fuselage between the radome and the windshield. The strike ripped the skin, broke the avionics door, broke a stringer in half and bent 2 bulkheads. Maintenance made temporary repairs, then aircraft was ferried out for permanent repairs. ID by the Smithsonian, Division of Birds. Cost of repairs was $200,000. Time out of service was 2 weeks.	

Date:	6 September 2007
Aircraft:	Kitfox IV
Airport:	Near Cowen, WV
Phase of Flight:	En Route (1,000' AGL)
Effect on Flight:	Engine shut down, emergency landing off airport
Damage:	Propeller
Wildlife Species:	Unknown
Comments from Report: A bird struck the wooden propeller, causing it to disintegrate. An off airport emergency landing was made, during which the aircraft hit a fence, traveled down an embankment and flipped over. There was substantial damage to the aircraft and minor injuries to the pilot. Cost was estimated at $25,000.	

Date:	17 September 2007
Aircraft:	DC-10
Airport:	Found at Cherry Point MAS, NC
Phase of Flight:	Unknown
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Great blue heron
Comments from Report: A heron was ingested. The pilot was unaware of the strike. Damage was found by maintenance during an inspection after landing. The engine was damaged beyond repair. Cost was $1.7 million. ID by the Smithsonian, Division of Birds. Time out of service was 62 hours.	

Date:	22 September 2007
Aircraft:	MD-80
Airport:	Jackson-Evers International (MS)
Phase of Flight:	Landing roll
Effect on Flight:	Flight cancelled
Damage:	Wing, radome, landing gear
Wildlife Species:	Canada goose
Comments from Report: Seven geese were found after the strike Parts damaged include a wing, the radome and the landing gear. ID by the Smithsonian, Division of Birds.	

Date:	27 September 2007
Aircraft:	Eurocopter 130
Airport:	Near Meadview, AZ
Phase of Flight:	En Route (600’ AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Golden eagle
Comments from Report: An eagle broke through the pilot’s windshield, hitting a passenger in the head. The pilot and two passengers were injured with cuts and scratches. Time out of service was three months. Cost was $800,000. NTSB investigated. ID by the Smithsonian, Division of Birds.	

Date:	29 September 2007
Aircraft:	B-737-700
Airport:	Philadelphia International (PA)
Phase of Flight:	Climb (3,000’ AGL)
Effect on Flight:	Emergency landing
Damage:	Radome, radar dish, windshield, nose
Wildlife Species:	Canada goose
Comments from Report: Several geese were struck. The windshield shattered, injuring the copilot. An emergency landing was made. One carcass was removed from the radome. The aircraft was taken out of service. Passengers were put on another aircraft and the flight continued about 5 hours later. Time out of service 48 hours. Cost totaled $60,160. ID by USDA.	

Date:	12 October 2007
Aircraft:	CRJ 700
Airport:	Denver International (CO)
Phase of Flight:	Climb (1,500' AGL)
Effect on Flight:	Emergency landing, engine shut down
Damage:	Engine, wing
Wildlife Species:	Sandhill crane
Comments from Report: Several cranes were struck shortly after takeoff. The captain said several geese came at them and they heard 3-4 thuds. The right engine immediately began to run roughly and the VIB gauge was fluctuating rapidly from one extreme to the other. Captain declared an emergency and said he didn't think he was going to make it back to DEN. The aircraft landed safely. The engine fan was damaged and there were dents along the left wing leading edge slat. ID by the Smithsonian, Division of Birds. NTSB investigated.	

Date:	23 October 2007
Aircraft:	Piper 44
Airport:	Near Browerville, MN
Phase of Flight:	En Route (3,400' AGL)
Effect on Flight:	Impacted terrain
Damage:	Aircraft destroyed (2 fatalities)
Wildlife Species:	Canada goose
Comments from Report: The aircraft disappeared during a night training flight. The instructor and student pilot did not report any difficulties or anomalies prior to the accident. Wreckage was found 36 hours later, partially submerged upside down in a bog. NTSB sent part of a wing with some remains inside to the Smithsonian. The damage that crippled the aircraft was to the left horizontal stabilator. ID by the Smithsonian, Division of Birds. NTSB investigated. Two fatalities.	

Date:	29 October 2007
Aircraft:	BK-117
Airport:	Near Hamburg, PA
Phase of Flight:	En Route (1,400' AGL)
Effect on Flight:	Emergency landing in parking lot
Damage:	Windshield, and rear door window
Wildlife Species:	Wood duck
Comments from Report: Helicopter was en route to an accident scene when it hit a flock of ducks. Two penetrated the aircraft. One broke through the front windscreen and the second through the rear door window. The impact forced both throttles into the "idle" position, which caused the aircraft to lose power. The pilot placed the aircraft into autorotation for an emergency landing and sent a "mayday" notice to the local airport. When he realized what caused the power failure he returned both throttles into the "fly" position and landed in a nearby parking lot, a mile from their intended pickup location. One injury. Crew was wearing helmets with visors. Time out of service was 8 days. Cost of repairs estimated at $8,000.	

Date:	29 October 2007
Aircraft:	MD-88
Airport:	Daytona Beach International (FL)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	American golden plover
Comments from Report: Multiple plovers were struck on takeoff, but the pilot was unaware of the strike. A flight attendant noticed a burning odor and an airline mechanic on the flight heard a pop from the engine. The right engine fan section was ruined. ID by the Smithsonian, Division of Birds.	

Date:	22 November 2007
Aircraft:	B-767-300
Airport:	Nice Cote d'Azur (France)
Phase of Flight:	Climb (250' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, wing, tail
Wildlife Species:	Yellow-legged gull
Comments from Report: A flock of gulls was seen during takeoff. As the aircraft rotated, the flock lifted off the runway. Shortly after that the crew felt multiple strikes and vibrations and returned to land. The #2 engine had fan blade damage. One piece of a fan blade broke off and exited out the front and the core nozzle fell off. The engine was replaced. ID by the Smithsonian, Division of Birds. Time out of service was 12 days. Cost of repairs was $8,925,000 and other cost was $196,000. (U.S. carrier)	

Date:	27 November 2007
Aircraft:	CRJ 200
Airport:	Memphis International (TN)
Phase of Flight:	Descent
Effect on Flight:	Unknown
Damage:	Engine, nose, wing, tail, fuselage
Wildlife Species:	Snow goose (immature)
Comments from Report: During descent the flight encountered a flock of birds, sustaining ingestion into both engines, a cracked nose panel, damage to the right wing root and left horizontal stabilizer, and left engine anti-ice cowling. Maintenance made temporary repairs before aircraft could be flown for more permanent repairs.	

Date:	29 November 2007
Aircraft:	B-757-200
Airport:	Los Angeles International (CA)
Phase of Flight:	Climb (1,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Western grebe
Comments from Report: Grebes were ingested in the #2 engine. An emergency was declared and the aircraft returned to land. Damage was found on 13 fan blades. The flight was cancelled. ID by the Smithsonian, Division of Birds. Time out of service 1 week. Cost was over $1 million.	

Date:	2 December 2007
Aircraft:	B-767-400
Airport:	Dakar-Yoff-Léopold Sédar Senghor (Senegal)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: Birds were ingested in the #1 engine just after takeoff. The pilot made a precautionary two-engine landing. All fan blades were replaced. Time out of service 4 days. Cost of repairs was $1.2 million. (U.S. carrier)	

Date:	4 December 2007
Aircraft:	B-767
Airport:	John F. Kennedy International (NY)
Phase of Flight:	Approach (3,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, radome, radar & vertical stabilizer
Wildlife Species:	Snow goose
Comments from Report: Geese penetrated the radome, damaged the radar and then penetrated the fuselage into the aircraft. The vertical stabilizer was dented. Pilot requested emergency equipment to stand by. ID by the Smithsonian, Division of Birds.	

Date:	26 January 2008
Aircraft:	BD-700
Airport:	Palm Beach International (FL)
Phase of Flight:	Climb (2,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Turkey vulture
Comments from Report: Six fan blades, fan shroud and the engine inlet were damaged. The engine continued to run with no apparent problems. Time out of service was 14 days. Costs totaled $1,563,000.	

Date:	29 January 2008
Aircraft:	B-747-200
Airport:	Louisville International (KY)
Phase of Flight:	Climb
Effect on Flight:	Vibration and noise
Damage:	Engine
Wildlife Species:	Short-eared owl
Comments from Report: Flight crew reported minor noise and vibration shortly after lift-off, which later subsided. Damage was found to 3 fan blades on the #2 engine. A piece of a liberated fan blade penetrated the cowl. Six fan blade pairs, the fan case outer-front acoustic panel and inlet cowl were replaced. ID by the Smithsonian, Division of Birds.	

Date:	4 March 2008
Aircraft:	Cessna Citation I
Airport:	Wiley Post (OK)
Phase of Flight:	Climb (3,100' AGL)
Effect on Flight:	Crashed
Damage:	Aircraft destroyed (5 fatalities)
Wildlife Species:	American white pelican
Comments from Report: Witnesses saw the aircraft fly through a flock of birds, heard the engine compressor stalL and watched the plane spiral, crash and burn. NTSB investigated. ID by the Smithsonian, Division of Birds. There were five fatalities.	

Date:	10 March 2008
Aircraft:	Airbus 318
Airport:	Denver International (CO)
Phase of Flight:	Approach (500' AGL)
Effect on Flight:	Emergency landing
Damage:	Landing gear, nose cowl
Wildlife Species:	Canada goose
Comments from Report: Hit a flock of Canada geese on 1 mile final. Aircraft went around, declared an emergency due to smoke in cockpit and damage to aircraft. Loss of fluids was reported near taxiway and also brake and hydraulic problems. Aircraft had to be moved by tug to gate. Nose cowl was dented and both engines were struck. At least one engine ingested a bird. Time out of service was reported as a minimum of 16 hours. ID by the Smithsonian, Division of Birds.	

Date:	12 March 2008
Aircraft:	Bell-407
Airport:	Miami, FL
Phase of Flight:	En Route (600' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Turkey vulture
Comments from Report: Helicopter hit bird over Biscayne Bay about 6 miles east of MIA. It landed safely at MIA. Pilot was transported to the hospital by Fire and Rescue due to cuts and lacerations to his face caused by the broken windshield. Bird remains entered the cockpit. ID by the Smithsonian, Division of Birds.	

Date:	8 April 2008
Aircraft:	Challenger 600
Airport:	Colorado Springs (CO)
Phase of Flight:	Climb (3,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Nose, engines 1 and 2
Wildlife Species:	American white pelican
Comments from Report: Shortly after departure, the aircraft had multiple, large birdstrikes. One bird penetrated the nose area just below the windshield and continued through the forward cockpit bulkhead. Bird remains were sprayed throughout the cockpit. No injuries reported. Both engines ingested at least 1 bird. The #1 engine had fan damage: the #2 engine lost power and had a dented inlet lip. ID by the Smithsonian, Division of Birds. NTSB investigated. Cost reported to exceed $2 million.	

Date:	19 April 2008
Aircraft:	Piper Aerostar
Airport:	Colorado Springs (CO)
Phase of Flight:	Approach (2,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Turkey vulture
Comments from Report: Bird penetrated center of front windshield when aircraft was on 10-mile final leaving a 2-ft hole. Pilot was injured, his headset was knocked off. Vision was impaired by blood and the 200 mph wind coming through the broken windshield. Pilot was unable to directly communicate with the tower but transponded an emergency signal hoping the control tower would clear the airport for him. An uneventful landing was made. Pilot was treated at hospital.	

Date:	2 May 2008
Aircraft:	RV-7A
Airport:	Frazier Lake Airpark (CA)
Phase of Flight:	Climb (50' AGL)
Effect on Flight:	Crashed
Damage:	Destroyed
Wildlife Species:	Canada goose
Comments from Report: During departure for a touch and go landing, aircraft hit a goose with the left wing. Pilot lost control and crashed into a field 500 feet southwest of the runway and cart wheeled. The aircraft was destroyed. NTSB investigated.	

Date:	25 May 2008
Aircraft:	B-747-200
Airport:	Brussels International (Belgium)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Aircraft destroyed
Wildlife Species:	Eurasian kestrel
Comments from Report: The aircraft overran the runway after a rejected takeoff due to a bird being ingested. The plane broke into three pieces. None of the five on board was seriously injured. ID by the Smithsonian, Division of Birds.	

Date:	27 May 2008
Aircraft:	B-737-200
Airport:	Ugnu-Kuparuk (AK)
Phase of Flight:	Approach (500' AGL)
Effect on Flight:	Aborted landing
Damage:	Engine
Wildlife Species:	Trumpeter swan
Comments from Report: During approach, a trumpeter swan was ingested. Pilot aborted landing at Kuparuk. Engine was shut down and secured. The flight diverted to Deadhorse without further incident. Cost of repairs was $500,000. Time out of service was 3 days.	

Date:	9 June 2008
Aircraft:	BE-58
Airport:	Hernando Village Airpark (MS)
Phase of Flight:	Climb (rotation)
Effect on Flight:	Precautionary landing
Damage:	Engine and landing gear
Wildlife Species:	White-tailed deer
Comments from Report: At rotation, aircraft hit a deer with the right engine, removing the right gear from the aircraft. Aircraft returned to land on the nose gear and left gear. Aircraft skidded off runway. Substantial damage was reported.	

Date:	20 June 2008
Aircraft:	B-747-400
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Takeoff run
Effect on Flight:	Precautionary landing
Damage:	Engine #2
Wildlife Species:	Red-tailed hawk
Comments from Report: During takeoff run, aircraft ingested a hawk. The flight continued takeoff and climbed to dump 165,000 lbs of fuel (cost $100,000) then returned to the airport with one engine out. Several blades had significant damage. Both the #1 and #2 engines had vibrations but the #1 engine was not damaged. Some blades were replaced while others were blended. Thirty man-hours to repair.	

Date:	5 July 2008
Aircraft:	Mooney M20K
Airport:	Livingston County Spencer J Hardy (MI)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Wing, fuselage, propeller, landing gear
Wildlife Species:	White-tailed deer
Comments from Report: Aircraft hit a deer on takeoff roll at dusk. The pilot immediately aborted the takeoff and returned to the ramp. The left wing, lower fuselage, propeller and left main landing gear were damaged. NTSB investigated.	

Date:	7 July 2008
Aircraft:	B-747-400
Airport:	Los Angeles International (CA)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Unknown bird (possible gull or brown pelican)
Comments from Report: First officer and captain both saw the bird. Captain reported hearing a sound come from the #2 engine. Takeoff was aborted. Hot brakes were reported while returning to the gate. A total of 8 fan blades were damaged. No core ingestion. According to the chief engineer, the turbines had a strong odor of fish, which has a high probability of being a pelican, since they have been observed flying in the western end of the AOA and one was struck recently at LAX. Two other reports indicated a gull. The aircraft was carrying Victoria Beckham, stirring headlines all over the globe. Damages include costs related to overnight accommodations for passengers (approx 338), repairs to turbines (engineers were flown in from New Zealand), and costs of parts and labor. Time out of service was 24 hours. Costs totaled $806,000.	

Date:	24 July 2008
Aircraft:	Learjet 60
Airport:	Morristown Muni (NJ)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine #2 and wing
Wildlife Species:	Canada goose
Comments from Report: During takeoff run a flock of 2-10 geese were struck. The #2 engine ingested a Canada goose causing damage and the wing was also damaged. Takeoff was aborted. Aircraft was out of service for 8 days and cost totaled $3 million.	

Date:	29 August 2008
Aircraft:	Ercoupe 415 C
Airport:	Sebring Regional (FL)
Phase of Flight:	Climb (1,300’ AGL)
Effect on Flight:	Engine shut down, emergency landing
Damage:	Destroyed
Wildlife Species:	Unknown bird
Comments from Report: The pilot saw wood pieces from his prop and white feathers coming into the cockpit through the open canopy. An extreme vibration ensued and he shut the engine down and made an emergency landing in a pasture. The aircraft hit a ditch which was hidden by tall grass. The nose gear collapsed, the right wing spar bent aft and the firewall buckled. The pilot was flying over a garbage dump at the time of the strike. NTSB investigated.	

Date:	11 September 2008
Aircraft:	MD-88
Airport:	Atlanta International (GA)
Phase of Flight:	Climb (5' AGL)
Effect on Flight:	Engine shut down, precautionary landing
Damage:	Engine #1
Wildlife Species:	Rock pigeon
Comments from Report: The number 1 engine was totaled. Odor and haze in cabin. Vibration in engine. Two-ten birds reported as struck. Aircraft made an emergency landing. ID by the Smithsonian, Division of Birds. Remains taken from nose and runway.	

Date:	21 September 2008
Aircraft:	B-767
Airport:	Orlando International (FL)
Phase of Flight:	Climb (1,000 AGL)
Effect on Flight:	Emergency landing
Damage:	Engine, nose
Wildlife Species:	Wood stork
Comments from Report: Aircraft had multiple birdstrikes shortly after liftoff which hit the left engine and radome. The crew declared an emergency and returned to land safely 12 minutes after departure. Passengers heard 2 loud bangs followed by vibration and noise. A horrible smell was noticed. ID by the Smithsonian, Division of Birds.	

Date:	26 September 2008
Aircraft:	Cirrus CR-22
Airport:	Fort Lauderdale Executive (FL)
Phase of Flight:	Climb (2,500' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, nose, propeller, landing gear
Wildlife Species:	Anhinga
Comments from Report: The bird entered the cockpit, striking the pilot's face. He required stitches. The deice boot on two prop blades received damage. The left engine cowl had damaged paint and fiberglass. ID by the Smithsonian, Division of Birds.	

Date:	28 September 2008
Aircraft:	Piper 28
Airport:	Beverly Municipal (MA)
Phase of Flight:	Landing roll
Effect on Flight:	None
Damage:	Wing, engine, fuselage
Wildlife Species:	White-tailed deer
Comments from Report: The deer was hit at dusk. The right wing and right engine compartment were severely damaged. Aircraft was considered totaled ($48,000). NTSB investigated. Aircraft was later sold and repaired.	

Date:	25 October 2008
Aircraft:	MD-90-30
Airport:	Salt Lake City (UT)
Phase of Flight:	Takeoff run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	Ferruginous hawk (juvenile)
Comments from Report: Hawk was ingested at high speed during takeoff. The engine stalled, lost thrust and takeoff was aborted. Runway was closed 30 minutes for cleanup. Airline mechanics reported that the cost of 4 tires, 4 brake assemblies and 4 fan blades would be $554,400. This cost does not include labor and down time. Flight was delayed 3 hours. Final estimate for repairs was around $3.2 million. Airline policy required pilots be removed from service. ID by Wildlife Services biologist.	

Date:	18 November 2008
Aircraft:	Aerospatiale AS 350
Airport:	Near West Point over Hudson River (NY)
Phase of Flight:	En Route (2,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Canopy and nose
Wildlife Species:	Canada goose
Comments from Report: Helicopter was over the Hudson River near West Point Military Academy. Report indicates a hole in center left nose area about 21" by 14". New canopy was ordered from France. Cost reported as over $91,000. Time out of service was about 3 months.	

Date:	18 November 2008
Aircraft:	MD-11
Airport:	Memphis Intl(TN)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Unknown bird
Comments from Report: At approximately 100' AGL engine had a compressor stall and aircraft yawed left. Pilots heard a loud bang and saw the EVM Comp indicator spike. They made a precautionary landing back at Memphis. Maintenance found moderate damage to the #1 engine. Cost of repairs was $235,000. Time out of service was 41 hours.	

Date:	20 November 2008
Aircraft:	B-757-200
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (2,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: During climb-out, pilots felt a bump, heard a bang and smelled something burning. An emergency was declared and an uneventful landing was made. Pilots thought it might have been a birdstrike but were concerned mostly about the smell. Multiple birds were struck. Maintenance found feathers in the fan. Several fan blades were replaced. ID by the Smithsonian, Division of Birds.	

Date:	6 December 2008
Aircraft:	A-320
Airport:	New Orleans International (LA)
Phase of Flight:	Climb (500' AGL)
Effect on Flight:	Engine shut down and precautionary landing
Damage:	Engine
Wildlife Species:	Lesser scaup
Comments from Report: During climb-out, 4 birds appeared on the nose out of the dark. Birds tried to dive and were lost from view on right side followed by a loud thump and #2 engine vibrations. An emergency was declared and a/c returned to land. Post flight inspection found major engine damage. There were many deformed fan and exhaust blades. ID by the Smithsonian, Division of Birds.	

Date:	6 December 2008
Aircraft:	A-300
Airport:	Jorge Chavez Intl
Phase of Flight:	Takeoff run
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Hawk
Comments from Report: During takeoff run, noticed debris on runway which began to move. Hawk started to lift off and was ingested into the #1 engine. Smell and engine vibration followed. Engine damage included shrapnel imbedded in the cowling. A runway FOD check was requested before landing. (U.S. carrier)	

Date:	19 December 2008
Aircraft:	MD-10-10
Airport:	Memphis International (TN)
Phase of Flight:	Approach (2,700' AGL)
Effect on Flight:	None
Damage:	Engine, engine cowl, thrust reverser
Wildlife Species:	Gadwall
Comments from Report: Replaced #3 engine cowl, #3 engine and #3 thrust reverser. Time out of service was 78 hours. Total cost was $913,678. ID by the Smithsonian, Division of Birds.	

Date:	26 December 2008
Aircraft:	DC-10-30
Airport:	Memphis International (TN)
Phase of Flight:	Descent (9,700' AGL)
Effect on Flight:	None
Damage:	Wing
Wildlife Species:	Snow goose
Comments from Report: Repaired and replaced two slats. Time out of service was 8 days. Costs totaled $220,000. ID by the Smithsonian, Division of Birds.	

Date:	4 January 2009
Aircraft:	Sikorksy S-76C
Airport:	Near Morgan City, LA
Phase of Flight:	En Route (700' AGL)
Effect on Flight:	Crashed in a marsh
Damage:	Aircraft destroyed (8 fatalities)
Wildlife Species:	Red-tailed hawk
Comments from Report: Helicopter crashed while en route to an offshore work site. Eight people were killed. One seriously injured. Initial analysis of the flight data recorder indicated that the helicopter was cruising at 138 knots when the cockpit voice recorder indicated a loud noise followed by a substantial increase in the background noise level that was recorded on both intercoms and area microphones. About one second after the loud noise, the torque of both engines dropped simultaneously to near zero. DNA and feather samples were taken from the windshield and right side engine inlet filter. Additional swabs were taken from various parts of the aircraft. NTSB investigated. ID by the Smithsonian, Division of Birds.	

Date:	5 January 2009
Aircraft:	B-747-400
Airport:	Chicago O'Hare International (IL)
Phase of Flight:	Climb (<8,000 AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine #3
Wildlife Species:	Red-tailed hawk
Comments from Report: During climb, bird(s) was/were ingested in the #3 engine. Altitude of strike was not reported but the aircraft turned back at around 8,000 feet AGL and dumped 30,000 kg of fuel. ID by the Smithsonian, Division of Birds. Aircraft out of service at least 3 days.	

Date:	15 January 2009
Aircraft:	A-320
Airport:	LaGuardia International (NY)
Phase of Flight:	Climb (2,900' AGL)
Effect on Flight:	Engines shut down, landed in Hudson River
Damage:	Aircraft destroyed
Wildlife Species:	Canada goose
Comments from Report: During initial climb, aircraft had multiple birdstrikes and lost thrust in both engines. Pilot ditched in the Hudson River less than 6 minutes after takeoff. Several boats were used to rescue the 150 passengers and 5 crew members as the aircraft sank. Everyone on board survived. Area hospitals treated several minor injuries and one serious injury. NTSB investigated. ID by the Smithsonian, Division of Birds. Geese were found to be migratory rather than resident. Cost of aircraft estimated at $36 million.	

Date:	17 January 2009
Aircraft:	Eurocopter AS 350
Airport:	Near Forrest City, AR
Phase of Flight:	En Route (1,200' AGL)
Effect on Flight:	Emergency landing
Damage:	Both windshields, chin bubble, engine nacelle and nose
Wildlife Species:	Snow goose
Comments from Report: Helicopter hit a flock of birds around the Forrest City area and made an emergency landing. The a/c hit about 6 birds. Both windscreens were broken as well as the nose cone, engine nacelle and pilot's chin bubble. The pilot suffered some minor injuries and everyone was shaken up. The crew members were not wearing helmets and were fortunate the pilot's vision remained intact to land the aircraft. Aircraft was trailered for repairs. Time out of service was 3 months and costs totaled $100,000.	

Date:	1 February 2009
Aircraft:	Schweizer G-164B
Airport:	Private airstrip near Ferriday, LA
Phase of Flight:	Approach (20' AGL)
Effect on Flight:	Impacted runway and flipped over
Damage:	Destroyed
Wildlife Species:	Double-crested cormorant and red-winged blackbirds
Comments from Report: While on short final, the bi-wing aircraft hit a flock of birds which penetrated the windscreen and impacted pilot in the face, temporarily blinding him. Pilot attempted a go-around but aircraft impacted the runway, nosed over and came to rest inverted. Pilot reported a cormorant came through the windshield. Photo showed red-winged blackbirds on field. The fuselage sustained structural damage. NTSB investigated. Aircraft was destroyed.	

Date:	3 February 2009
Aircraft:	B-757-200
Airport:	Denver International (CO)
Phase of Flight:	Climb (2,100' AGL)
Effect on Flight:	Emergency landing
Damage:	Engine
Wildlife Species:	Bald eagle
Comments from Report: Amber alert precautionary landing. Pilot reported seeing and hitting a large bird during climb through 7500 ft MSL. Bird hit right side of engine cowling making a large dent before entering the engine where it damaged all fan blades. Aircraft returned to Denver. ID by the Smithsonian, Division of Birds. Cost reported to be $14 - $20 million.	

Date:	16 February 2009
Aircraft:	B-757-200
Airport:	Mineta San Jose International (CA)
Phase of Flight:	Take-off run
Effect on Flight:	Aborted takeoff
Damage:	Engine
Wildlife Species:	California gull
Comments from Report: Saw gulls during taxi. During take-off run captain saw birds on runway, they began flying resulting in numerous strikes on fuselage and wings. Right engine began to vibrate significantly. Pilot aborted take-off, exited runway and shut down the right engine. Passengers were bused to San Francisco where they were booked on other flights. ID by the Smithsonian, Division of Birds.	

Date:	16 February 2009
Aircraft:	Cessna 402
Airport:	Fort Lauderdale International (FL)
Phase of Flight:	Climb (600' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Black vulture
Comments from Report: Pilot had just taken off when he saw a flock of vultures ahead. One smashed through the windshield, hitting the pilot in the face causing injury. Blood splattered all over the cockpit. Firefighters were on hand for the landing. Pilots in the area have reported a growing vulture problem.	

Date:	5 March 2009
Aircraft:	Agusta 109E
Airport:	Shands Hospital (FL)
Phase of Flight:	Approach (700' AGL)
Effect on Flight:	Emergency landing at base
Damage:	Windshield, switches, light
Wildlife Species:	Lesser scaup
Comments from Report: A duck shattered the windshield and entered the cockpit. The pilot received cuts and an eye injury. A trauma patient was on board as they approached the rooftop helipad at Shands Hospital. The bird broke switches and circuit breakers on the overhead instrument panel before landing on the foot of a crewmember. The aircraft landed at the ShandsCair helipad, rather than on the hospital roof. Patient was transported by ambulance. ID by the Smithsonian, Division of Birds based on photo.	

Date:	16 March 2009
Aircraft:	B-757-200
Airport:	New Orleans International (LA)
Phase of Flight:	Take-off run
Effect on Flight:	Precautionary landing
Damage:	Engine #2
Wildlife Species:	Herring gull
Comments from Report: Pilot reported seeing up to 10 gulls on the runway during rotation. Ingestion caused vibration in the #2 eng. An emergency was declared and aircraft returned to airport, landing safely. Smoke rings were seen coming from the engine during landing. Three blades were replaced along with a leaky hydraulic actuator. Passengers were booked on other flights. ID by Smithsonian, Division of Birds. Time out of service 24 hours.	

Date:	21 March 2009
Aircraft:	B-737-800
Airport:	Newark Liberty International (NJ)
Phase of Flight:	Approach (1,200' AGL)
Effect on Flight:	Engine shutdown
Damage:	Engine, wing, landing gear
Wildlife Species:	Canada goose
Comments from Report: On final approach, right engine ingested a Canada goose and flamed out repeatedly. Safe landing made. Emergency vehicles were dispatched. Damage to right engine and left leading edge of wing. Nose gear had bird lodged in it. ID by the Smithsonian, Division of Birds.	

Date:	22 March 2009
Aircraft:	A-310
Airport:	Gerald R Ford International (MI)
Phase of Flight:	Take-off run
Effect on Flight:	Aborted take-off
Damage:	Engine
Wildlife Species:	Snowy owl
Comments from Report: Five intake fan blades, 4 fan exit vane platforms and acoustic liner sheet were damaged. ID by the Smithsonian, Division of Birds. Time out of service was 38 hours, cost reported as $303,500.	

Date:	3 May 2009
Aircraft:	C-414
Airport:	Cavern City Air Terminal (NM)
Phase of Flight:	Landing roll
Effect on Flight:	Lost brakes
Damage:	Engine, propeller, wing, landing gear
Wildlife Species:	Mule deer
Comments from Report: Three mule deer crossed the runway during landing. The right engine, right landing gear and right flaps were damaged. The deer got caught in the landing gear. The right brakes were lost. Time out of service was 1 month.	

Date:	7 June 2009
Aircraft:	B-747-400
Airport:	Los Angeles International (CA)
Phase of Flight:	Climb (150' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Black-crowned night-heron
Comments from Report: At about ¼ mile off runway end, a bird was ingested into the # 1 engine causeing vibrations. Pilot entered holding pattern to burn off fuel then returned to land. Seven fan blades were replaced. Time out of service was 33 hours. Cost of damage and other costs totaled $250,000. ID by Smithsonian, Division of Birds.	

Date:	26 June 2009
Aircraft:	Bell 407
Airport:	Near Odessa, DE
Phase of Flight:	En Route (700' AGL)
Effect on Flight:	Landed in a field
Damage:	Windshield, rotor, fuselage, tail, antenna, overhead switch panel
Wildlife Species:	Unknown (possibly vulture or eagle)
Comments from Report: Medic observer caught a brief glimpse of a large bird just prior to impact as it approached from the left side of the aircraft in the pilot's blind spot. Impact took place simultaneously with medic's warning. Both windshields were broken. Pilot sustained a small puncture to his left hand and minor lacerations and contusions to his neck apparently from the Plexiglas windshield. Helmets were worn and visors were down. Remains were scattered throughout the cockpit. The pilot immediately landed in a field. Aircraft had to be trucked out for repairs. Time out of service was 16 days. Cost of repairs was $25,000.	

Date:	29 June 2009
Aircraft:	DC-9-31
Airport:	Gerald R. Ford International (MI)
Phase of Flight:	Approach
Effect on Flight:	None
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: Remains found over large area covering 25' x 100' all left of runway centerline. Obvious ingestion. Largest piece less than 2.5" by 1". ATC had no reports of a birdstrike. Remains found at 1030. Operator found at 1320. Pilot unavailable. Engine had to be replaced. ID by Smithsonian, Division of Birds.	

Date:	30 June 2009
Aircraft:	B-737-800
Airport:	LaGuardia International (NY)
Phase of Flight:	Approach (900' AGL)
Effect on Flight:	Aircraft was towed to gate
Damage:	Landing gear
Wildlife Species:	Great blue heron
Comments from Report: Aircraft hit a bird on approach. After landing, pilot noticed the nose gear's hydraulics were not working. A large bird was found in the landing gear. Aircraft had to be towed to the gate.	

Date:	4 July 2009
Aircraft:	Lancair LC-42
Airport:	Ocean City Municipal (NJ)
Phase of Flight:	Landing roll
Effect on Flight:	Ran off runway
Damage:	Propeller, landing gear, engine cowling and airframe
Wildlife Species:	Canada goose
Comments from Report: During landing roll, aircraft hit two Canada geese. The plane veered off the right side of the runway and hit a concrete runway light-mounting pad. The nose landing gear collapsed and the nose wheel assembly separated from the landing gear. The right main landing gear and its wheel assembly were damaged and the brake wheel backer plate was jammed against its wheel assembly preventing rotation. The engine was rebuilt.	

Date:	7 July 2009
Aircraft:	B-737-300
Airport:	Baltimore Washington International (MD)
Phase of Flight:	Climb (25' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engines 1 and 2, tail
Wildlife Species:	European starling
Comments from Report: Birds were ingested in both engines. The number 2 first stage fan sustained many bent blades and the #1 engine had 1 blade damaged. The right horizontal stabilizer was dented and the leading edge was replaced. No internal engine damage found during borescope inspection. The landing gear, wing and radome were hit numerous times but sustained no damage. Approximately 67 starlings were removed from the runway. Aircraft was out of service 4.5 hours.	

Date:	31 July 2009
Aircraft:	Embraer 120
Airport:	Salt Lake City International (UT)
Phase of Flight:	Climb (2,600' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome
Wildlife Species:	White pelican
Comments from Report: A pelican hit the aircraft as it climbed to about 2,600' AGL. Aircraft returned to the airport with the bird lodged in the radome. Time out of service was 48 hours. Cost of repairs was $150,000.	

Date:	31 July 2009
Aircraft:	BE-400
Airport:	Sugar Land Regional (TX)
Phase of Flight:	Take-off run
Effect on Flight:	Aborted take-off, uncontained engine failure
Damage:	Engine
Wildlife Species:	Yellow-crowned night-heron
Comments from Report: During take-off run, approaching 95 knots the pilots saw 1 large and 2 smaller birds. The larger bird was ingested into the #2 engine which immediately rolled back. Take-off was aborted. The engine cowling and multiple turbine blades had separated from the aircraft. It is believed that the bird hit the spinner which fell into the fan. One wing and material from inside the engine were sent to the Smithsonian. NTSB investigated. ID by Smithsonian, Division of Birds.	

Date:	15 August 2009
Aircraft:	MD-11
Airport:	Los Angeles International (CA)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Western gull
Comments from Report: Pilot reported a birdstrike upon rotation. The aircraft returned with a bird ingestion in the #1 engine. Emergency was declared with a heavy landing. Six turbine blades were replaced. ID by Smithsonian, Division of Birds. Cost estimated at $135,000 and time out of service was 30 hours.	

Date:	17 August 2009
Aircraft:	Embraer 175
Airport:	Charlotte/Douglas International (NC)
Phase of Flight:	Take-off run
Effect on Flight:	Aborted take-off
Damage:	Engine, landing gear
Wildlife Species:	Canada goose
Comments from Report: During take-off run, encountered a large flock of geese. One bird was ingested in the #2 engine, one hit the nose landing gear, and another hit the right landing gear. The pilot made a high-speed aborted take-off, stopping safely and taxied to the apron. The flight was delayed for 2.5 hrs while a replacement aircraft was brought in. ID by Smithsonian, Division of Birds.	

Date:	29 September 2009
Aircraft:	B-727-200
Airport:	Memphis International (TN)
Phase of Flight:	Approach (3,700' AGL)
Effect on Flight:	None
Damage:	Windshield
Wildlife Species:	Great egret
Comments from Report: The captain's front window was struck and the inner window panel shattered. Two out of 3 engines ingested birds but sustained no damage. Time out of service was 37 hours. Cost estimated at $10,820. ID by Smithsonian, Division of Birds.	

Date:	11 October 2009
Aircraft:	MD-88
Airport:	Greater Rochester International (NY)
Phase of Flight:	Climb (200' AGL)
Effect on Flight:	Engine shut down and precautionary landing
Damage:	Engine
Wildlife Species:	Unknown
Comments from Report: Aircraft hit a flock of birds during climb from ROC. Left engine stalled and there was an in-flight shutdown. Unknown if pilot commanded the shutdown. Returned to land. The left engine had multiple fan blades with major damage.	

Date:	18 October 2009
Aircraft:	Piaggio P 180
Airport:	Monmouth Executive (NJ)
Phase of Flight:	Take-off run
Effect on Flight:	Aborted take-off
Damage:	Nose, propeller, wing, fuselage
Wildlife Species:	Canada goose
Comments from Report: Bird struck the nose cone which damaged the radar and avionics bay. Both propellers were damaged. Engine nacelles will need to be repaired. Minor damage to left wing. Time out of service was 8 days. Cost totaled $105,000.	

Date:	2 November 2009
Aircraft:	MD-90
Airport:	Phoenix Sky Harbor International (AZ)
Phase of Flight:	Climb (9,300' AGL)
Effect on Flight:	Precautionary landing
Damage:	Fuselage
Wildlife Species:	Western grebe
Comments from Report: Bird hit top of aircraft and tore back 18 inches of the fuselage just above the right flight deck eyebrow window. A second strike tore a large hole just below the co-pilot's wing in front of the landing gear. These strikes activated the depressurization alarm. Aircraft returned to land. NTSB investigated. ID by Smithsonian, Division of Birds	

Date:	02 November 2009
Aircraft:	Eurocopter 145
Airport:	Near Canistota, SD
Phase of Flight:	En Route (1,200' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Duck
Comments from Report: While en route to pick up a patient, the aircraft struck at least 2 ducks. One came through the copilot's windshield. The duck struck the medic on the shoulder and knee then continued back, striking the left side wall and splattered throughout the medical crew area. The medic suffered a small cut to the knee. Crew used night vision goggles to land in a farm field.	

Date:	4 November 2009
Aircraft:	BE-99
Airport:	Show Low Regional (AZ)
Phase of Flight:	Approach (~6,800' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield
Wildlife Species:	Western grebe
Comments from Report: Bird shattered the windshield injuring the pilot. NTSB investigated. ID by Smithsonian, Division of Birds.	

Date:	14 November 2009
Aircraft:	A 319
Airport:	Kansas City International (MO)
Phase of Flight:	Climb (4,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Snow goose
Comments from Report: Flight had just departed when pilot reported multiple birdstrikes about 4 miles north of the airport. First report was loss of #2 engine. When the crew attempted to advance the throttle, there was a series of severe compressor stalls. Passengers described it as fireballs being ejected from the engine. The crew declared an emergency and returned to MCI. Upon landing pilot reported both engines had stalled. Damage to #2 engine consisted of a dent in the lower lip and a hole in the underside of the cowling. The number 2 engine had internal damage. NTSB investigated. ID by Smithsonian, Division of Birds.	

Date:	6 December 2009
Aircraft:	Embraer 145
Airport:	Philadelphia International (PA)
Phase of Flight:	Approach (2,000' AGL)
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Snow goose
Comments from Report: Pilot declared an emergency due to a birdstrike and engine shutdown while on approach. A huge bang shook the aircraft and then the engine went out. Time out of service was 48 hours and costs were $306,000. ID by Smithsonian, Division of Birds.	

Date:	22 December 2009
Aircraft:	B-717-200
Airport:	Baltimore Washington International (MD)
Phase of Flight:	Climb (3,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Nose, wing, fuselage, engine cowling and engine
Wildlife Species:	Snow goose
Comments from Report: Multiple strikes with bird debris on wings and nose. The pilots reported that they hit 6 or 7 geese 4 miles west after departure. Pilots reported flight control problems, abnormal vibrations in both engines and upon landing, the #1 engine was smoking. ID by Smithsonian, Division of Birds.	

Date:	22 December 2009
Aircraft:	B-727-200
Airport:	Edmonton International (Canada)
Phase of Flight:	Climb (100' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine #3
Wildlife Species:	Short-eared owl
Comments from Report: Aircraft maintenance performed a birdstrike inspection on the #2 engine after it was removed from the aircraft for ice FOD. Evidence of strike was found. Time out of service was 41 hours. Costs totaled $1.3 million. ID by Smithsonian, Division of Birds. (U.S. carrier)	

Date:	3 January 2010
Aircraft:	Learjet 36
Airport:	Portland-Hillsboro (OR)
Phase of Flight:	Climb (600' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, wing, pitot tube
Wildlife Species:	Northern pintail
Comments from Report: Aircraft departed with a patient and medical team on board. Pilots heard a loud bang on the fuselage during gear retraction and returned to land without incident. Aircraft was taken out of service and patient and medical team were transferred to another aircraft. ID by Smithsonian, Division of Birds.	

Date:	9January 2010
Aircraft:	Bell 427
Airport:	La Isabela International (Dominican Republic)
Phase of Flight:	Climb (90' AGL)
Effect on Flight:	Impacted terrain
Damage:	Destroyed?
Wildlife Species:	Mallard and gadwall
Comments from Report: At least 2 birds struck the tail rotor causing the aircraft to crash about 2 miles from the airport. Both pilots were injured. The aircraft broke into two pieces. The cause of the accident was unknown at first. ID by Smithsonian, Division of Birds. Aircraft may or may not be repaired. Cost estimated at $1.5 million.	

Date:	22 January 2010
Aircraft:	B-757-200
Airport:	Washington Dulles Intl
Phase of Flight:	Take-off run
Effect on Flight:	Emergency landing
Damage:	Engine
Wildlife Species:	Red-tailed hawk
Comments from Report: During take-off, at rotation, hit a large bird and went into the right engine. As we started the climb, noticed a burning smell and felt engine vibration. Declared an emergency and made a normal landing. Brake and engine inspection found fan had several bent blades. Runway was closed for some time to collect bird remains. ID by Smithsonian, Division of Birds.	

Date:	18 February 2010
Aircraft:	C-208
Airport:	Sacramento International (CA)
Phase of Flight:	Approach (300' AGL)
Effect on Flight:	Some control loss
Damage:	Wing and lights
Wildlife Species:	Tundra swan
Comments from Report: Hit a large bird during approach. Aircraft briefly rolled to the right but landed safely. Significant damage to the leading edge of right wing. Landing light housing and skin of wing showed damage. Some	

control loss due to aileron control cables being pushed out of position. Aircraft was taken out of service. ID by Smithsonian, Division of Birds. Time out of service was 80 hours and cost of repairs was $80,000.

Date:	7 March 2010
Aircraft:	Piper 34
Airport:	Campbell (IL)
Phase of Flight:	Approach
Effect on Flight:	Emergency landing
Damage:	Landing gear, fuselage,
Wildlife Species:	White-tailed deer
Comments from Report: Just before touching down, a deer crossing the runway and darted back. The pilot tried to pull up but clipped the deer with the left landing gear. An emergency landing was made at Chicago Executive Airport with a damaged left main gear. The aircraft was substantially damaged and had to be trucked out.	

Date:	11 March 2010
Aircraft:	A-319
Airport:	Greater Rochester International (NY)
Phase of Flight:	Climb (2,000' AGL)
Effect on Flight:	Emergency landing
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: During initial climb flock of geese was encountered. The #2 engine was damaged. An emergency landing was made and the flight was cancelled. ID by Smithsonian, Division of Birds.	

Date:	6 April 2010
Aircraft:	BE-95
Airport:	32 nm NW Bismarck, ND
Phase of Flight:	En Route (2,700' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, nose, wing, fuselage, interior
Wildlife Species:	Mallard
Comments from Report: Aircraft hit 3 ducks while en route. The collision blew in both sides of the windshield, sending broken glass and debris into the cockpit. One pilot was struck in the head and his glasses were knocked off and for a time he was blinded. His cuts required stitches. The other pilot was struck in the shoulder. The headset disintegrated so the pilots could not communicate easily with wind rushing in. They activated the emergency transponder because they could not hear the control tower. Fifteen minutes later they were on the ground. Costs estimated at $14,000.	

Date:	11 April 2010
Aircraft:	Piper 24
Airport:	Near Middlefield, OH
Phase of Flight:	En Route (1,200' AGL)
Effect on Flight:	Emergency landing
Damage:	Windshield, nose, firewall, fuselage, interior
Wildlife Species:	Bald eagle
Comments from Report: Pilot and passenger received minor scratches when a bald eagle came through the windshield. Aircraft has substantial damage to the #2 windshield, engine cowling, top engine mount, firewall and fuselage top and right sides resulting in the door being unable to close. Windshield frame, rear passenger seat and	

overhead headliner are damaged. Aircraft still out of service as of July 20th.

Date:	23 April 2010
Aircraft:	Piper 46
Airport:	Oconee County Regional (SC)
Phase of Flight:	Take-off run
Effect on Flight:	Nose gear collapsed
Damage:	Engine, propeller, wing, landing gear, radar dome, firewall
Wildlife Species:	White-tailed deer
Comments from Report: During a take-off at night, several deer ran across the runway. The pilot tried to pull up but deer hit the aircraft causing the nose gear to collapse. The plane came to rest at the edge of the runway. The aircraft was towed and two deer were removed from the runway. The aircraft received substantial damage to the engine, propeller, nose gear, engine cowling, and radar dome. NTSB investigated. Time out of service was about 4 months and cost totaled $256,000.	

Date:	10 May 2010
Aircraft:	Agusta 109
Airport:	New Orleans International (LA)
Phase of Flight:	Approach (600' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield, tail
Wildlife Species:	Black vulture
Comments from Report: Birdstrike to rotor system. The windshield and skylight were broken and the windshield frame was deformed. The vertical fin was also damaged. The passenger received a cut and abrasions. ID by Smithsonian, Division of Birds. Time out of service was 5 hours and costs totaled $105,000.	

Date:	23 May 2010
Aircraft:	Airbus 320
Airport:	Stewart International (NY)
Phase of Flight:	Climb (20' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: A Canada goose was ingested into one of the two engines during climbout from the airport. The aircraft immediately returned to land. Fan blades were damaged. The engine was replaced. The flight was delayed approx 4 hrs. ID by Smithsonian, Division of Birds. Time out of service was 22 hours.	

Date:	7 June 2010
Aircraft:	Airbus 300
Airport:	Unknown
Phase of Flight:	Unknown
Effect on Flight:	Engine shut down
Damage:	Engine
Wildlife Species:	Mallard
Comments from Report: During post flight inspection, maintenance found bird remains in the #2 engine. Several fan blades and acoustic panels were damaged. The engine was replaced. ID by Smithsonian, Division of Birds.	

Time out of service was 61 hours. Costs estimated at $5.5 million.

Date:	18 July 2010
Aircraft:	EMB 135
Airport:	Ashville Regional (NC)
Phase of Flight:	Approach (300' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engines 1 and 2, landing gear and fuselage
Wildlife Species:	Canada goose
Comments from Report: During final approach at night, the aircraft flew through a flock of Canada geese. Multiple birds were struck. Both engines ingested at least 1 bird. Passengers reported seeing sparks from the right engine and one saw a goose being ingested into the left engine. They reported both engines shut down for a few seconds and when the left engine restarted it sounded like metal flying around in the engine. A burning smell was noticed. The aircraft landed safely. One engine had to be replaced. One bird was hanging from the landing gear. ID by Smithsonian, Division of Birds.	

Date:	29 July 2010
Aircraft:	MD 500
Airport:	3 NM NW of Chowchilla, CA
Phase of Flight:	En Route (1,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Windshield, nose, rotor
Wildlife Species:	Swainson's hawk
Comments from Report: A flock of "buzzards" was encountered and one was struck. It hit just above the air intake on the nose and caused both the Plexiglas panels in front of the pilots to break out completely. Remains of the bird struck one of the rotor blades causing damage. Airspeed was reduced due to windy conditions in the cockpit. A normal landing was made at a nearby airport. ID by Smithsonian, Division of Birds. Time out of service 5 days. Cost estimated at $22,000.	

Date:	8 August 2010
Aircraft:	B-737-400
Airport:	Sitka Rocky Gutierrez (AK)
Phase of Flight:	Take-off run
Effect on Flight:	Aborted take-off
Damage:	Engine
Wildlife Species:	Bald eagle
Comments from Report: A bald eagle was ingested into the left engine during take-off run.. The engine shut down. A passenger saw two bursts of flames coming from the engine. The engine was reported as being destroyed. The aircraft stopped about 3,000 feet from the end of the runway. A replacement aircraft was sent and the flight continued after a 6 hour delay. The relief aircraft also hit an eagle during take- off but continue to Seattle. ID by Dept of Transportation. Cost estimated as $2.9 million and time out of service was 3.5 days.	

Date:	8 August 2010
Aircraft:	Robinson R22
Airport:	Pettus, TX
Phase of Flight:	Parked
Effect on Flight:	N/A
Damage:	Destroyed
Wildlife Species:	Cattle
Comments from Report: Pilot herded cattle into a cattle trap and landed to close gates. Engine was left running as he exited the aircraft. Several cattle were startled and one jumped the fence and came into contact with the main rotor, which caused the helicopter to bounce and shake violently. A number of other cattle broke free from the pen. At least one contacted the helicopter causing it to become airborne before impacting the ground in a nose-low attitude. Tail boom and main rotor mast were both partially separated from the fuselage. NTSB investigated.	

Date:	10 August 2010
Aircraft:	Embraer 145
Airport:	Salt Lake City International (UT)
Phase of Flight:	Approach (6,800'AGL)
Effect on Flight:	Landed using back up radio
Damage:	Radome, windshield, nose
Wildlife Species:	American white pelican
Comments from Report: The captain lost his instruments and radio. The first officer's equipment worked and he had the only visual from his window. Aircraft is expected to be out of service for a month and cost may be over $1 million. ID by Smithsonian, Division of Birds.	

Date:	27 August 2010
Aircraft:	Cessna 210
Airport:	17 miles from Tikchik, AK
Phase of Flight:	En Route
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Loon
Comments from Report: The pilot was on a local flight in support of a remote lodge operation. During cruise flight a loon struck and penetrated the right side of the cockpit windscreen and came to rest in the unoccupied passenger cabin. Substantial damage was reported.	

Date:	01 September 2010
Aircraft:	A-320
Airport:	Sacramento International (CA)
Phase of Flight:	Climb (10' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Great blue heron
Comments from Report: Bird was ingested in #1 engine at rotation and aircraft returned to land. A piece of plastic from the engine was found on the runway. The runway was closed for full FOD sweep. Only small pieces of bird were found. Engine had significant damage to two fan blades. ID by Smithsonian, Division of Birds.	

Date:	14 September 2010
Aircraft:	Bell 407
Airport:	Near Nogales, AZ
Phase of Flight:	En Route
Effect on Flight:	Precautionary landing
Damage:	Windshield
Wildlife Species:	Turkey vulture
Comments from Report: The aircraft was responding to an emergency call when a bird came through the pilot's front windshield. The bird made contact with the instrument panel and landed on the pilot's feet. Pilot sustained cuts.	

Date:	18 October 2010
Aircraft:	BE-100 King Air
Airport:	Palestine Municipal (TX)
Phase of Flight:	Descent (4,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Wing, tail, lights
Wildlife Species:	American white pelican
Comments from Report: While descending through about 4,000 feet in IMC pilot saw a black flash and heard and felt a tremendous thud. After assessing the damage, the crew decided to return to GKY and landed uneventfully 25 minutes later. There was substantial damage to the left wing spar and left wing leading edge. Also damage on vertical fin of the tail. ID by Smithsonian, Division of Birds. NTSB investigated. Cost $197,200. 4 months out of service.	

Date:	29 October 2010
Aircraft:	Xtra-EZ
Airport:	Addison (TX)
Phase of Flight:	Descent
Effect on Flight:	Emergency landing
Damage:	Windshield, headset
Wildlife Species:	Franklin's gulls
Comments from Report: While on descent, a gull penetrated the windshield, breaking the pilot's glasses and headset. Pilot received a small laceration. He notified the ATC and declared an emergency but landed safely. Pilot was partially blinded by the strike. ID by Smithsonian, Feather Lab.	

Date:	08 November 2010
Aircraft:	DHC8
Airport:	Los Angeles International (CA)
Phase of Flight:	Approach (6,600' AGL)
Effect on Flight:	Emergency landing
Damage:	Wing, fuel tank
Wildlife Species:	Common loon
Comments from Report: While on approach into LAX, a bird struck and damaged the leading edge of the right wing. The fuel tank was also damaged. The crew declared an emergency and landed safely. NTSB is investigating. ID by Smithsonian, Division of Birds. Cost of repairs estimated at $750,000.	

Date:	11 November 2010
Aircraft:	Airbus 320
Airport:	Philadelphia International (PA)
Phase of Flight:	Climb (1,500' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: During climb at about 3 miles from airport, the aircraft was struck by Canada geese. An emergency was declared and the flight returned to PHL for a safe landing. Three blades had damage. Two fan acoustic panels also damaged. ID not confirmed.	

Date:	13 November 2010
Aircraft:	Piper 28
Airport:	Aeroflex-Andover (NJ)
Phase of Flight:	Approach
Effect on Flight:	Wing hit ground
Damage:	Wing, landing gear, flap, aileron, fuselage, engine mount, cowl, steering control arm
Wildlife Species:	White-tailed deer
Comments from Report: During landing flare, pilot heard a "bang" from right side of aircraft. During landing roll, the right wing settled onto the ground and the plane came to a rest on the runway edge. The right main landing gear had separated and was found next to the dead deer.	

Date:	15 November 2010
Aircraft:	EMB-175
Airport:	Minneapolis-St. Paul International (MN)
Phase of Flight:	Climb (4,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Radome, engine, fuselage
Wildlife Species:	Snow goose
Comments from Report: During climb at about 10 miles from airport, the aircraft was struck by snow geese. One engine, the fuselage and the radome were damaged. The flight returned to MSP for a safe landing. ID by Smithsonian, Division of Birds.	

Date:	23 November 2010
Aircraft:	CRJ 700
Airport:	Found at Ronald Reagan Washington National (DC)
Phase of Flight:	Unknown
Effect on Flight:	None
Damage:	Vertical stabilizer and lights
Wildlife Species:	Tundra swan
Comments from Report: After landing, remains of a bird were found in the vertical stabilizer. Maintenance reported significant damage. Flight arrived from Boston.. ID by Smithsonian, Division of Birds. Costs totaled $144,153.	

Date:	23 November 2010
Aircraft:	Robinson 44
Airport:	Baldwin Park, CA
Phase of Flight:	En Route (900' AGL)
Effect on Flight:	Emergency landing off airport
Damage:	Canopy
Wildlife Species:	Rock pigeon
Comments from Report: While responding to a robbery call, a police helicopter struck a rock pigeon. The bird broke through the Plexiglas canopy which then struck both officers. They made an emergency landing in a middle school field. One officer received minor injuries.	

Date:	8 December 2010
Aircraft:	B-737-400
Airport:	Fort Lauderdale/Hollywood International (FL)
Phase of Flight:	Climb (1,200' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine
Wildlife Species:	Turkey vulture
Comments from Report: During climb out crew reported a birdstrike which caused vibration to the right engine. The engine continued to operate but the generator was malfunctioning. Flight declared an emergency and returned to land. A passenger reported seeing a fireball shoot out of the engine followed by a bad smell. The engine was replaced. ID by Smithsonian, Division of Birds.	

Date:	15 December 2010
Aircraft:	B-757-200
Airport:	San Francisco International (CA)
Phase of Flight:	Climb (800' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, nose cowl
Wildlife Species:	Canvasback
Comments from Report: During climb out crew reported a birdstrike over the Bay which caused vibration to the left engine. Flight returned for an overweight landing. Engine was not shut down until after landing. Found 8 fan blades damaged. Replaced fan blades and nose cowl. ID by Smithsonian, Division of Birds.	

Date:	7 January 2011
Aircraft:	MD-10-30
Airport:	Sacramento International (CA)
Phase of Flight:	Climb (2,000' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine, nose cowl and radome
Wildlife Species:	Greater white-fronted goose
Comments from Report: Aircraft diverted to OAK after the strike. Pilot reported striking ducks or geese. The #3 engine was removed along with the nose cowl, both thrust reversers and the radome. ID by Smithsonian, Division of Birds. Costs estimated at $3.2 million and time out of service was 6 days.	

Date:	28 February 2011
Aircraft:	B-737-800
Airport:	Ronald Reagan Washington National (DC)
Phase of Flight:	Climb (1,200' AGL)
Effect on Flight:	Emergency landing, engine shut down
Damage:	Engine
Wildlife Species:	Canada goose
Comments from Report: Just after takeoff, pilot reported striking birds flying in "V" formation at approximately 1200' over the Potomac River. Aircraft diverted to IAD due to possible engine shutdown and precautionary landing. Engine was reduced to idle but not shut down. ID by Smithsonian, Division of Birds. Time out of service 110 hrs. Cost reported as $793,776.	

Date:	15 March 2011
Aircraft:	Airbus 300
Airport:	Tulsa International (OK)
Phase of Flight:	Climb (25' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engines and wing
Wildlife Species:	Gadwall
Comments from Report: Aircraft hit a flock of large birds during rotation. They returned to land. Damage included engine fan blade and outlet guide vanes in the #1 engine, #2 engine fan cowl and right wing inboard flap track fairing. Id by Smithsonian, Division of Birds. Time out of service 85 hrs. Cost reported as $5,871,028.	

Date:	31 March 2011
Aircraft:	Robinson R44
Airport:	San Antonio International (TX)
Phase of Flight:	Approach
Effect on Flight:	Emergency landing on highway
Damage:	Windshield
Wildlife Species:	Great-tailed grackle
Comments from Report: During approach to landing, a bird broke through the passenger side of the windshield injuring the passenger. The pilot made an emergency landing on Highway I-37 around 9 p.m. A tow truck was called to remove the aircraft.	

Date:	20 April 2011
Aircraft:	B-767-300
Airport:	Orlando-Sanford (FL)
Phase of Flight:	Climb (10' AGL)
Effect on Flight:	Precautionary landing
Damage:	Engine #1
Wildlife Species:	Bald eagle
Comments from Report: Bird was ingested at rotation. Aircraft leveled off at 3,000'. Kept engine running and returned for a safe landing about 20 minutes later. Passenger heard a big bang and smelled a burning odor. Fire crews met the aircraft. Bald eagle remains were recovered from rwy. Passengers were taken to hotels and depar ted the next day. Remains sent to Smithsonian. Time out of service 120 hours, Cost estimated at $4,570,000.	