

BIRD STRIKE COMMITTEE-USA

Promoting Education, Professionalism and
Technology to Reduce Wildlife Hazards to Aviation



RICHARD A. DOLBEE

**U.S. DEPARTMENT OF
AGRICULTURE**

WILDLIFE SERVICE

**NATIONAL WILDLIFE
RESEARCH CENTER**

Sandusky, Ohio USA

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Bird and Other Wildlife Strikes are an increasing World-wide Problem



Air Force Suffers First AWACS Crash

ELMENDORF AFB, ALASKA, USA, Sep 23, 1995 (AP) - A huge AWACS battlefield-radar plane carrying 24 military personnel crashed and burned on takeoff yesterday, killing everybody on board. It was the first crash of an Airborne Warning and Control System plane since the Air Force began using them in 1977.

A source speaking on condition of anonymity said the crash may have been caused by about **a dozen geese** found dead on the runway.



Gore's Plane Dodges Birds, Aborts Landing

TRAVIS AFB, CALIFORNIA, USA Jan 31, 1998 (AP) – Vice President Al Gore's plane aborted landing at Travis Air Force Base early Friday afternoon to avoid hitting **a flock of blackbirds**.....

Plane Hits Bird, Loses Engine

CALGARY, CANADA (Jul 1, 1998) – A commercial jetliner carrying 38 passengers from Edmonton to Yellowknife was forced to make an emergency landing Wednesday after one of its two engines malfunctioned after hitting **a bird**.

Flock Forces Emergency Landing

TEL AVIV, ISRAEL (Jul 28, 1999) – A TWA plane headed for New York was forced to return to Israel's airport for an emergency landing early Wednesday after colliding with **a flock of birds**, knocking out one of the plane's two engines....*.



Birdstrike Disables Qatar Airlines Plane in Dhaka

DHAKA, BANGLADESH, Aug 20, 1998 (Reuters) - **A bird** slammed into a Qatar Airlines plane just before take-off on Thursday, starting a fire in the wheel section and causing the flight to be aborted,.....

Errant Bird Grounds Albright Plane in Central France

LYON, FRANCE (Dec 10, 1998) – **A bird** grounded U.S. Secretary of State Madeleine Albright on Wednesday. A winged creature, believed to be **a hawk**, flew into the engine of her U.S. Air Force jet as it landed in Lyon, France, and disabled the plane.

Heron Wrecks A Jet With 341 on Board

LONDON ENGLAND (Sep 9, 1999) – A British Airways jet carrying 341 people was written off by a **heron**. It wrecked one of the plane's engines, forcing the 25-year-old aircraft out of service. The pilot was 100 ft above the runway at Heathrow when there was a pronounced thump. The flight engineer spotted severe damage through a cabin window and the New York-bound plane immediately returned to London.

Seagull Forces Icelandic Jumbo To Turn Back

REYKJAVIK, ICELAND (Jul 9, 1999) (AP) – An Icelandic jumbo jet with 441 passengers on board had to turn back shortly after taking off for London on Thursday when a **seagull** flew into one of the engines, an airline official said....

Turkish Jet Makes Emergency Landing

ISTANBUL, TURKEY (Jan 1, 2000) AP – A Turkish Airlines plane headed for South Africa was forced to return to Istanbul's airport Saturday after colliding with **a flock of seagulls**, knocking out one of the plane's four engines, the Anatolia News Agency said.

Plane Crash Kills 21 in Rebel-held Congo

KIGALI, CONGO (Apr 20, 2000) –(Reuters)- At least 21 people including five Rwandan army officers were killed when a transport plane crashed. **A bird** hit one of the engines as it was taking off and the engine failed. They were unable to maintain thrust and it landed with full fuel and exploded.

Polish Jumbo Makes Emergency Landing in Warsaw

WARSAW, POLAND (Sep 7, 2000) (Reuters) – A Polish LOT airlines Boeing 767 carrying 225 people made an emergency landing in Warsaw on Thursday after a bird flew into one of the engines, an airline spokesman said. The Chicago-bound aircraft which took off from Krakow dumped fuel before landing in Warsaw.

Dutch Airliner Loses Parts in Air

LOS ANGELES, USA (Aug 28, 2000) AP – A Boeing 747 made an emergency landing after losing several aircraft pieces – including a dishwasher-sized engine part—shortly after take-off, officials said. The KLM Royal Dutch airliner carrying 449 people was forced to dump 83 tons of fuel over the ocean and return to Los Angeles after hitting a large bird.



Air Afrique Birdstrike Strands 400 in Senegal

DAKAR, SENEGAL (Sep 1, 2000) – (Reuters)- Around 400 passengers have been stranded for three days at Dakar's main airport after their Air Afrique flight to Paris was cancelled after **a bird** was sucked into an engine, a spokesman said on Friday.

Plane-Geese Collision Injures Passenger in South Dakota

ABERDEEN, SD, USA (Nov 9, 2000) AP – One person was injured Wednesday evening in a midair collision between a Mesaba Airlines plane and **a flock of geese**. A Saab 340, carrying 22 passengers and 3 crew members, was bound for Aberdeen from Minneapolis. A dislodged windshield wiper blade penetrated the fuselage and embedded in a passenger's leg.

Lauda Air Hit By Vulture, Lands Safely

KATHMANDU, NEPAL (Oct 12, 2000) (Reuters) – A Lauda Air Boeing 767 landed safely at Kathmandu's Tribhuvan International Airport after being hit by a vulture while landing at the airport on a flight from Vienna. A major accident was averted this week when a Boeing 757 of China South West Airlines hit a vulture, forcing the pilot to brake seconds before being airborne on a flight to Lhasa. This is the fifth such incident at Nepal's only international airport in the period of one month.

Jet Blows Two Tires as Takeoff is Aborted

PORTLAND, OREGON, USA (Jan 22, 2001) (AP) – A Delta Airlines flight aborted takeoff at Portland International Airport yesterday after a bird was sucked into an engine. The MD-11 jet with 217 passengers was headed to Japan. The 3-engine jet skidded to the end of the runway and blew 2 tires during the abrupt stop.

Jan-Feb 2001, Troy, Alabama

The Messenger

Tuesday, January 16, 2001

on-line at www.troymessenger.com

Jet crashes, burns at airport

■ Lear owned by Dallas Cowboys owner Jerry Jones

By BRIAN BLACKLEY
Managing Editor

Federal Aviation Administration and National Transportation Safety Board officials spent much of the day Monday examining the wreckage of a Lear jet owned by Dallas Cowboys football organization owner Jerry Jones at the Troy Airport.

Aired cool and wet conditions, officials walked through the wreckage in a rainy rain throughout the day taking photographs of different parts of the aircraft that were scattered over an approximately 100-foot area seeking clues about what caused the report.

Reports indicate the two deer, which were apparently on the runway when the jet landed at the airport, yesterday around 11 a.m., played a major role in the accident. Both animals were killed in the crash of the Lear Model 60.

"There's no doubt from the initial report that the deer caused this accident," said Troy Mayor Renny Landford.

When the small passenger jet touched ground Sunday at the Troy airport, both the pilot and copilot — the only two occupants of the aircraft — were injured.

Both Eddie Collins, 50, of Jacksonville, Ark., and Alan McVickers, 51, of Irving, Texas were transported to the University of Alabama at Birmingham hospital Sunday afternoon after they were stabilized at Troy's Edge Regional Medical Center. They were reported to be in "serious" condition Monday afternoon. Collins was reportedly the pilot of the aircraft and McVickers was copilot. Broken bones and other injuries were reported.

Troy Police Department public information officer Sgt. Barry Scarborough said that the investigation has been turned over to the Federal Aviation Administration.

"They are investigating the accident," Scarborough said. "The National Transportation Safety Board has also been notified."

Landford said the NTSB will use conduct an independent investigation since the crash caused no fatalities.

"They will rely on the report issued by the FAA," Landford said Monday night.

Unofficial sources reported that the aircraft was landing in Troy to pick up people offloaded with the Dallas Cowboys football organization, including Stephen Jones, son of Dallas Cowboys football organization owner Jerry Jones. Stephen Jones and two other people whose names have not been released were reportedly in Pike County for a hunt that was to benefit Pike County Area School.

According to Scarborough, information obtained by the Dallas Cowboys football organization was that the aircraft was landing in Troy "in haste."



WEB EXCLUSIVE!
See complete aircraft crash photos at www.troymessenger.com along with the most intense discussion about this crash.

The cockpit of the Lear Model 60 was destroyed when rescue workers and volunteer hooked a Chevrolet Tahoe up to chains and ripped it apart in an attempt to save one of the two members of the flight team. Both the pilot and co-pilot were injured, and at the time of the crash, the aircraft had no passengers.

Country music artist Hank Williams Jr., who owns land and a cabin in the area, was the source said, one of the organizers of the hunt. Jones and other members of the Dallas Cowboys organization reportedly are deer at The Pines restaurant in Troy. Scarborough said the driver with Williams, source reported.

Landford said the jet crashed when it hit two deer on the 5,000-foot main runway. Landford said officials believe a device which causes a backward thrust of power from the jet engine was damaged when the deer were hit. This caused the aircraft to lose its ability to rapidly decelerate.

"The jet hit the deer 2,300 feet into the runway," source reported.

See CRASH, Page 1

Jet Owned by Cowboys' Owner Hits Deer, Crashes

TROY, ALABAMA USA (Jan 15, 2001) (AP) – Learjet 60 owned by Dallas Cowboys owner Jerry Jones crashed and burned when it struck **two deer** while landing, injuring the pilot and copilot.

Second Aircraft Collides with Deer in Two Months

TROY, ALABAMA USA (Feb 9, 2001) (AP) – Two times in as many months, aircraft have collided with **deer** at Troy's airport. Last week another private jet collided with **deer** on the runway. In the recent crash, no injuries were reported but the aircraft was substantially damaged.



SAS Jet Flies into Flock of Gulls

STOCKHOLM, April 9, 2001 (Reuters) - A Scandinavian Airlines (SAS) jet carrying 143 passengers flew into a flock of **seagulls** after take-off on Monday, forcing the pilot to return immediately to the airport to check for damage.

Errant Gull Sparks Plane Fire

HAMILTON, ONTARIO (April 10, 2001) – A WestJet Boeing 737 with 62 passengers was forced to return to the Hamilton Airport yesterday after a **gull** was sucked into an engine, starting a fire. Passengers said they smelled something burning and saw 15-meter flames shoot from one of the two engines.

German Tourists make Kenya Emergency Landing

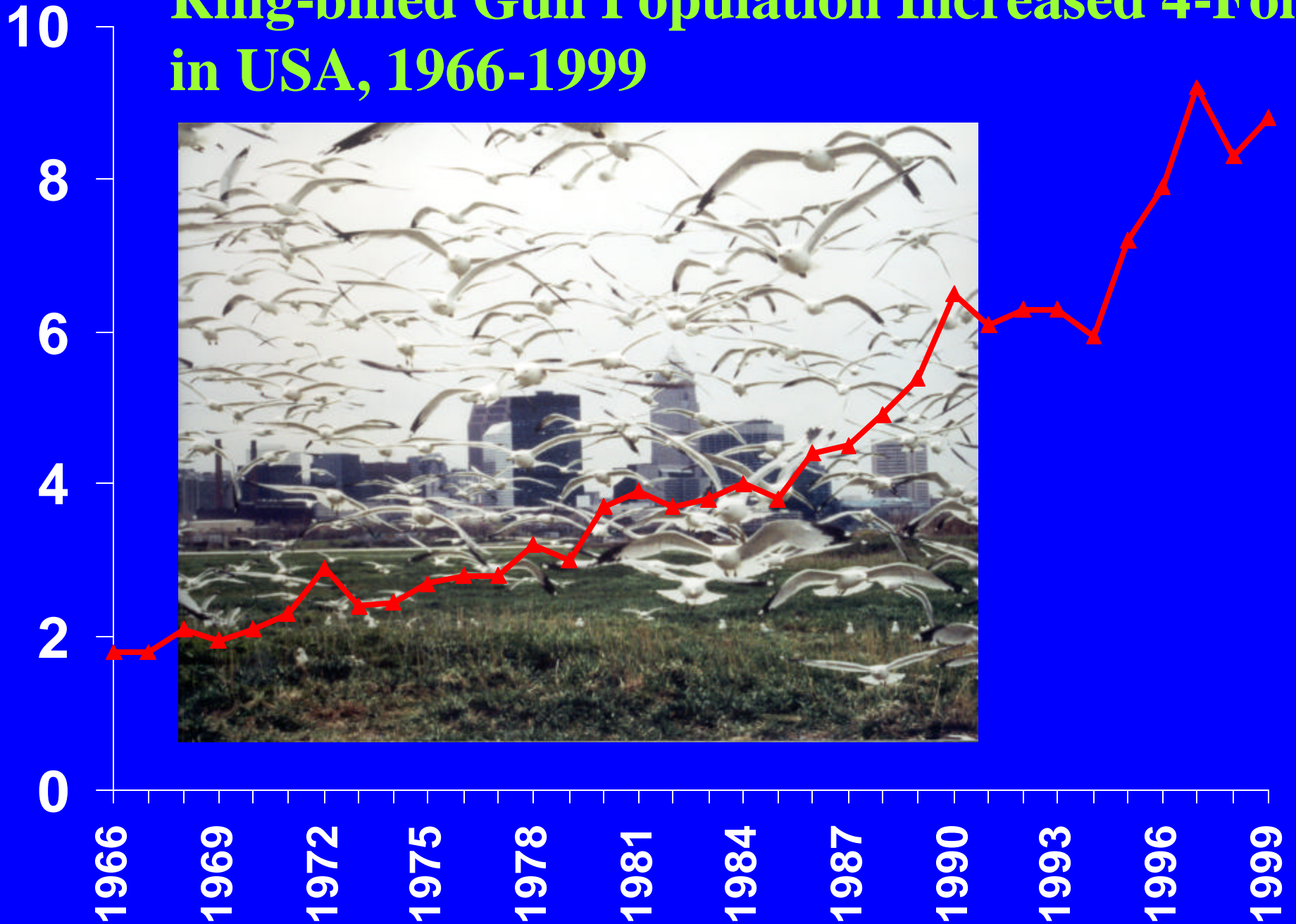
MOMBASA, KENYA, April 19, 2001 (Reuters) - A charter plane carrying more than 250 German tourists made an emergency landing at Kenya's second largest city of Mombasa on Thursday when one of its engines sucked in **two flamingos** and caught fire, officials said.

WHY ARE BIRD STRIKES AN INCREASING PROBLEM FOR AVIATION?

- . Increasing populations of many bird species hazardous to aviation**
- . Adaptation of birds to urban settings**
- . Increasing air traffic**
- . Faster, quieter 2-engine jet aircraft**
- . Increased liability issues with bird strikes**

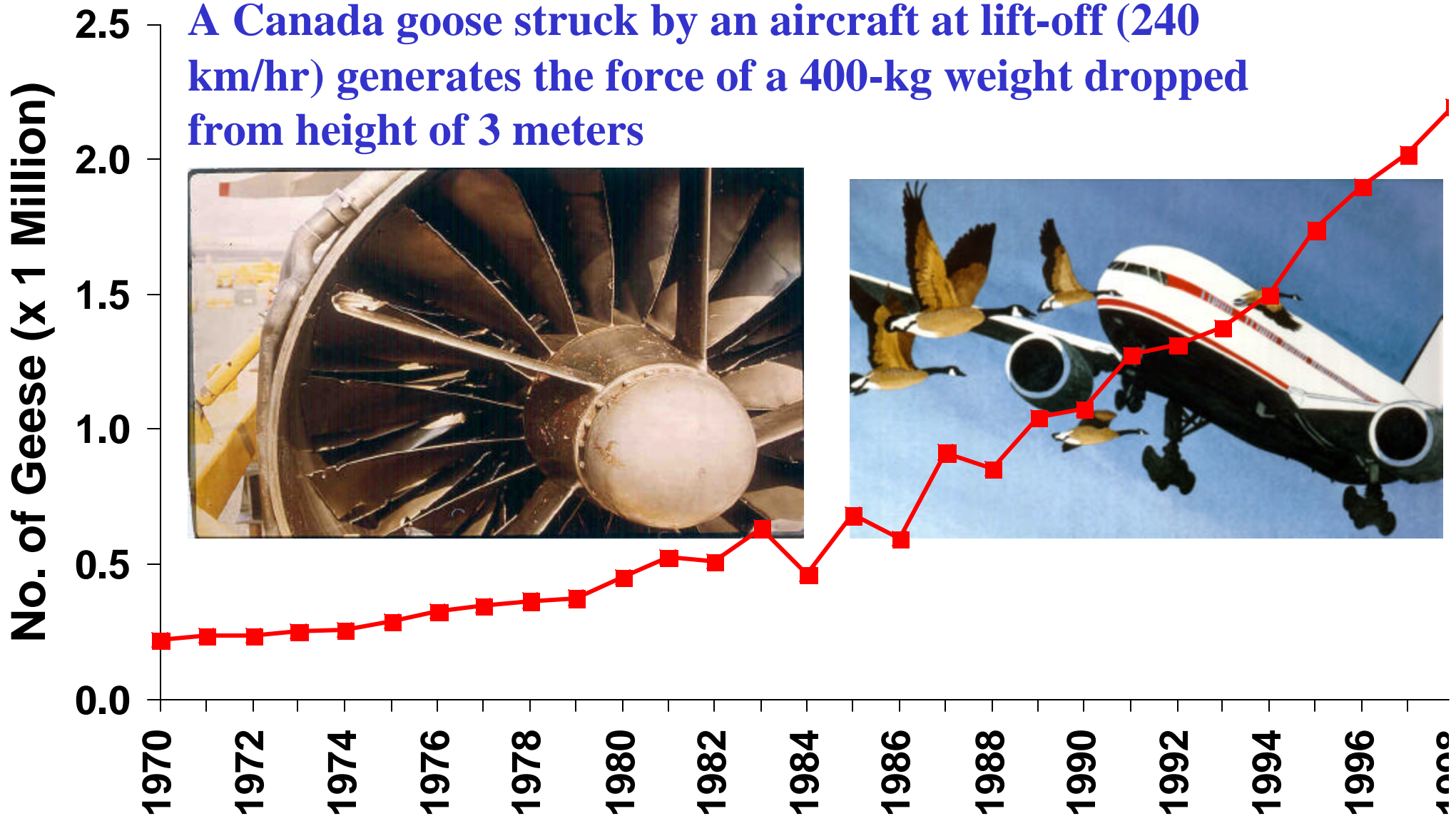
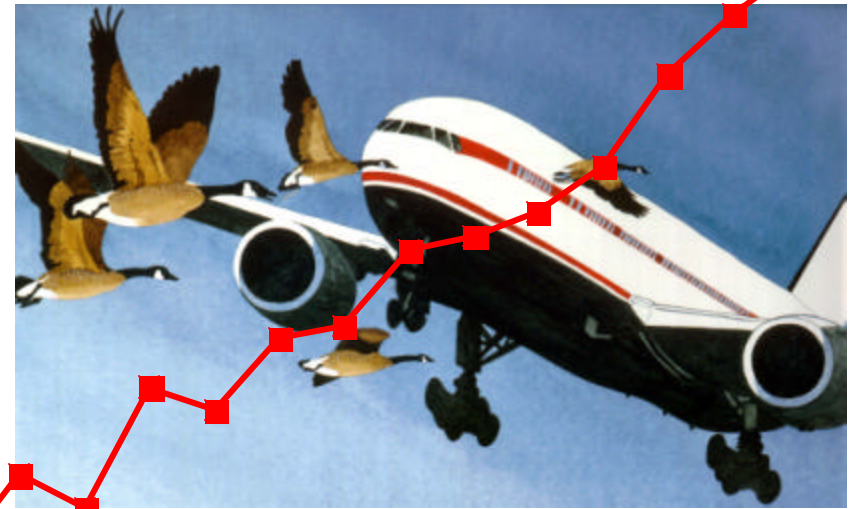
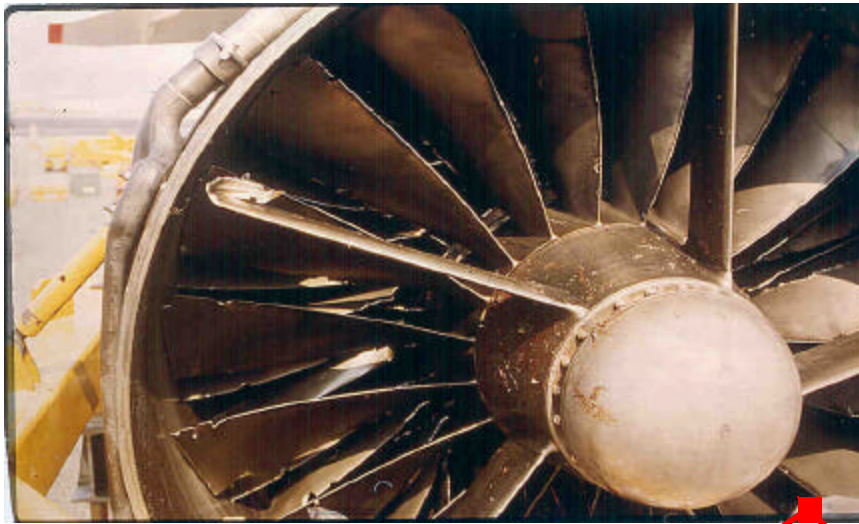
Ring-billed Gull Population Increased 4-Fold in USA, 1966-1999

MEAN BIRDS COUNTED/ BBS ROUTE



NON-MIGRATORY CANADA GOOSE POPULATION QUADRUPLED IN USA, 1986-1998

A Canada goose struck by an aircraft at lift-off (240 km/hr) generates the force of a 400-kg weight dropped from height of 3 meters



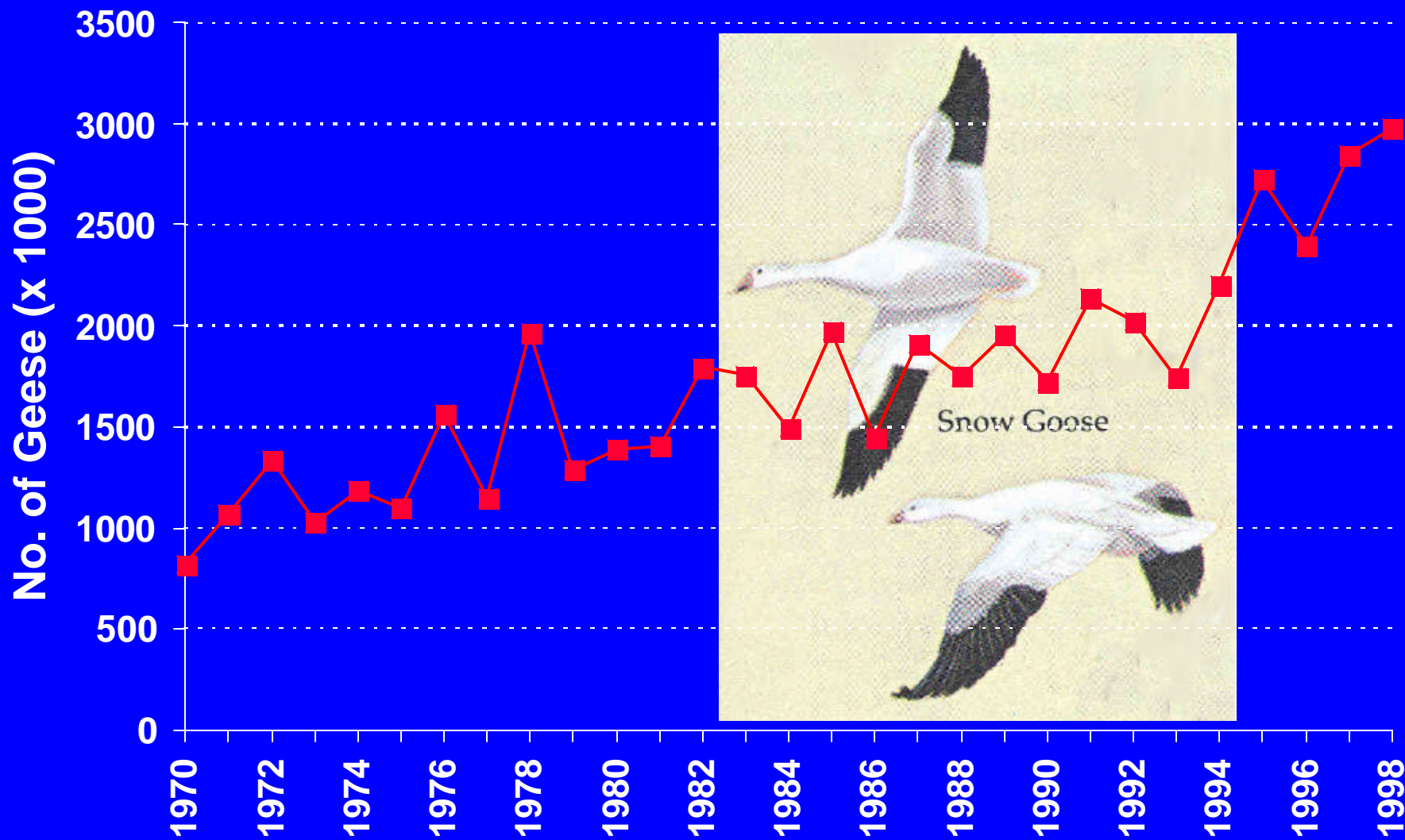
Canada Goose Collision with C-141, Ohio, USA

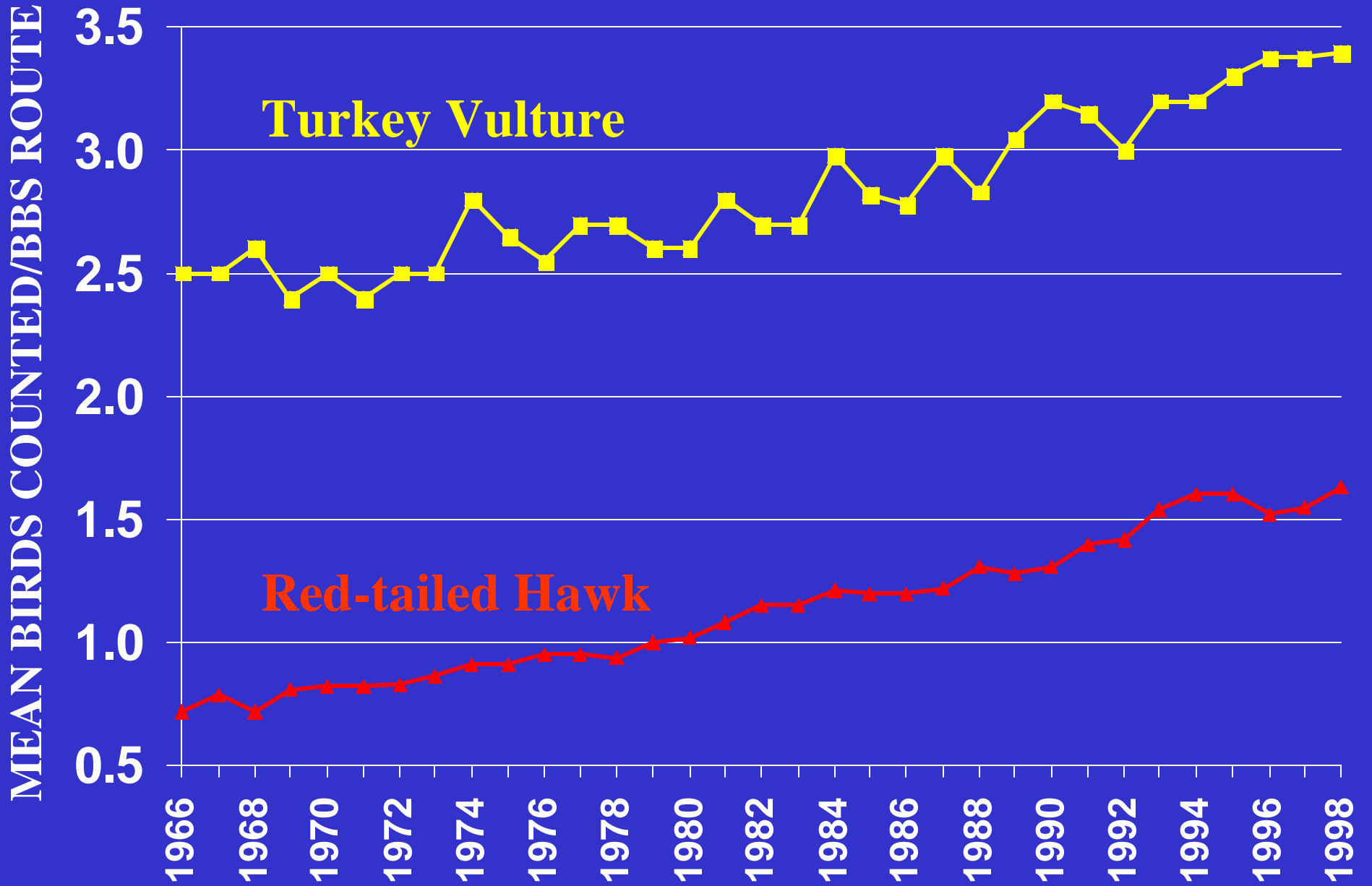




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LESSER (MID-CONTINENT) SNOW GOOSE POPULATION INCREASED 3-FOLD IN NORTH AMERICA, 1970-1998





RAPTORS!



**Red-tailed Hawk
remains after strike**

**Bald Eagle
& C-130**



**Golden Eagle
through windshield**

Collision with bird caused F-16 crash

A **turkey vulture** that hit the canopy of an F-16 caused the July crash that killed an Air Force Reserve pilot in Okeechobee County, according to a report released by Air Force

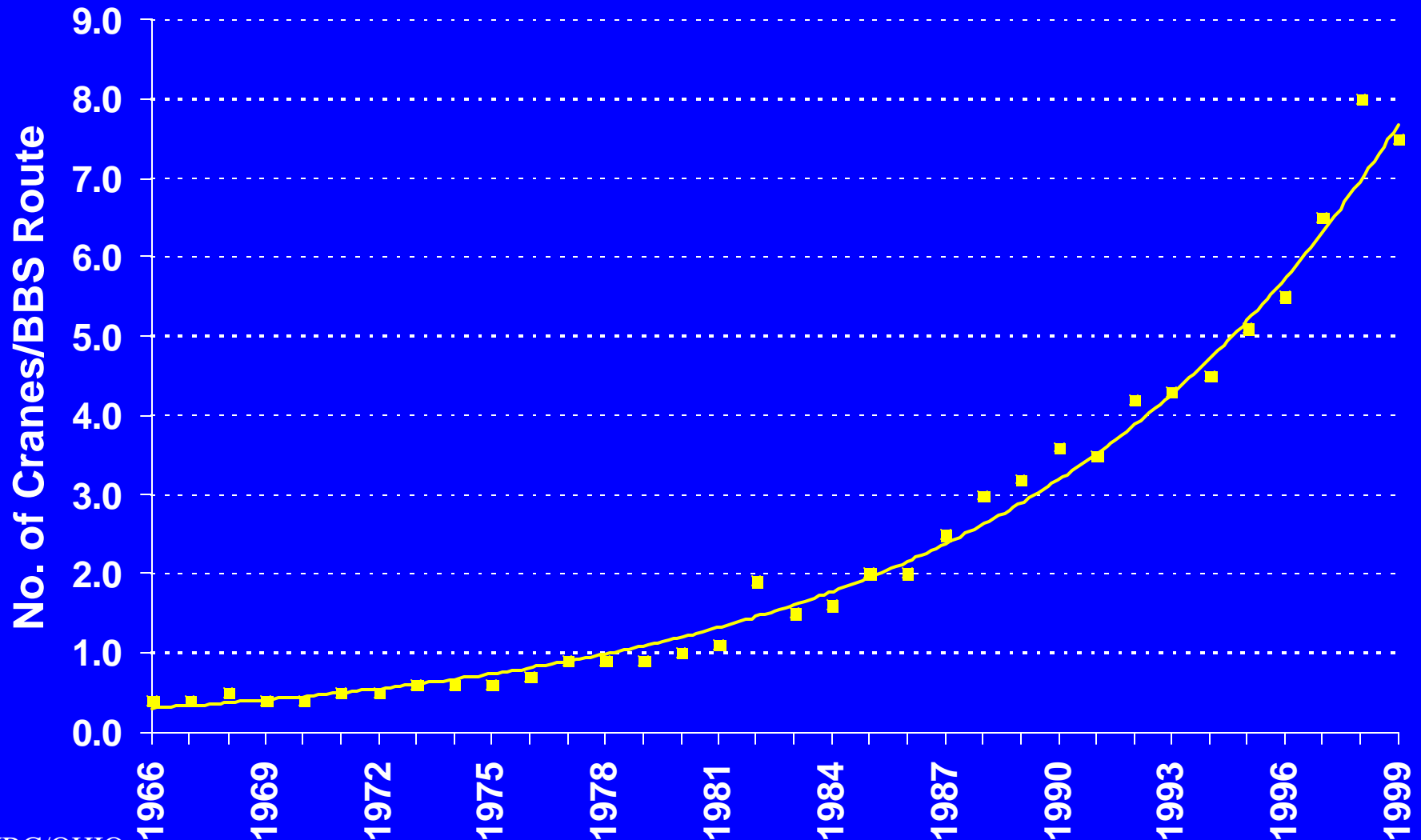
Plane makes emergency landing here

A Boeing 747 cargo jet taking off from Toledo Express Airport yesterday struck a **red-tailed hawk** that went into an engine, disabling it and forcing the aircraft to make an emergency landing.....

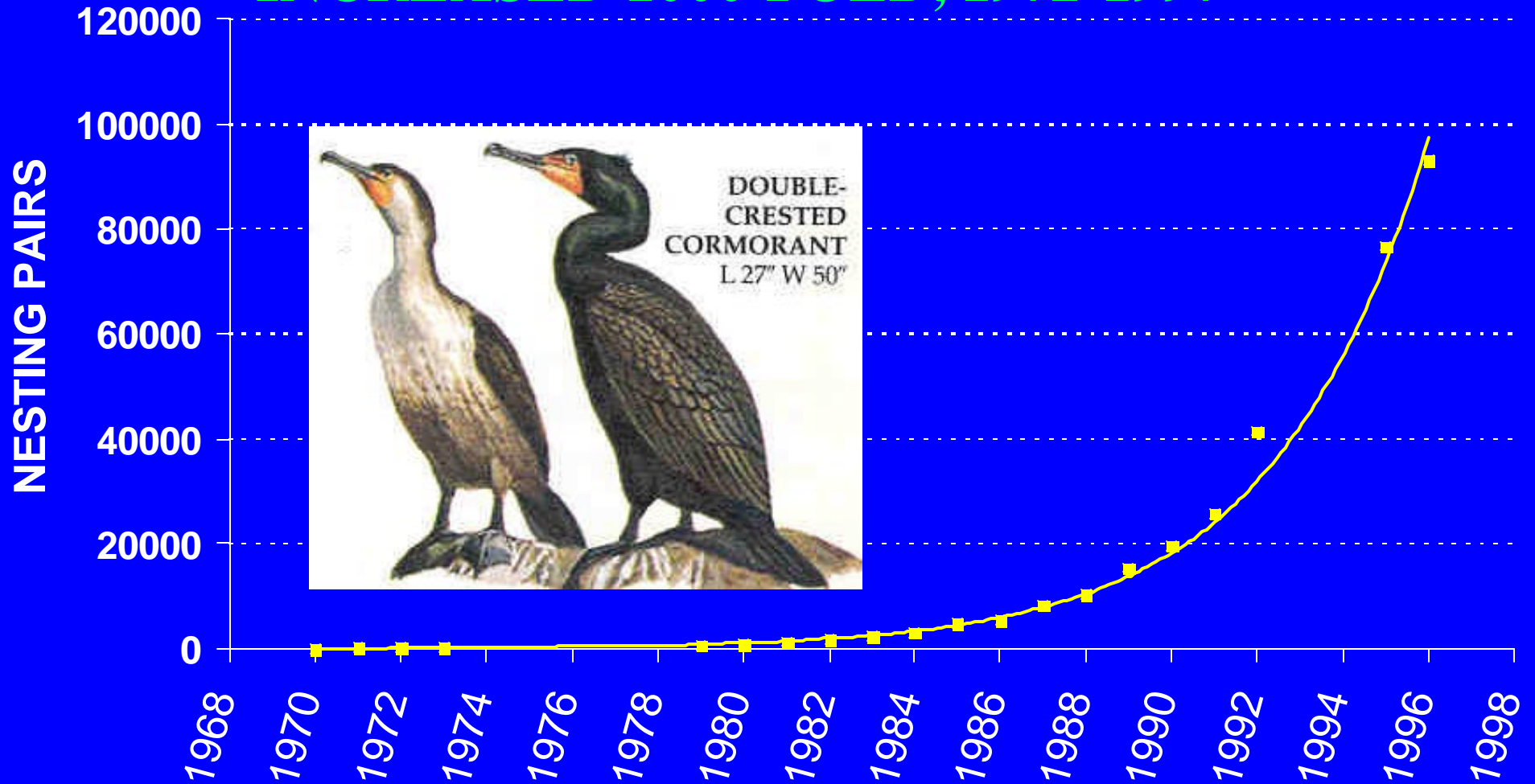
A caller to the Lucas County sheriff's office reported hearing a large boom and seeing one of the jet's engines on fire....

More Examples of Population Growth of Species Hazardous to Aviation:

BREEDING POPULATION OF SANDHILL CRANES INCREASED 15-FOLD, 1966-1999, WISCONSIN, USA

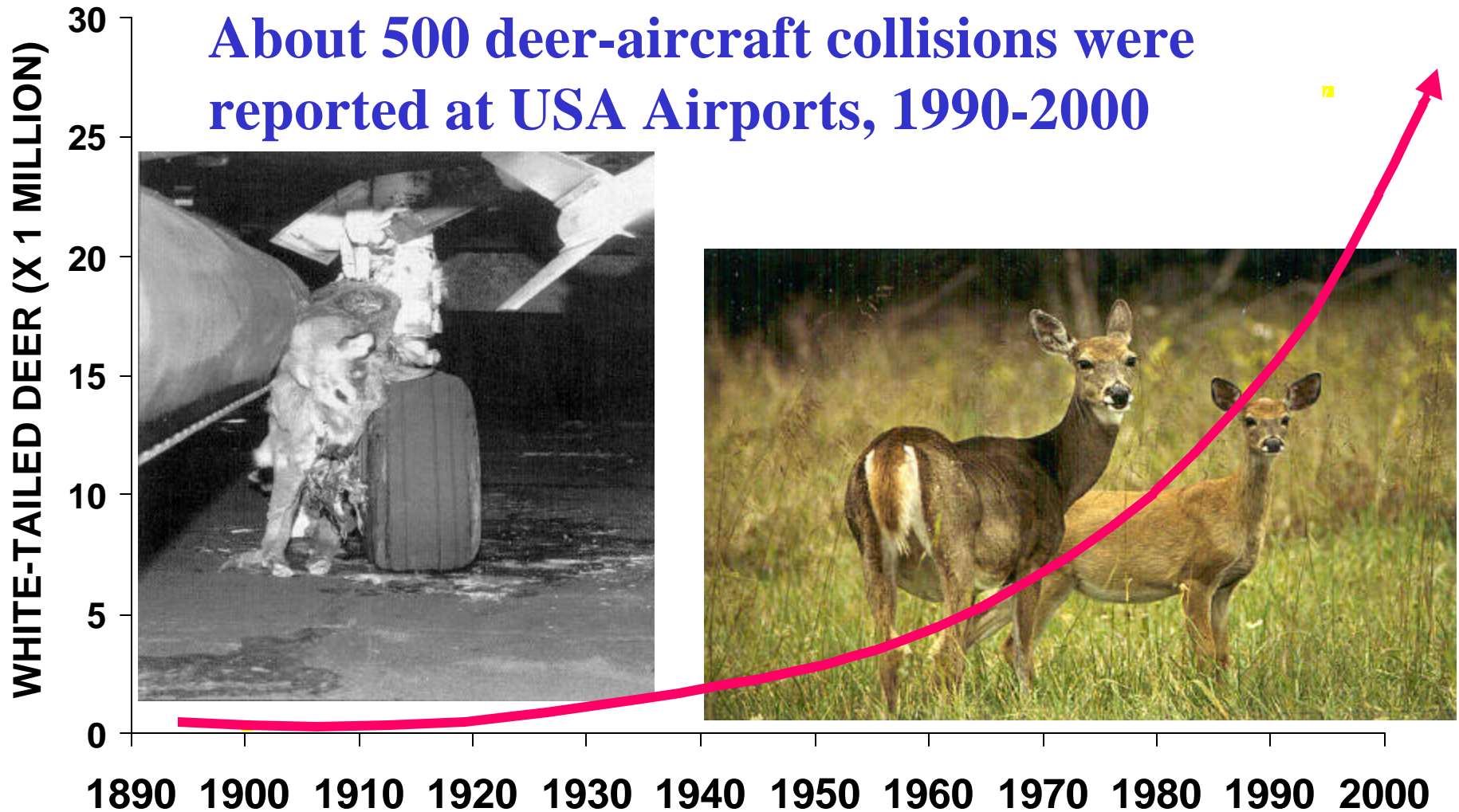


BREEDING POPULATION OF DOUBLE-CRESTED CORMORANTS ON THE GREAT LAKES (USA & CANADA) INCREASED 1000-FOLD, 1972-1997

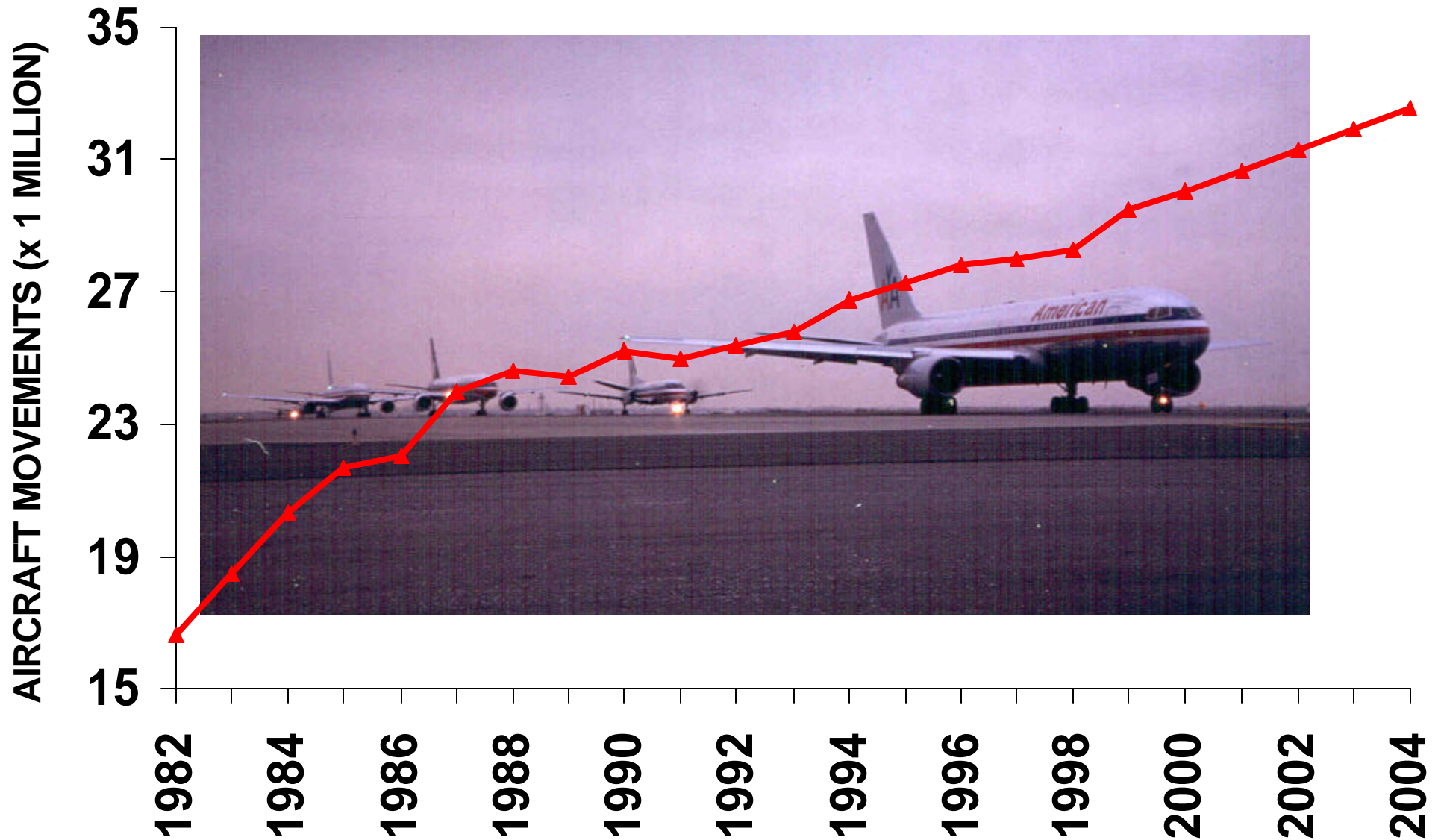


WHITE-TAILED DEER POPULATION IN USA INCREASED FROM 0.3 MILLION TO 26 MILLION, 1900-2000

About 500 deer-aircraft collisions were reported at USA Airports, 1990-2000

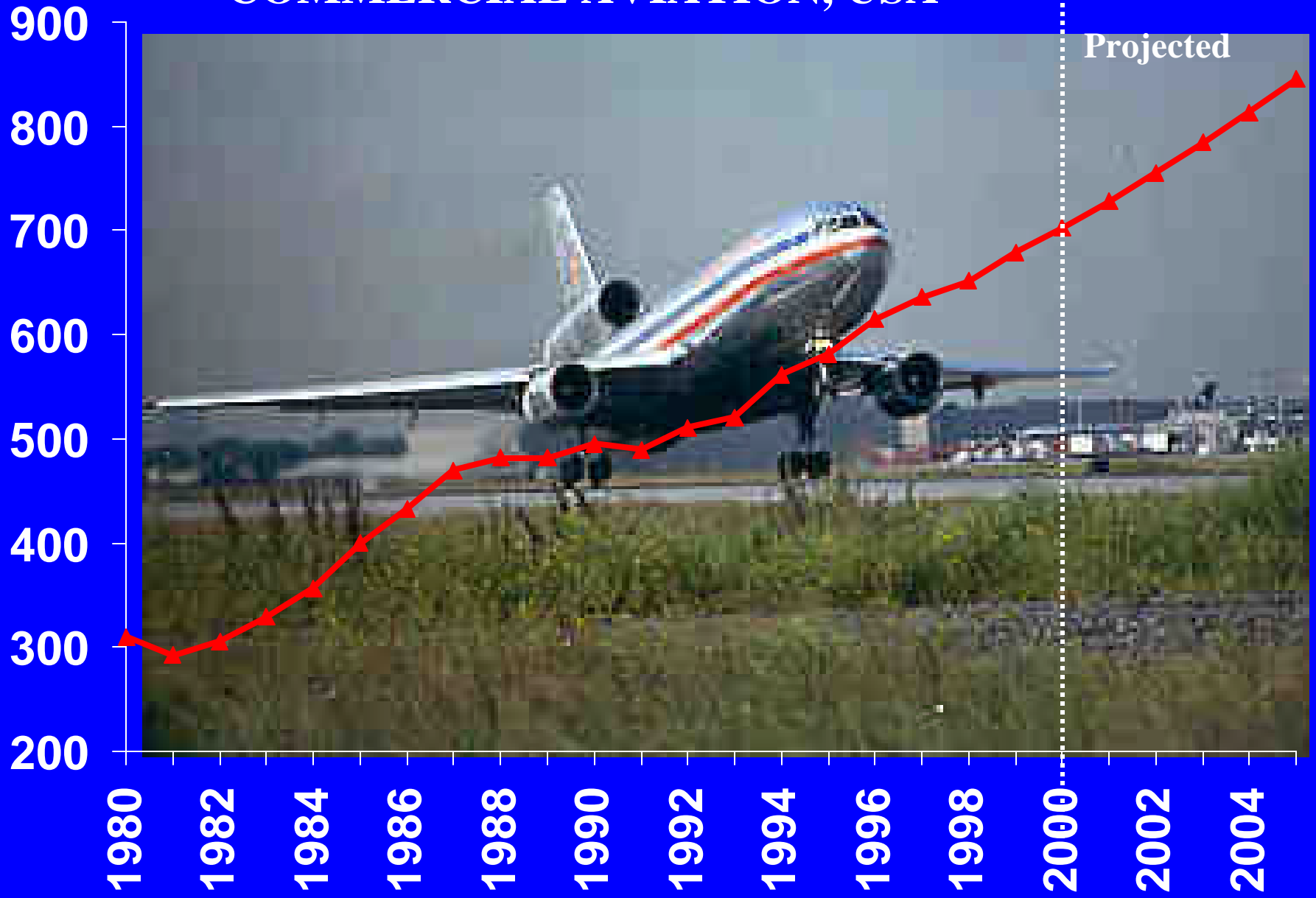


COMMERCIAL AIR TRAFFIC IN USA INCREASED 3% PER YEAR, 1982-2000



COMMERCIAL AVIATION, USA

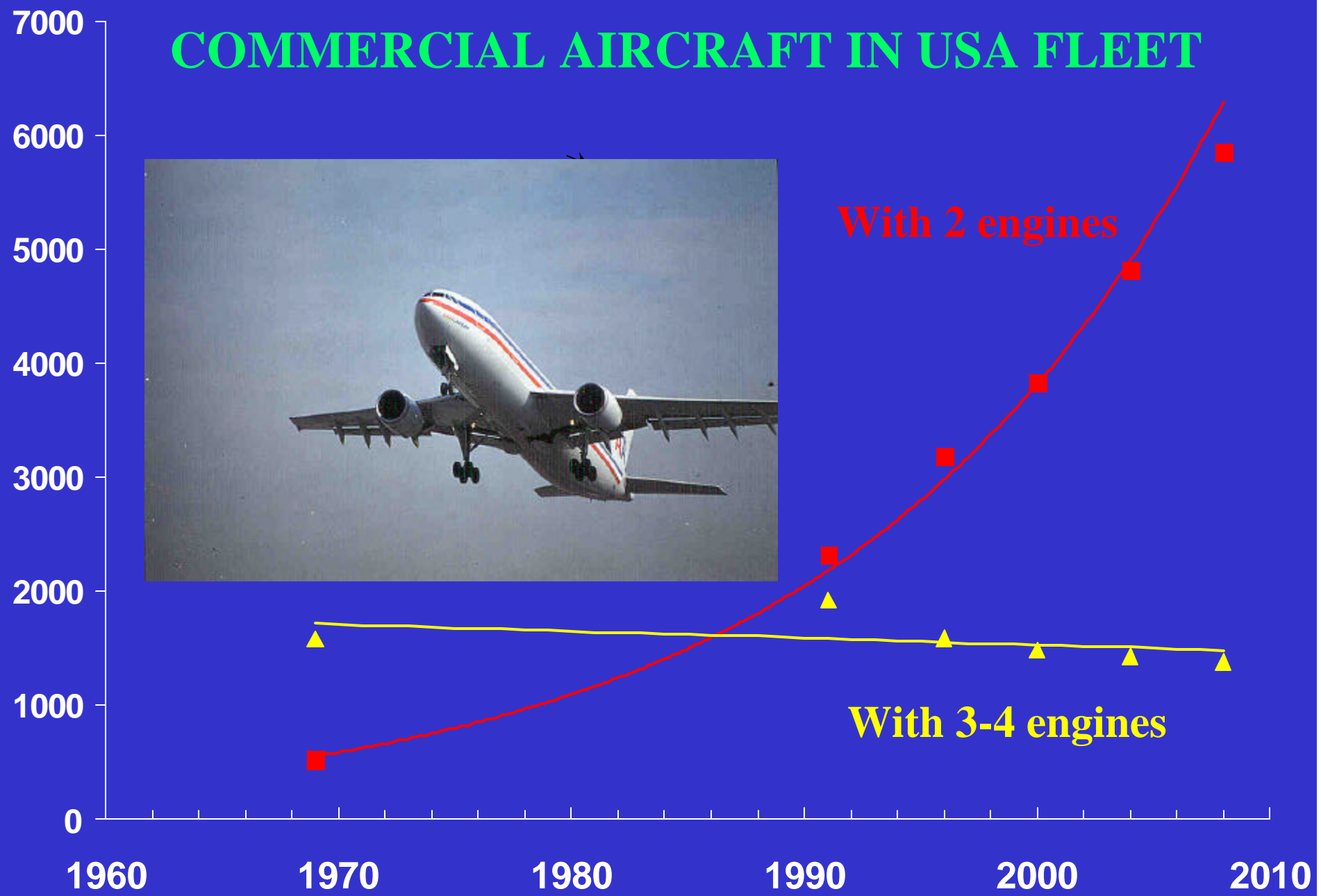
PASSENGER ENPLANEMENTS
(x 1 MILLION)



Projected

COMMERCIAL AIRCRAFT IN USA FLEET

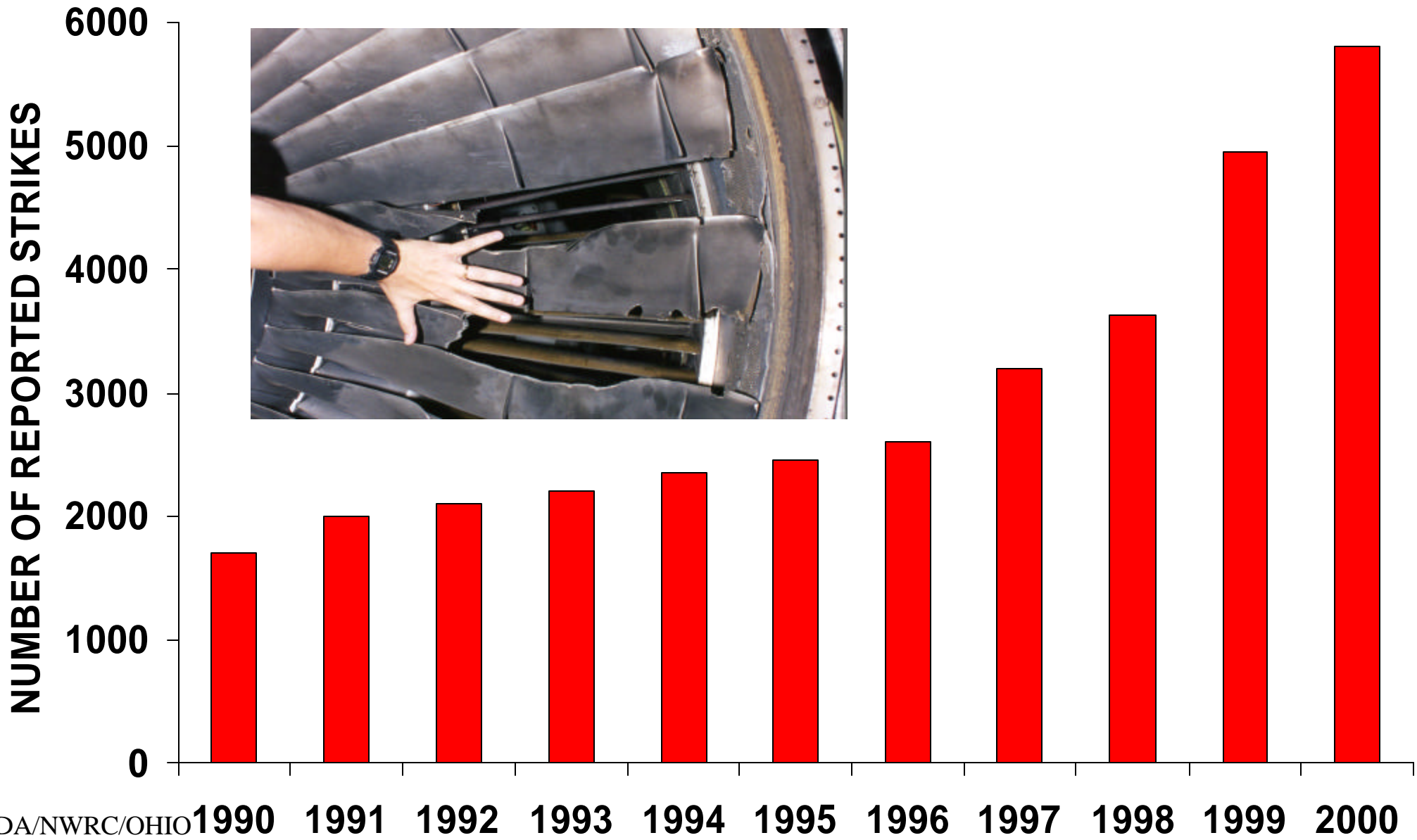
NUMBER OF AIRCRAFT



With 2 engines

With 3-4 engines

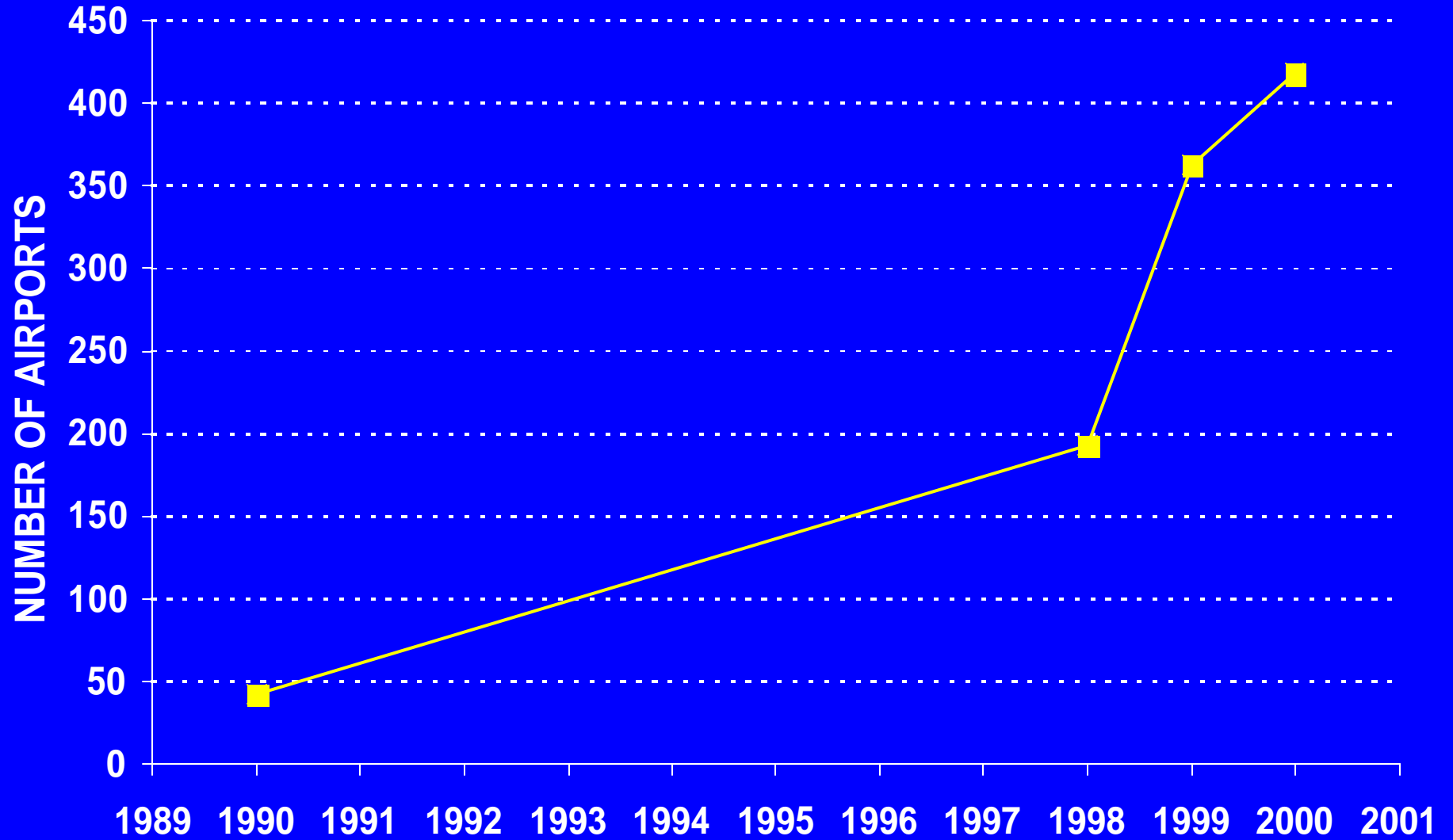
REPORTED WILDLIFE STRIKES WITH CIVIL AIRCRAFT IN USA TRIPLED FROM 1990-2000



Geese at airport cost PA \$5 million

The Port Authority of New York and New Jersey has paid Air France \$5.3 million in compensation for extensive damages inflicted on a Concorde jet by a flock of Canada geese at John F. Kennedy International Airport...Repairs and other costs to Air France were said to have exceeded \$9 million (U.S.).

USA AIRPORTS REQUESTING ASSISTANCE FROM USDA WILDLIFE SERVICES BIOLOGISTS, 1990-2000



WHY HAVE A BIRD STRIKE COMMITTEE USA?

MANAGING BIRD STRIKES IN THE AIRPORT ENVIRONMENT CREATES UNIQUE CHALLENGES:

- 1. 90% of strikes are by native bird species federally protected by International Treaty (MBTA).**
- 2. Public is sensitive to killing of birds.**
- 3. However, birds rapidly habituate to most non-lethal frightening devices and techniques.**
- 4. Birds are dynamic, often flying ≥ 25 miles daily between nesting/roosting sites and feeding areas.**

WHY HAVE A BIRD STRIKE COMMITTEE USA?

Management of wildlife strikes is complex, requiring communication and cooperation among professional groups that normally do not work together (airport managers, wildlife biologists, engineers, pilots).

Within the USA, there was no forum where these groups could exchange information and address concerns dealing with the wildlife strike problem.

Bird and other wildlife strikes with aircraft are an increasing problem in the USA & throughout the world.

WHY HAVE A BIRD STRIKE COMMITTEE USA?

Bird Strike Committee USA was formed in 1991 to:

- ▶ Facilitate the exchange of information among the diverse groups dealing with wildlife strike issues.
- ▶ Promote collection and analysis of accurate wildlife strike data.
- ▶ Promote development of new technologies for reducing wildlife hazards.
- ▶ Promote professionalism in wildlife management programs on airports.
- ▶ Be a liaison to similar organizations in other countries.

Bird Strike Committee USA is directed by a nine-person steering committee:

- ❖ **Aviation Industry** 3 Members
- ❖ **Federal Aviation Administration** 2 Members
- ❖ **U.S. Department of Agriculture** 2 Members
- ❖ **U.S. Department of Defense** 2 Members

WHEN AND WHERE DOES BIRD STRIKE COMMITTEE-USA MEET?

- ◆ **The organization meets annually in association with an airport.**
- ◆ **Since 1999, annual meetings have been held jointly with Bird Strike Committee Canada.**

WHAT HAPPENS AT A BIRD STRIKE COMMITTEE-USA MEETING?

There typically are four parts to a Bird Strike Committee USA meeting over 3 days.

Presentation of technical papers or reports.

Vendor and poster sessions.

Training session on wildlife control policies at airports that cover both civil and military aviation.

Field trip to the host airport and wildlife attractants near airport that may impact aviation safety. The field trip also includes vendor demonstrations of products and techniques.

DEMONSTRATIONS AT BIRD STRIKE COMMITTEE USA MEETING IN MINNEAPOLIS, MN AUG 2000.

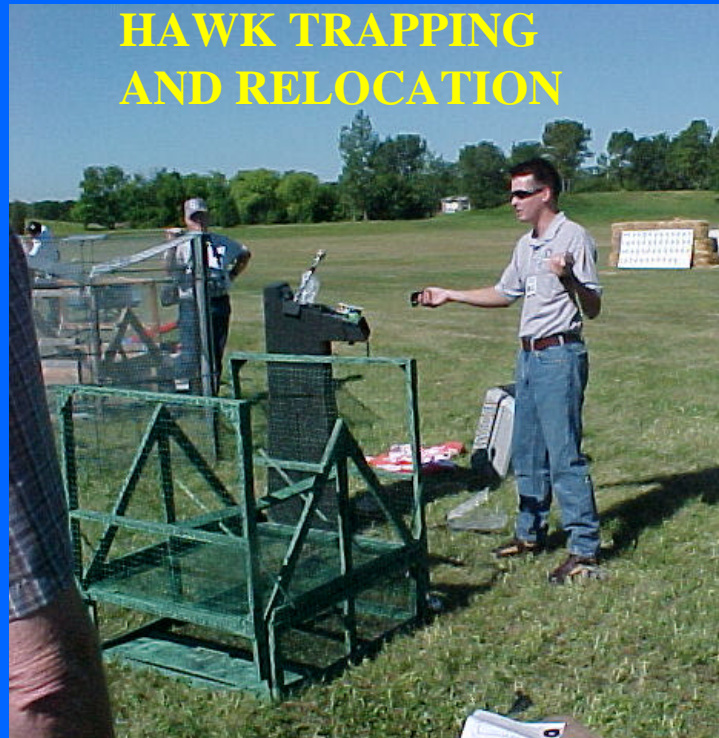
GODZILLA!



DEMONSTRATIONS AT BIRD STRIKE COMMITTEE USA MEETING IN MINNEAPOLIS, MN AUG 2000.



**PELLET GUN FOR
PIGEON REMOVAL**



**PROPANE CANNON/
HUNTER SILHOUETTE**



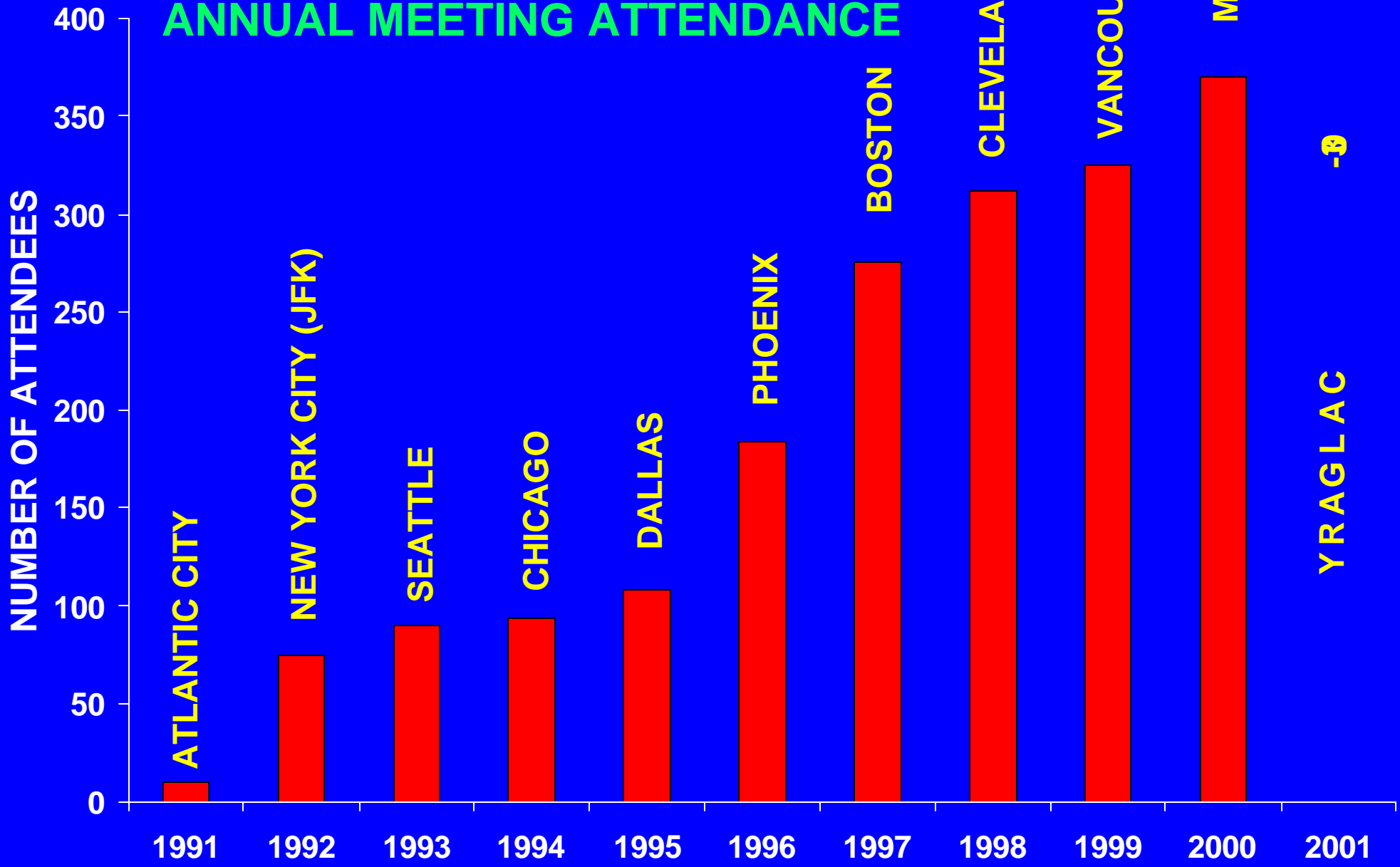
**IRD STRIKE COMMITTEE USA MEETING IN MINNEAPOLIS, MN
RECEIVED EXCELLENT PRESS COVERAGE, AUG 2000.**



WHAT SUBJECT AREAS ARE COVERED DURING THE TECHNICAL SESSIONS?

- ❖ Bird and other wildlife strike reporting/statistics
- ❖ Wildlife management and control techniques
- ❖ New technologies to reduce wildlife hazards
- ❖ Training in wildlife management on airports
- ❖ Military concerns of wildlife hazards
- ❖ Aircraft engines/components and wildlife hazards
- ❖ Government policies concerning wildlife hazards
- ❖ Land-use issues concerning airports
- ❖ Bird migration, behavior and physiology

BIRD STRIKE COMMITTEE-USA ANNUAL MEETING ATTENDANCE



What can aviation industry do to minimize wildlife hazards to aviation:

Pilots/mechanics/airlines

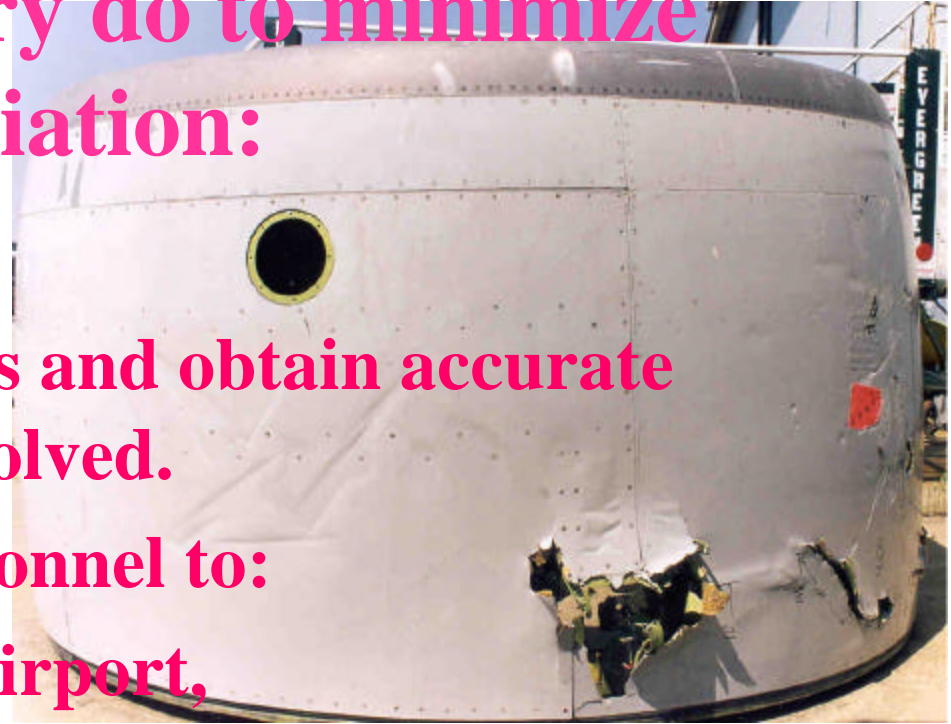
- Report all wildlife strikes and wildlife hazards on airports.
- Support research and management programs to reduce wildlife hazards to aviation.



What can aviation industry do to minimize wildlife hazards to aviation:

Airport Operations

1. Maintain database of all strikes and obtain accurate identification of species involved.
2. Employ trained, qualified personnel to:
 - a) Assess wildlife hazards on airport,
 - b) Based on the wildlife hazard assessment, develop a wildlife hazard management plan for the airport,
 - c) Implement the plan to manage wildlife hazards at airports,
 - d) Work with surrounding landowners and local government to minimize wildlife attractants near airport.



What can aviation industry do to minimize wildlife hazards to aviation:

Engine and Aircraft Manufacturers

1. Based on data from the Wildlife Strike Databases, develop more strike-resistant components for aircraft and engines.
2. Support research and management programs to reduce wildlife hazards to aviation.



OUR GOAL:

**SAFER SKIES FOR ALL WHO FLY:
BIRDS AND PEOPLE!**

THANK YOU

www.birdstrike.org

BIRD STRIKE COMMITTEE USA



BIRD STRIKE COMMITTEE CANADA



27-30 AUGUST 2001, 3rd JOINT ANNUAL MEETING

HOSTED BY

CALGARY INTERNATIONAL AIRPORT

***FIELD TRIP & FIELD DEMONSTRATIONS**

***TRAINING SESSIONS & EXHIBITORS**

***TECHNICAL SESSIONS**

***ROUND-TABLE DISCUSSIONS**

***USA-CANADA WATER VOLLEYBALL TOURNAMENT**

INFORMATION AND REGISTRATION AT WWW.BIRDSTRIKE.ORG

DA/NWRC/OHIO