

INTEGRATED MANAGEMENT PROGRAM TO REDUCE BIRD STRIKES AT JFK INTERNATIONAL AIRPORT, 1991-2000

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- ²USDA Wildlife Services, New York**
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Sandusky, Ohio Field Station**

In cooperation with

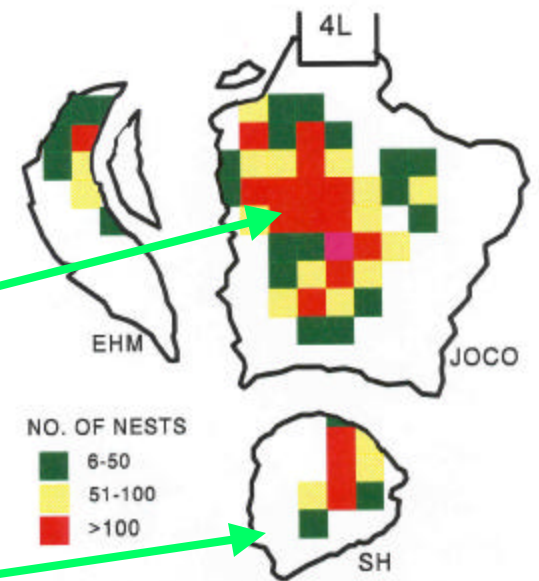
- The Port Authority of New York and New Jersey,
Aeronautical Services Division, JFK**



The Mother of All Incompatible Land Uses!

JFK International Airport

L. Gull Nesting Colony



DISTRIBUTION OF LAUGHING GULL NESTS,
JAMAICA BAY, NEW YORK, 1992

History of Laughing Gull Nesting in Jamaica Bay New York next to JFK International Airport

In 1979, 15 nests were discovered in Joco Marsh, Jamaica Bay within 1 km of JFK.

Two LAGU strikes were recorded in 1979, the first ever at JFK.

The colony grew to 7,600 nests in 1990.

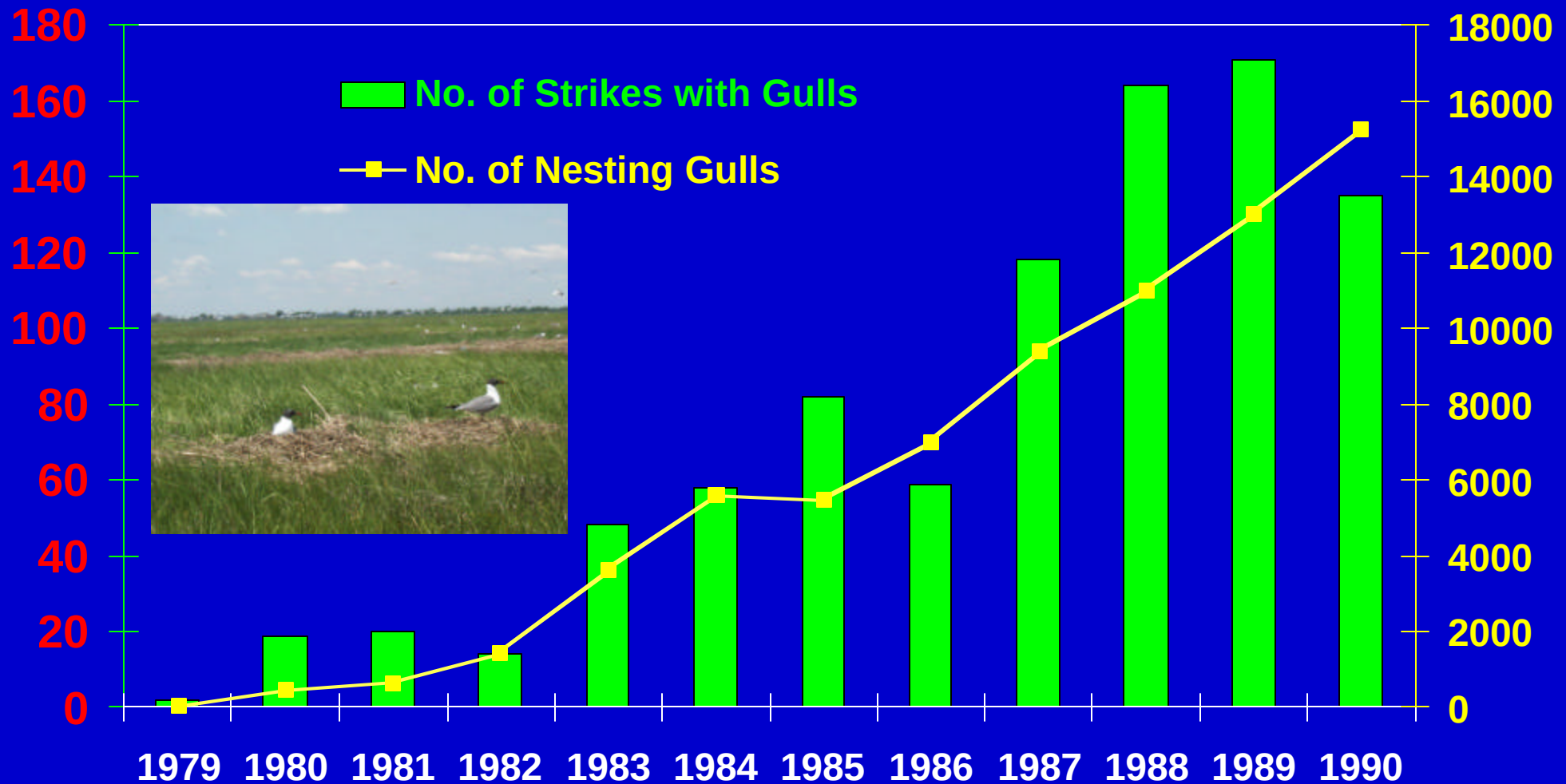
JFK averaged 157 strikes per year, 1988-1990.



Laughing Gulls began Nesting adjacent to JFK Airport in 1979:

***Increase of LAGU Strikes, 1979-1990**

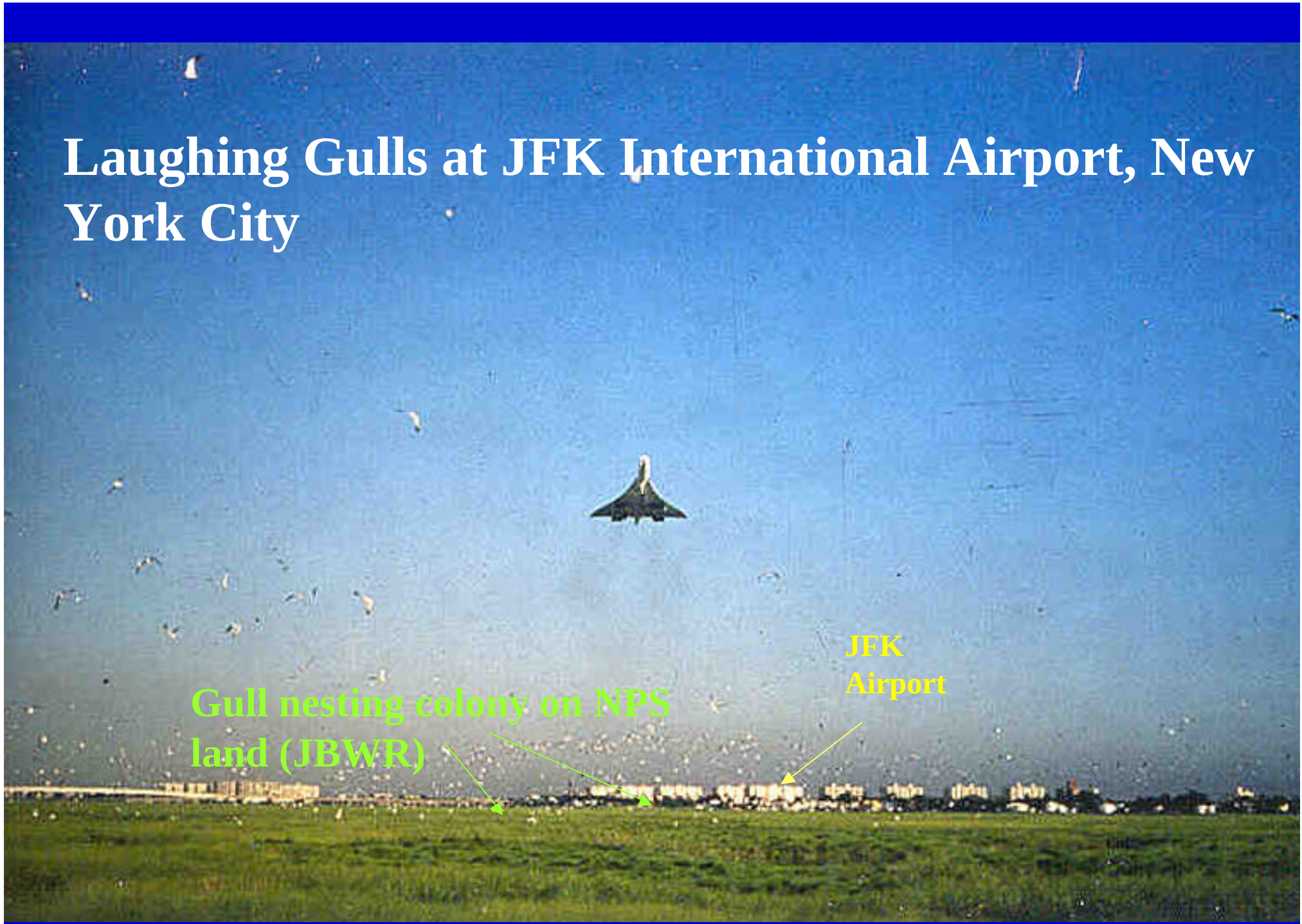
***Growth of Nesting Colony, 1979-1990**



Laughing Gulls at JFK International Airport, New York City

Gull nesting colony on NPS
land (JBWR)

JFK
Airport



Laughing gulls in Joco Marsh with view of JFK International Airport, 199

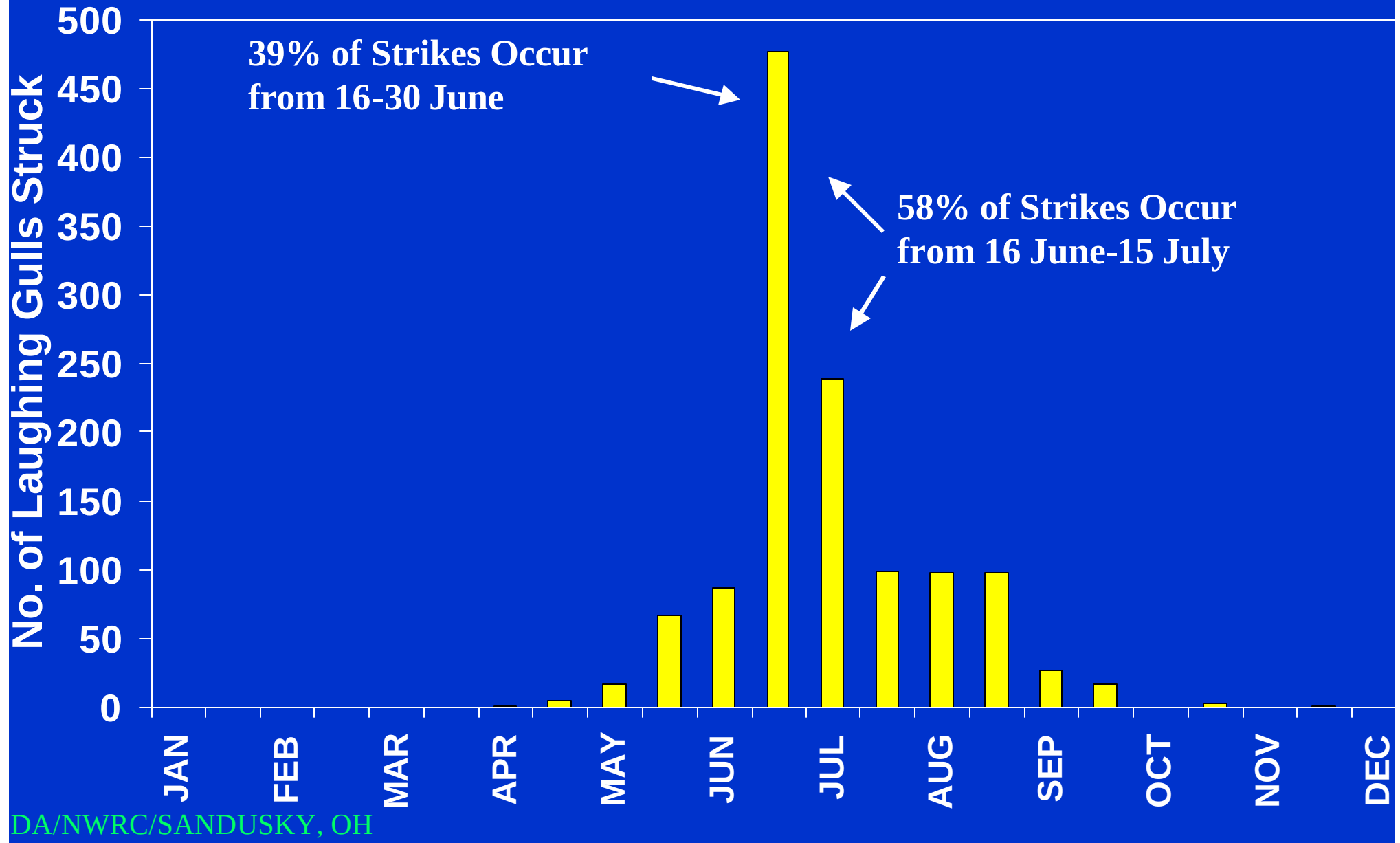
Bird Strikes

MANAGING BIRDS AT AIRPORTS
TO IMPROVE AVIATION SAFETY

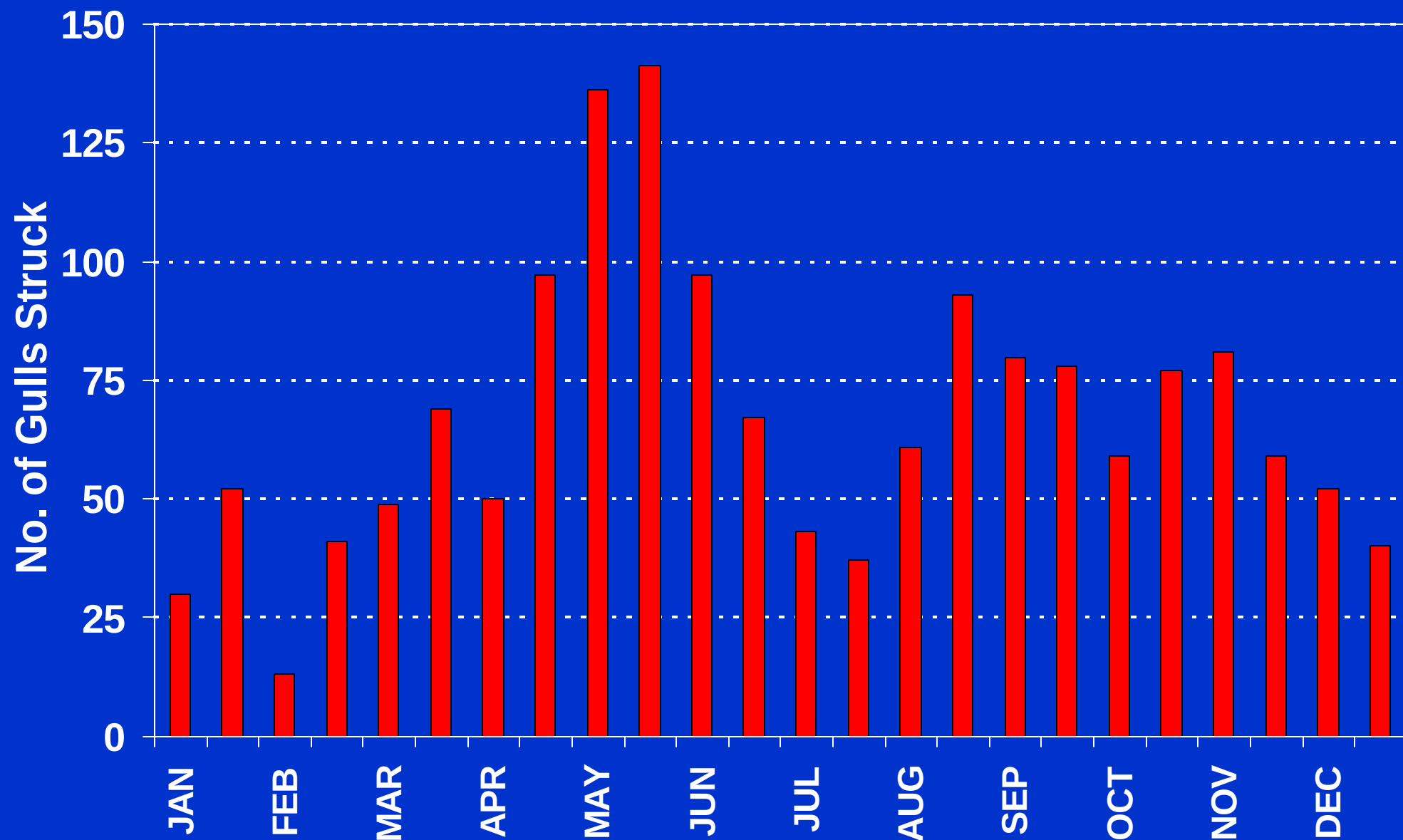


Sammy Chevalier, retired long-time head of the JFK Bird Patrol Unit, holds remains of laughing gulls that collided with a departing airplane.

Semi-monthly Pattern of Laughing Gulls Strikes with Aircraft JFK International Airport, NY, 1979-2000



Semi-monthly Pattern of Herring, Great Black-backed and Ring-billed Gull Strikes with Aircraft, JFK International Airport, NY, 1979-1999

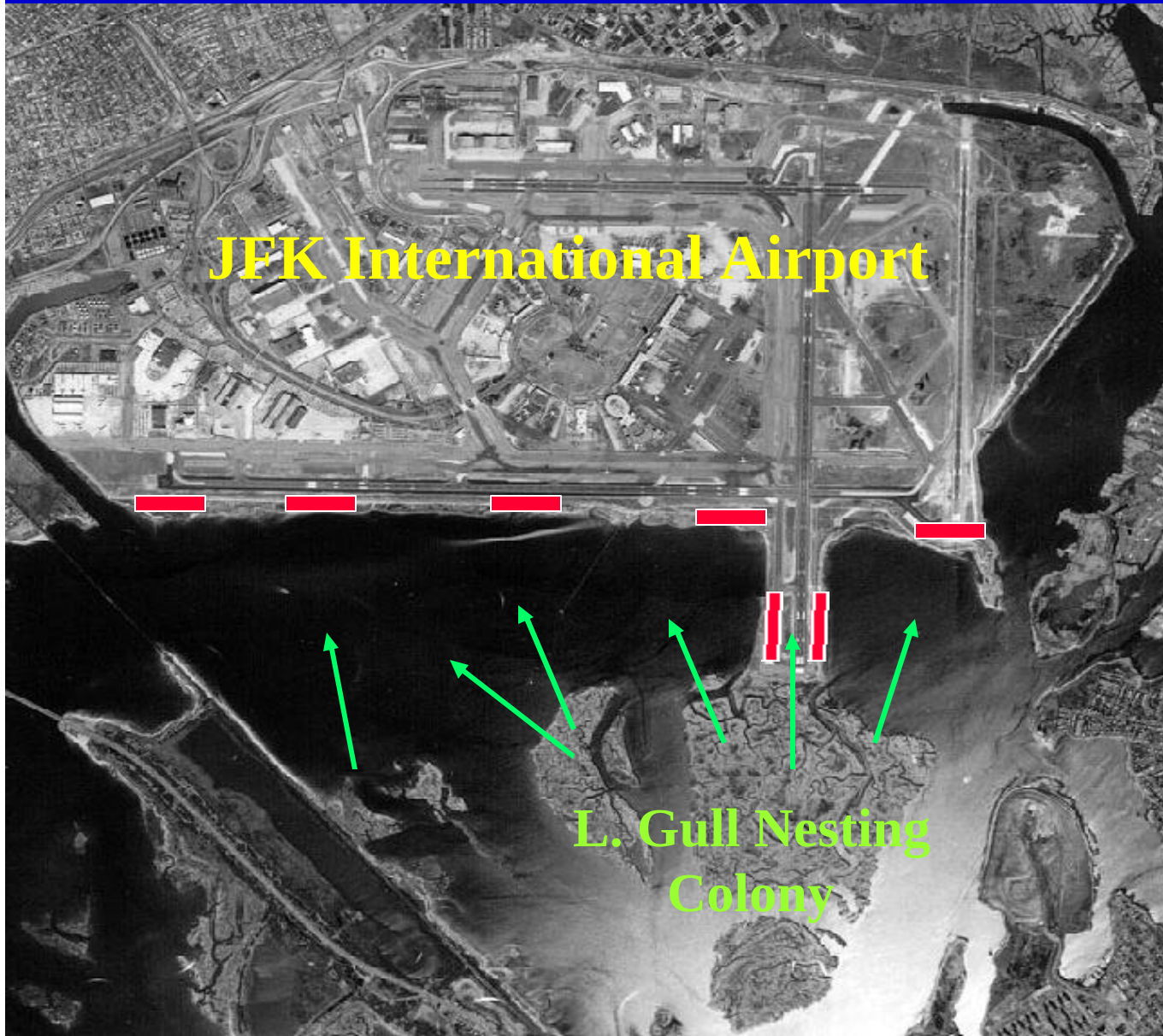


DA/NWRC/SANDUSKY, OH

In 1991, USDA initiated an experimental program to shoot gulls attempting to fly over the airport from the protected marsh areas in Jamaica Bay



hooting was on the s. boundary of JFK to intercept gulls
attempting to fly across airport from Jamaica Bay



**Shooting was conducted by professional biologists from
May-August, 1991-2000**



Objectives of shooting program:

- 1. Reduce the number of gulls flying over airport by:
a) removing a segment of the population and
b) training survivors to avoid the airport.**
- 2. Reduce the number of gull strikes with aircraft.**



Gulls Shot at JFK International Airport are Retrieved for Study:

a) External examination to classify by species and age class.

b) Autopsy to determine sex, reproductive status, and feeding habits.



Each biologist keeps a detailed record of daily shooting activity

JFK GULL MANAGEMENT EXPERIMENT - DAILY LOG 2000

REMOVED FROM POPULATION

SHOOTER (S)	KP			GULL SPECIES	RETRIEVED (BY AGE) *				NOT RETR	TOTAL
LOCATION	K				AD	2Y	1Y	HY		
DATE (MO/DY)		0	6	2	LAGU	72		9	4	85
TIME (MIL) START		0	5	00	HERG	2	3		2	7
TIME (MIL) END		1	1	00	GBBG					
DOWN TIME (MIN)		0	1	5	RBGU					
NO. SHOTS FIRED		2	0	0						

COMMENTS: LAGU
Leg band 925-73270
Orange band

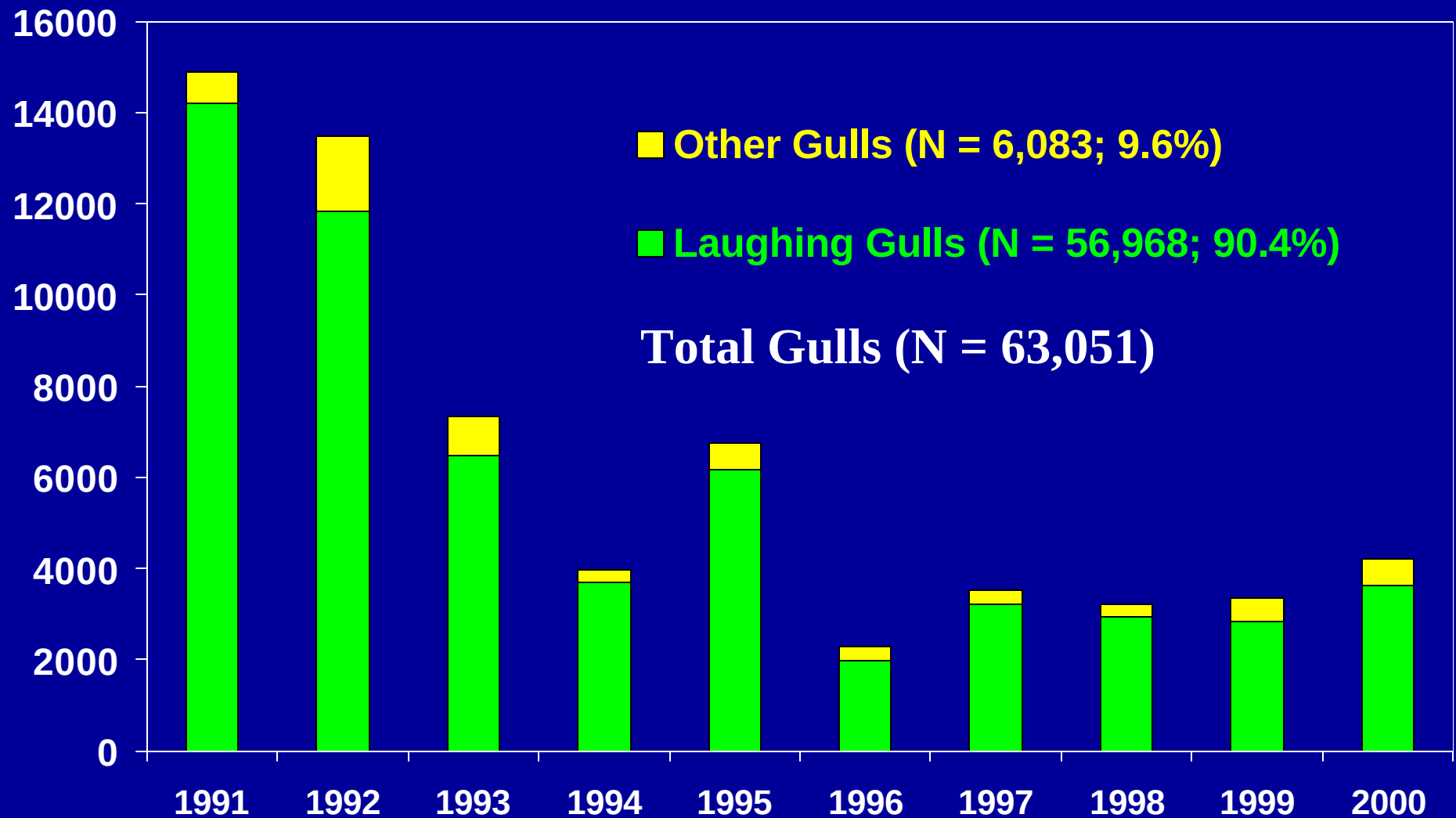
*See Back



USDA and NPS Biologists Estimate the LAGU Nesting Population in Jamaica Bay each June



Number of Gulls Shot at JFK International Airport, New York May-Aug 1991-2000



Shotgun-toting feds killing sea gulls at JFK Airport

BYE, BYE BIRDIE!



A federal agent yesterday blasts away at sea gulls flying near JFK airport.



MACY'S SHUTS 8 STORES

Shutting 8 stores in 17 cities across the country. Page 2



LEONA'S STILL QUEEN

Winning her third crown. From Jackson, Tenn. Page 3

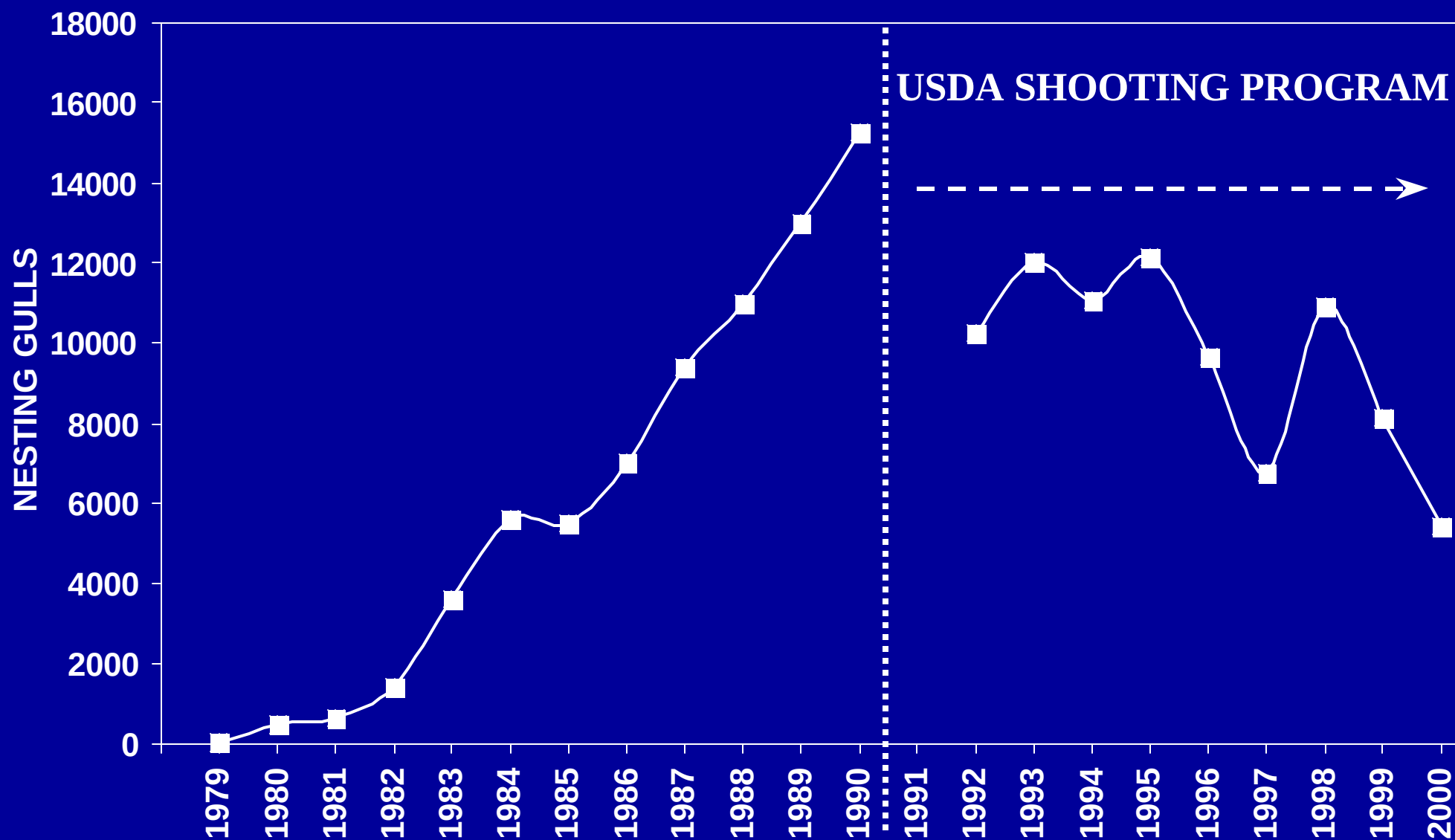


TOUGH TRIP FOR DINKINS

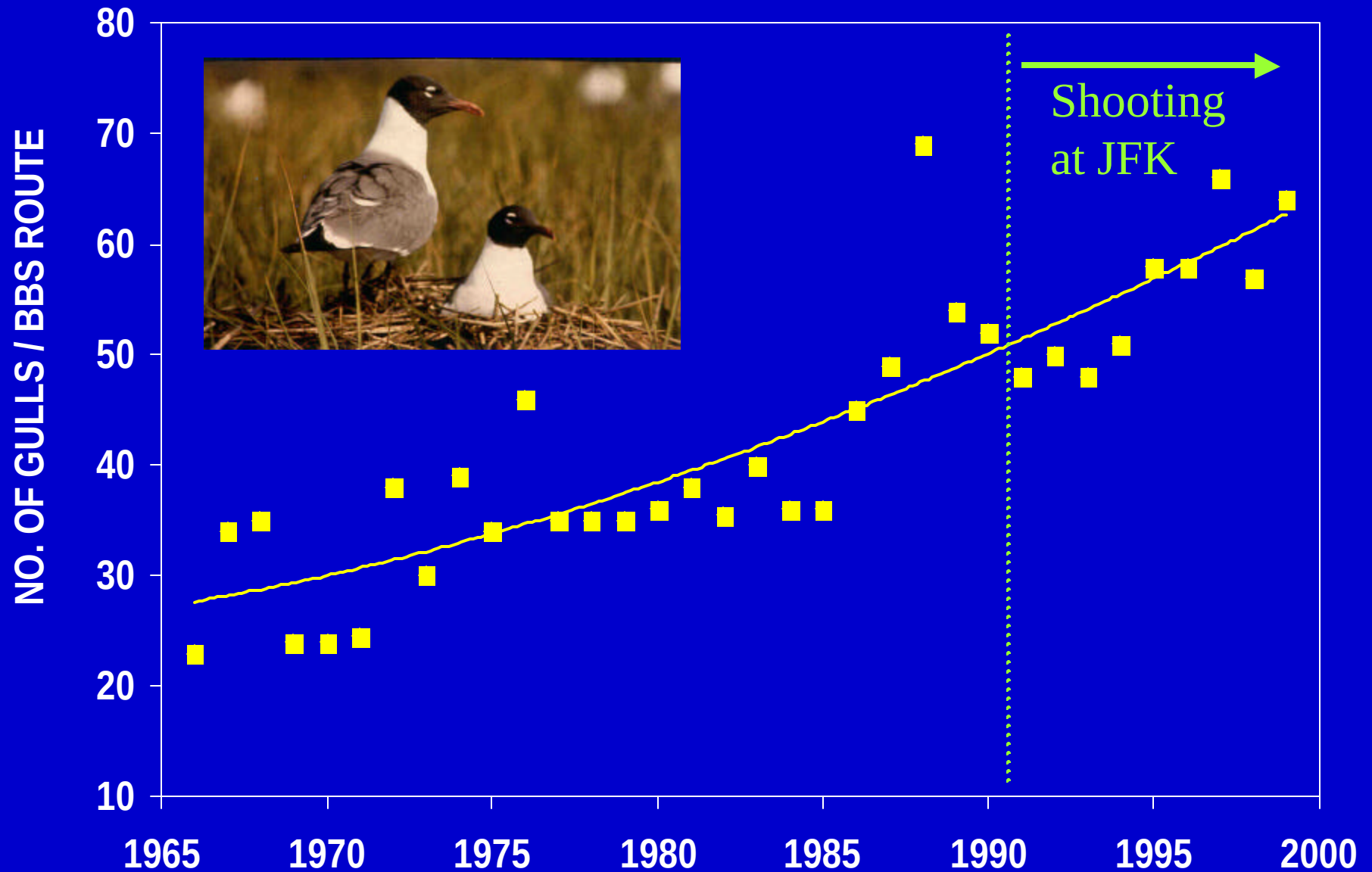
Mayor, 66, faces his toughest test yet. Page 4



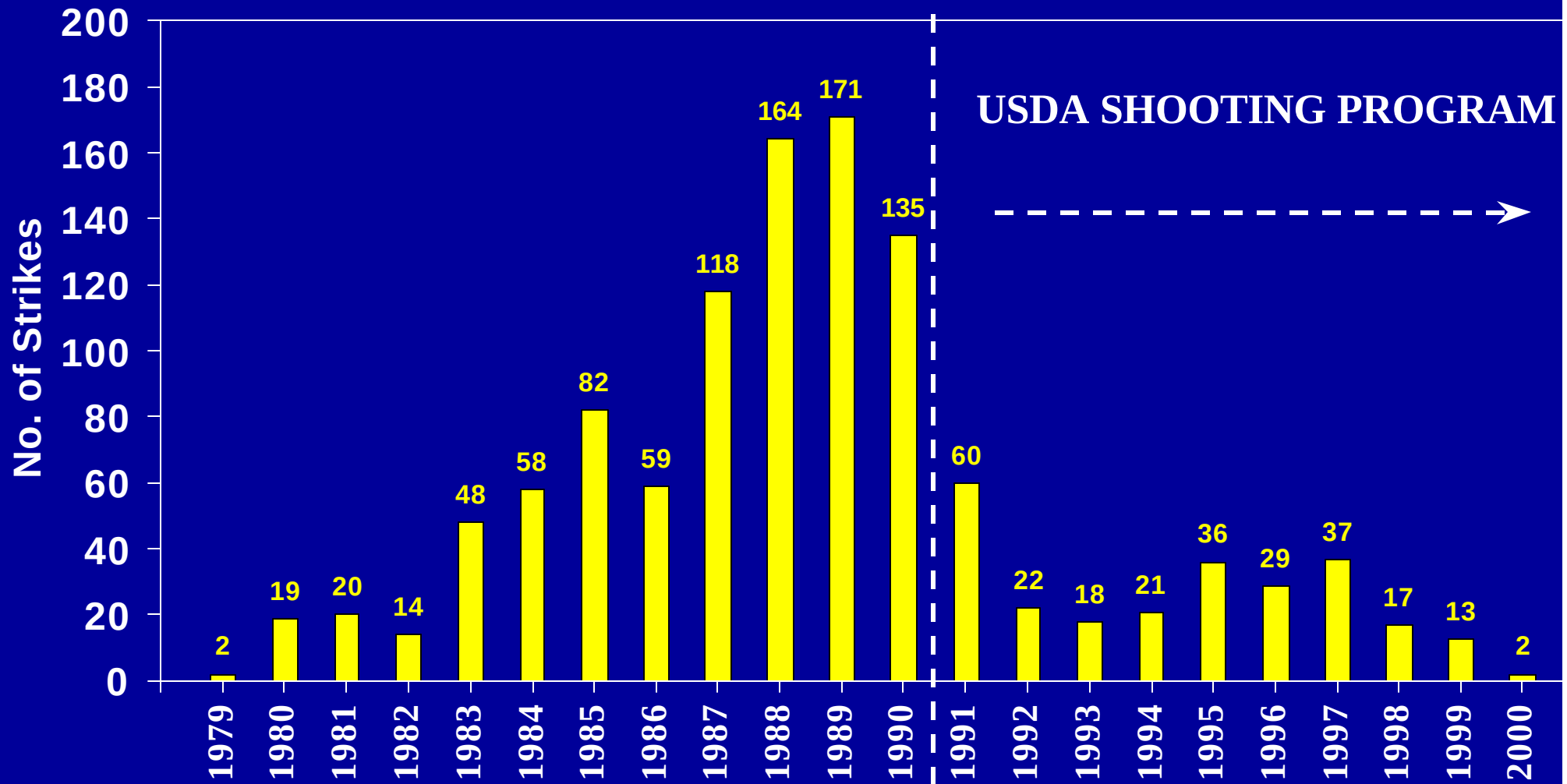
Growth of Laughing Gull Nesting Colony adjacent to JFK International Airport, 1979-1990, and Response of Colony to Shooting, 1991-2000



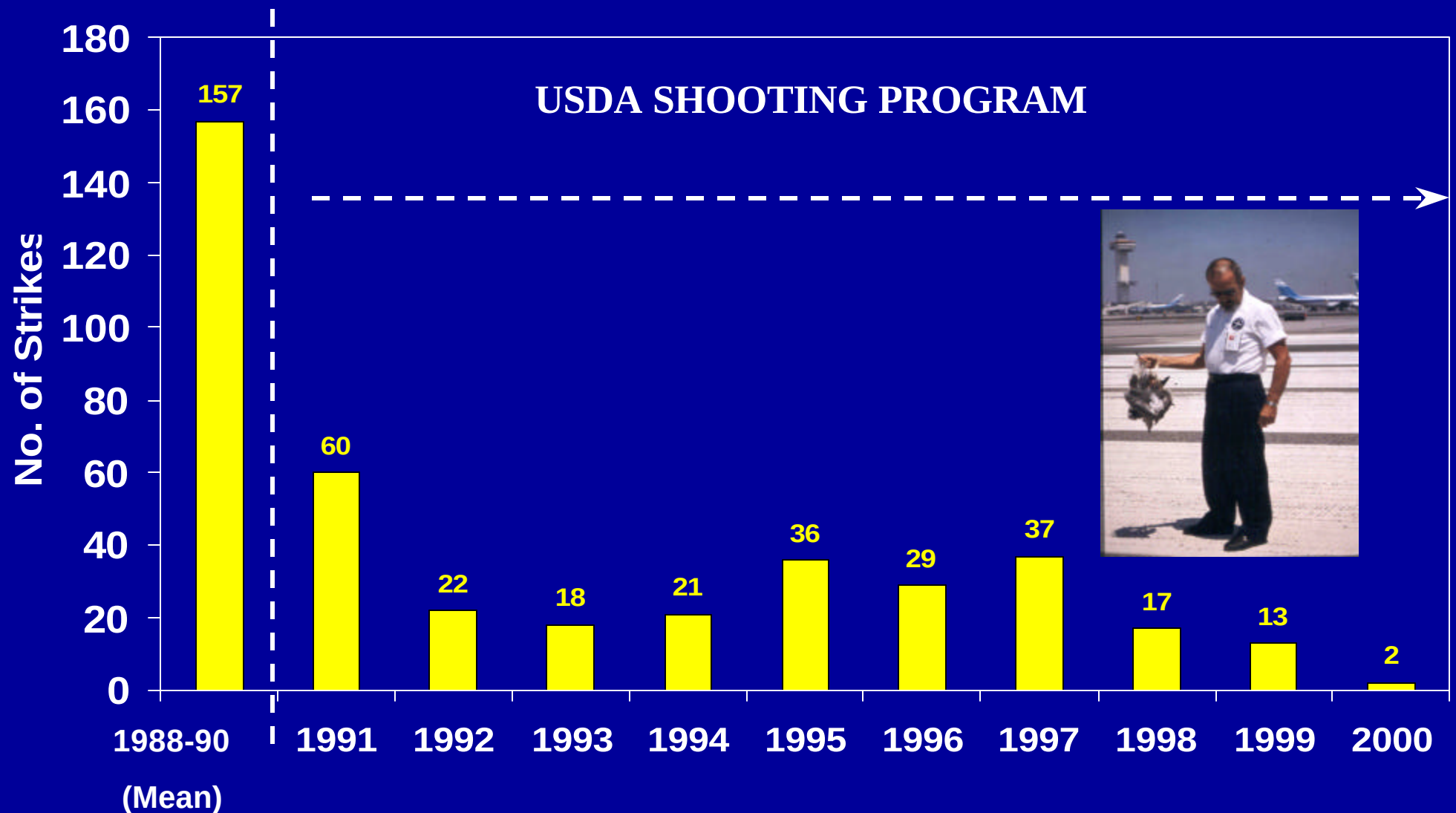
Laughing Gull Population Index, Virginia-Maine, 1966-1999



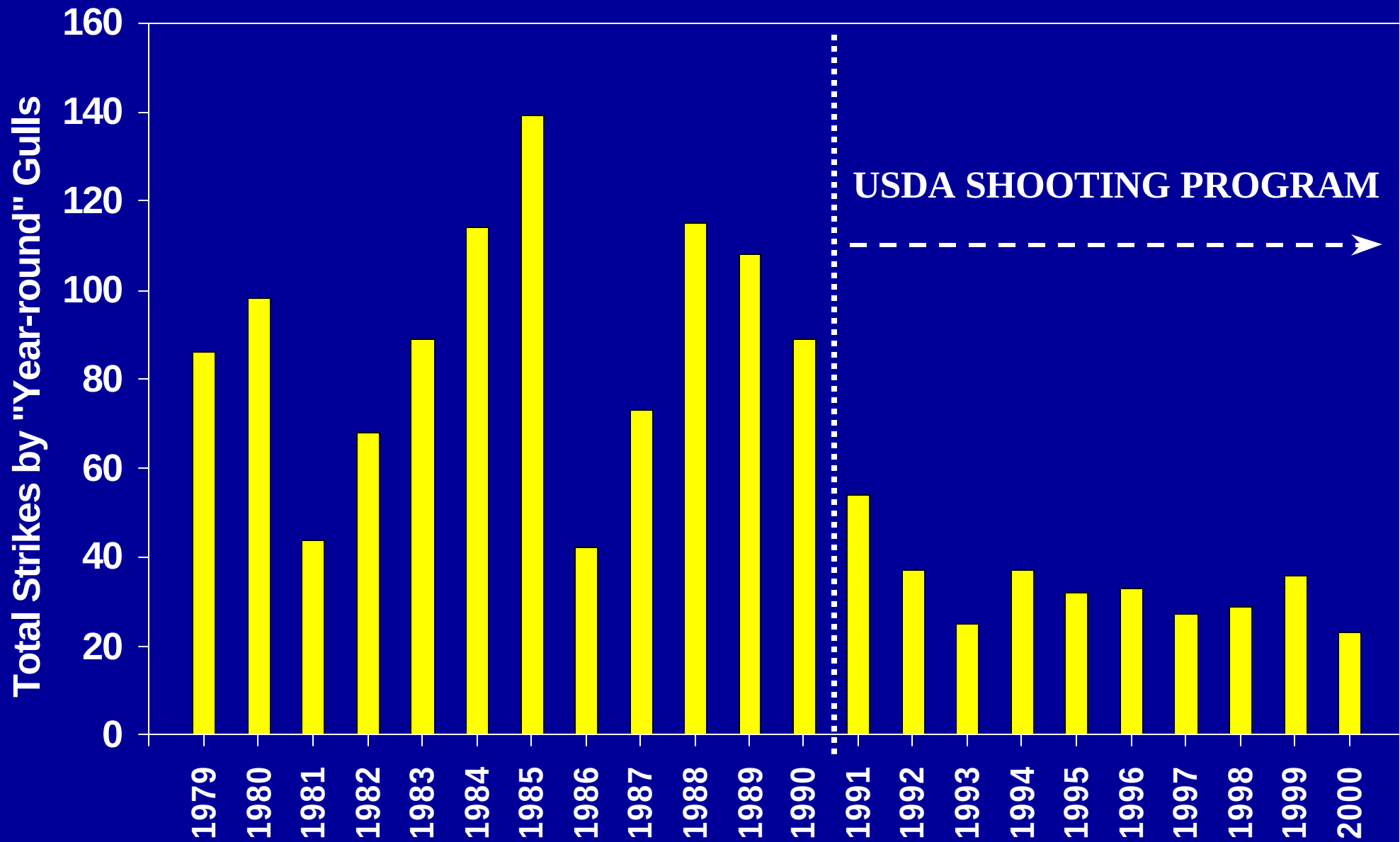
Number of Aircraft Striking Laughing Gulls, JFK International Airport, NY, 1979-2000



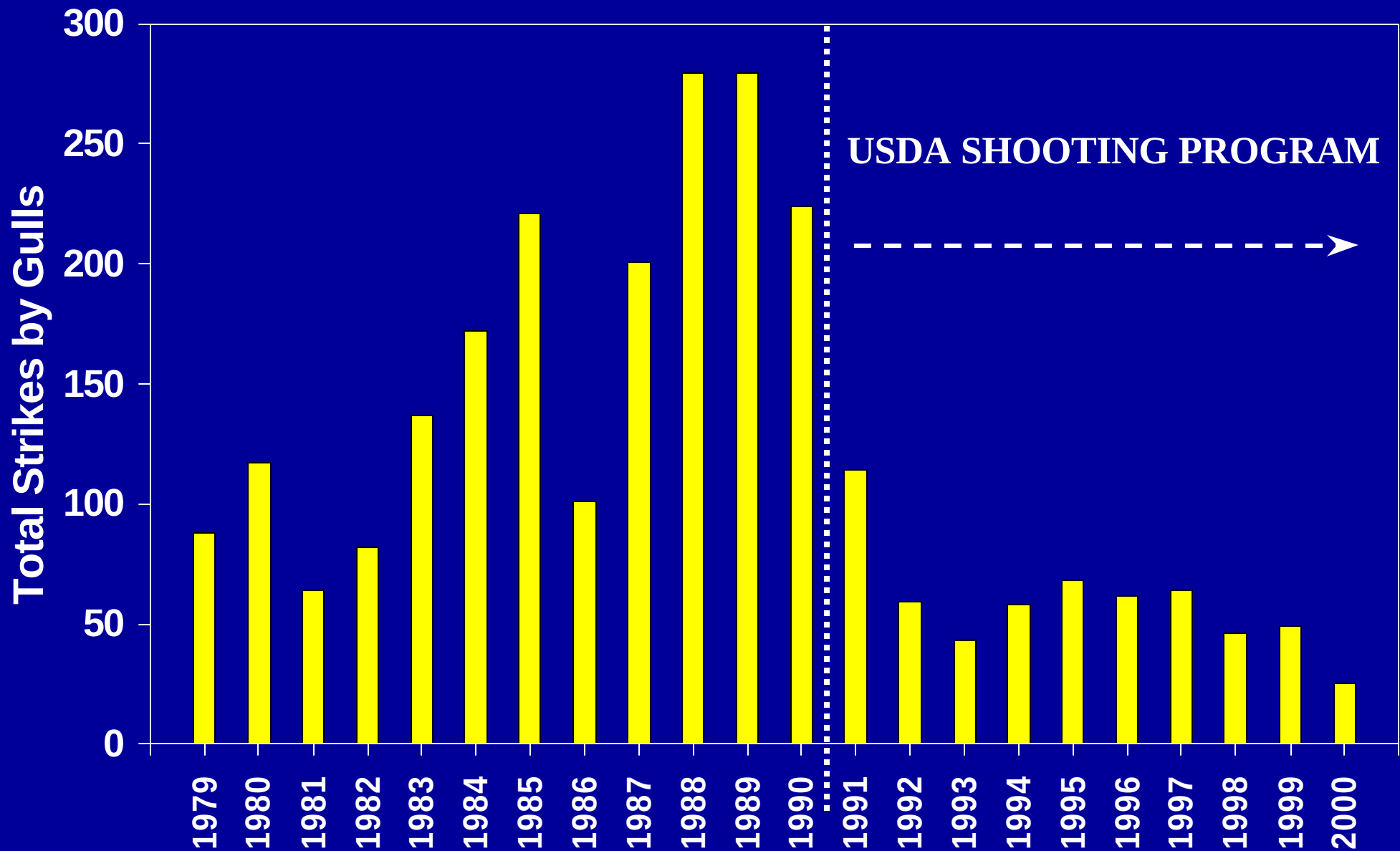
Number of Aircraft Striking Laughing Gulls, JFK International Airport, NY, 1988-2000



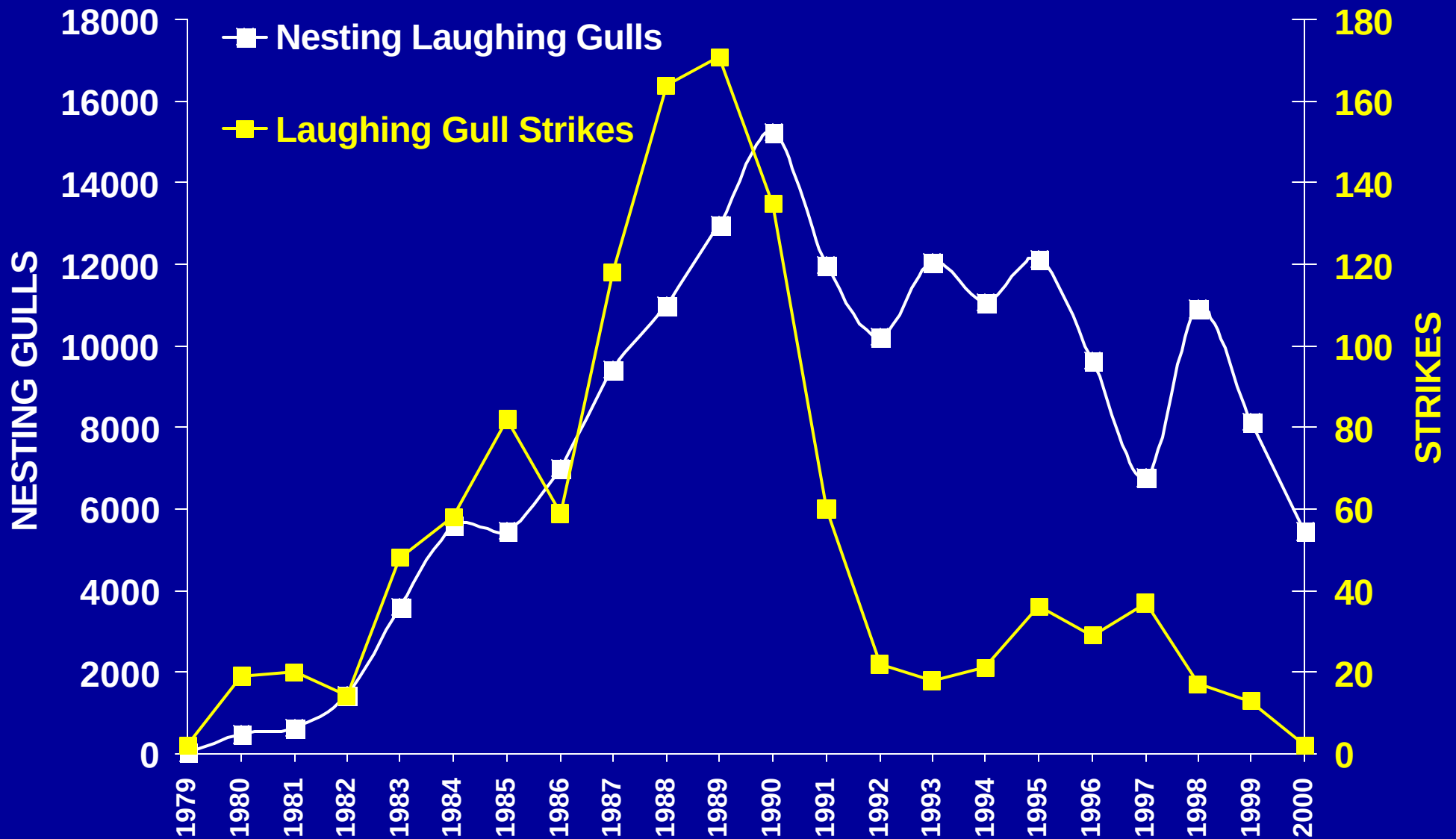
Number of Strikes Involving “Year-round” Gulls (HERG, GBBG, RBGU) JFK International Airport, New York, 1979-2000



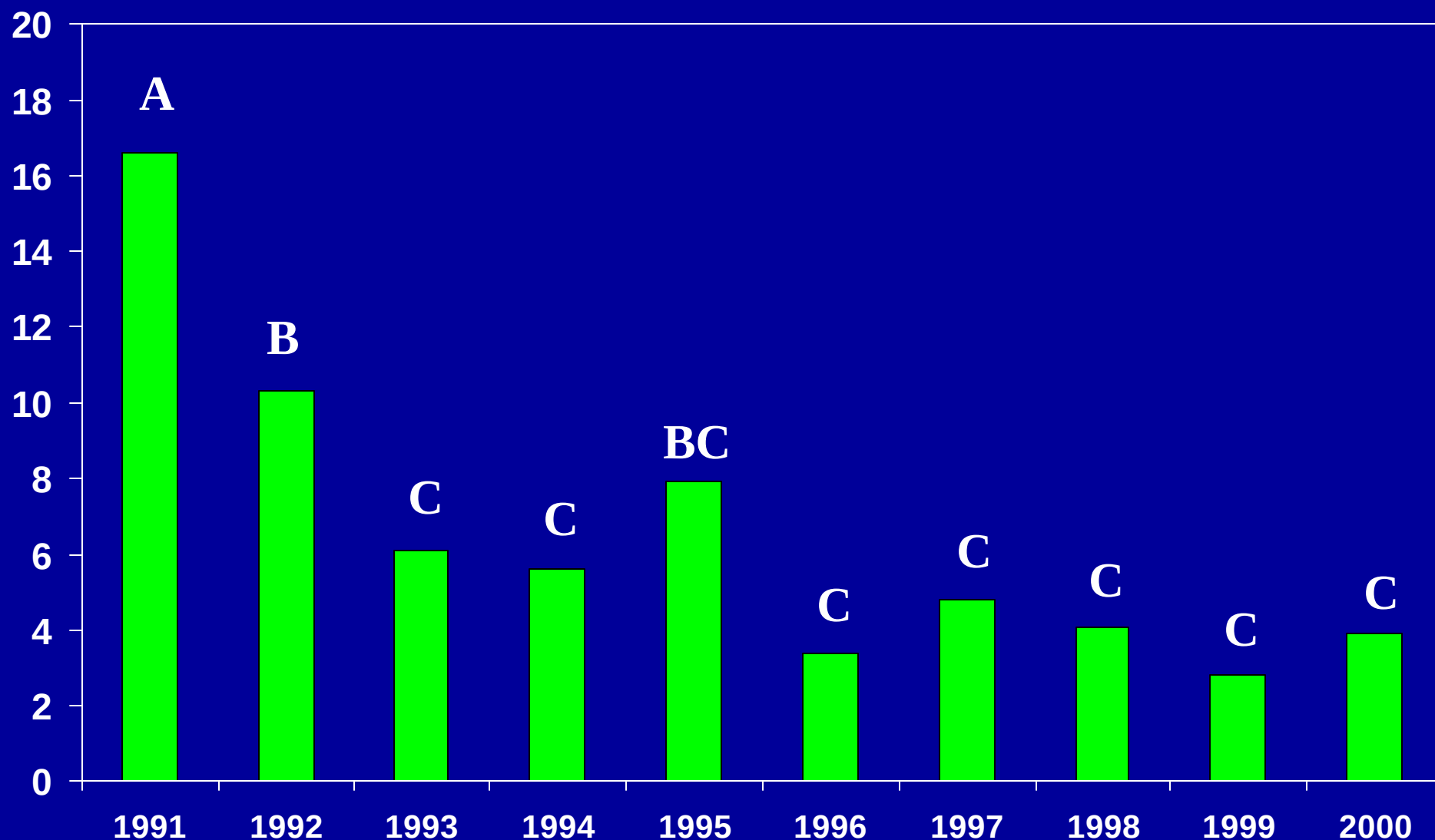
Number of Strikes Involving Gulls (All Species) at JFK International Airport, New York, 1979-2000



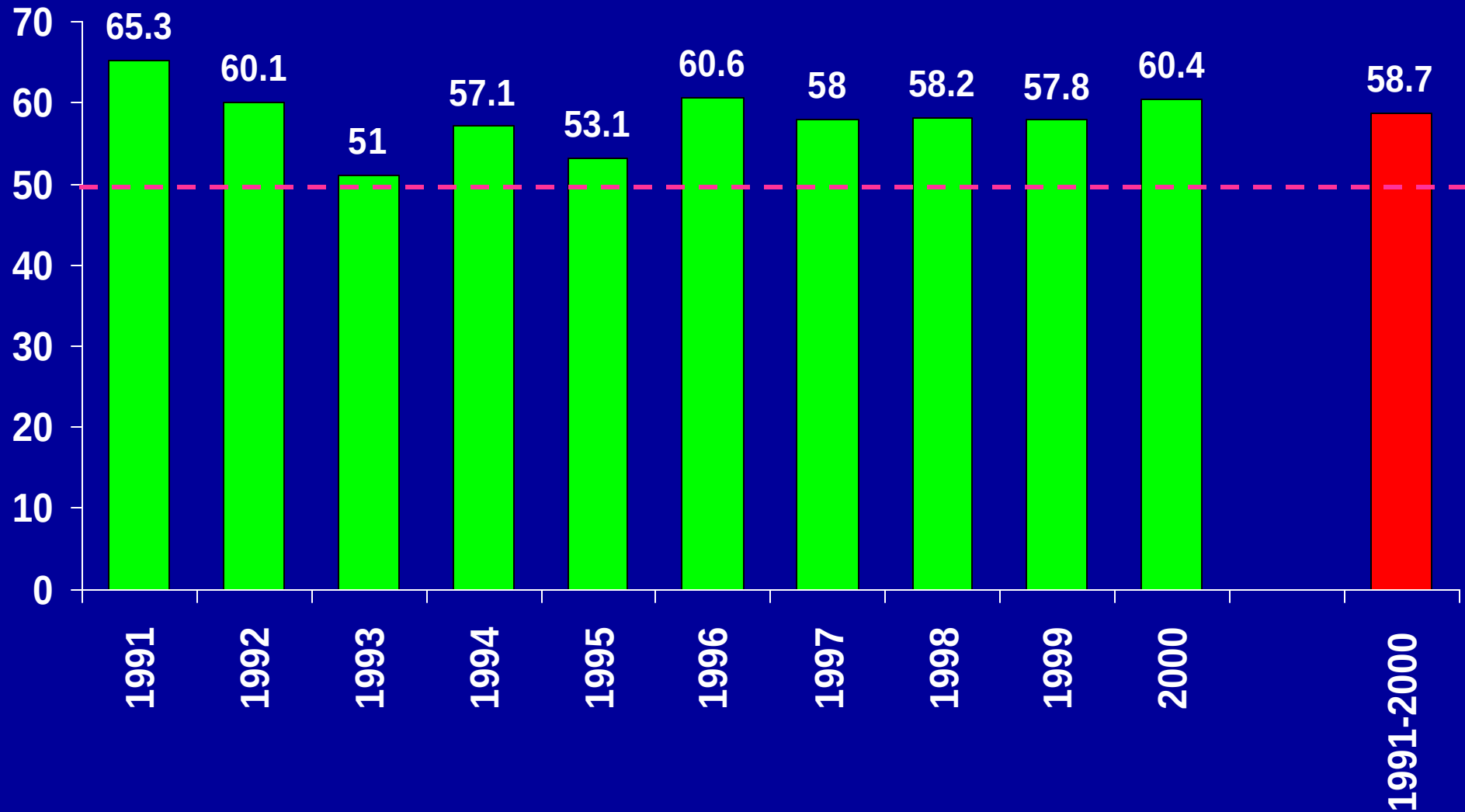
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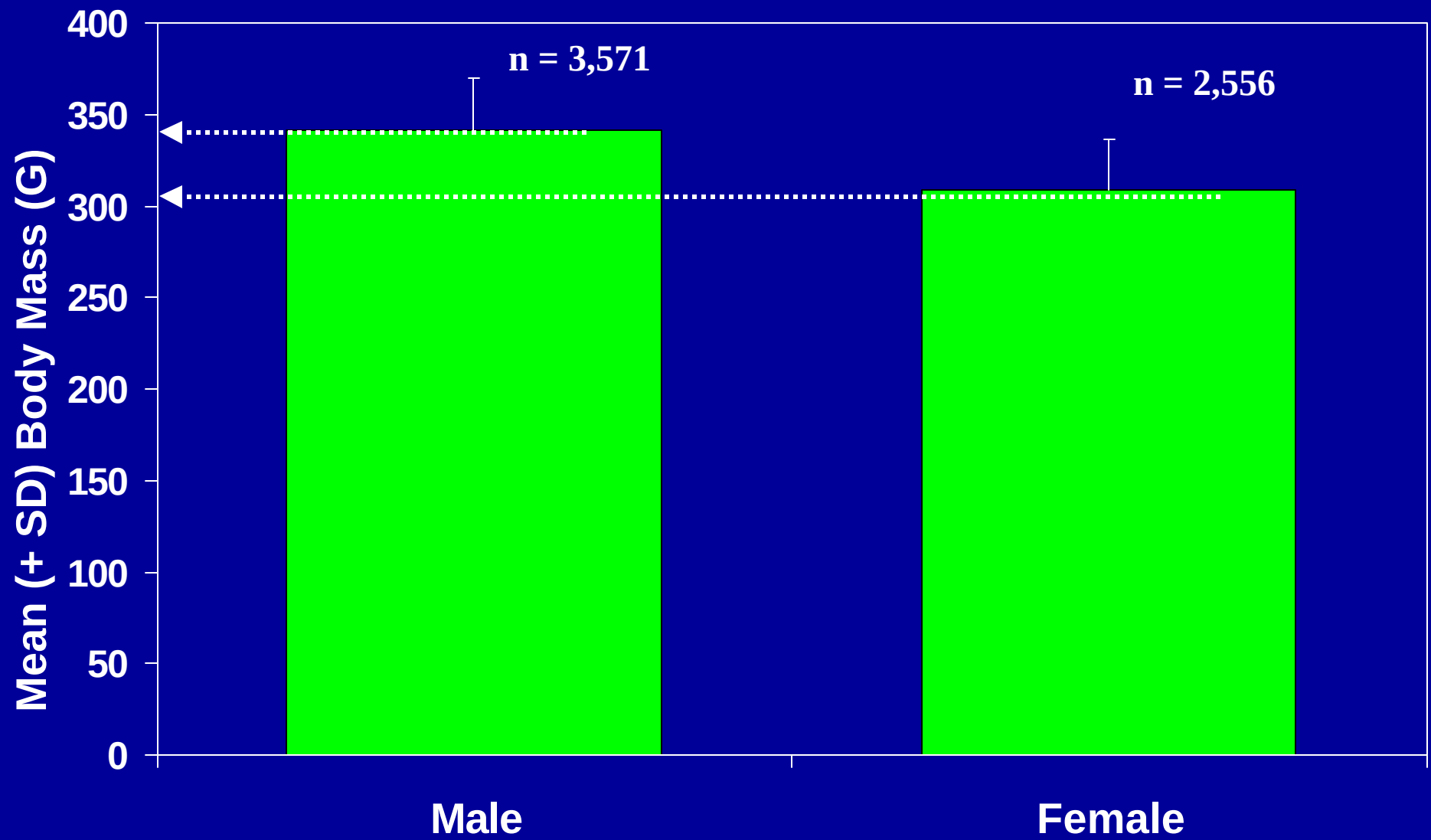
Number of Gulls Shot per Person-hour at JFK International Airport, New York, May-Aug 1991-2000



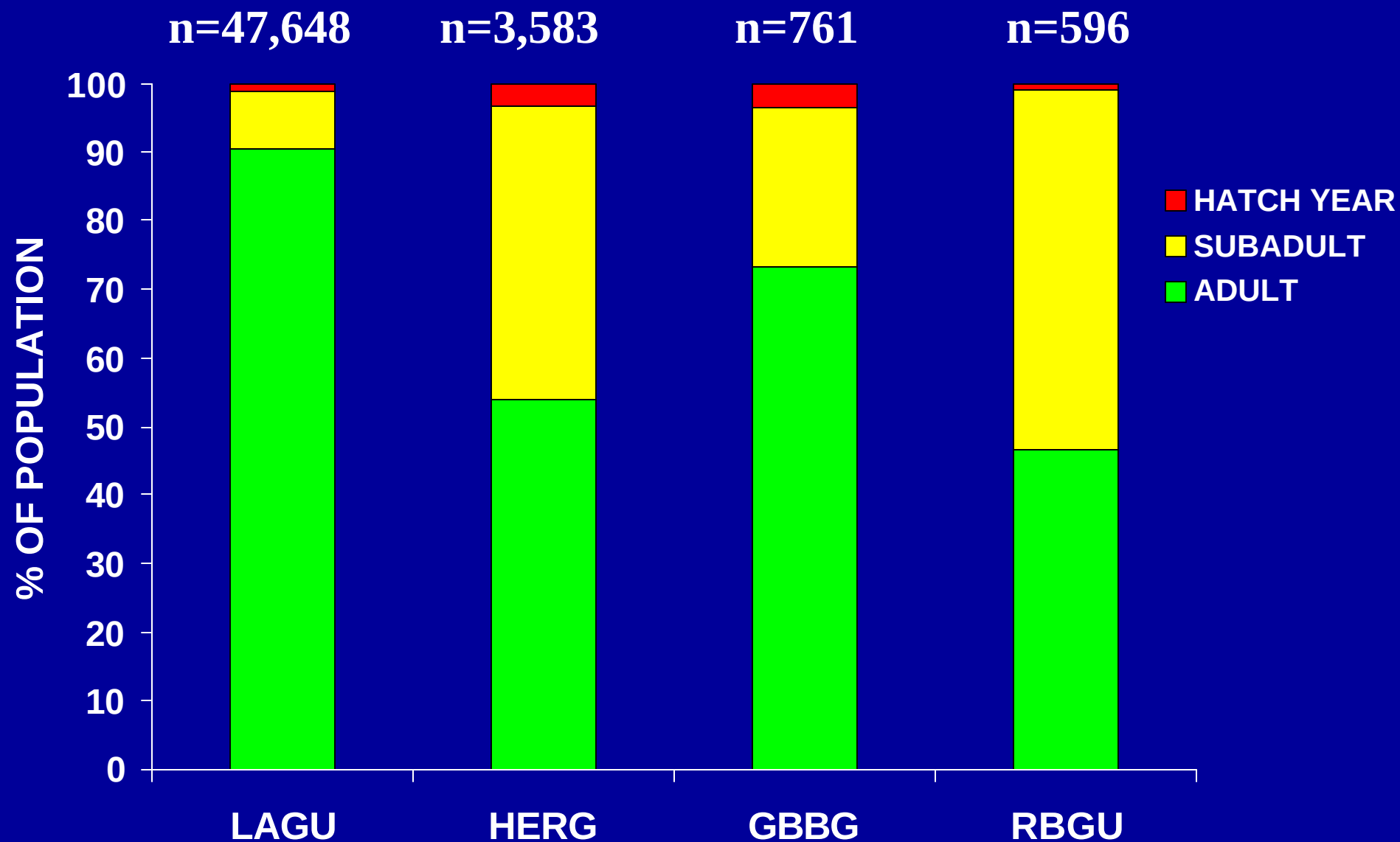
Percent of Males in Sample (n = 6,543) of Adult Laughing Gulls Shot at JFK International Airport, New York, 1991-2000

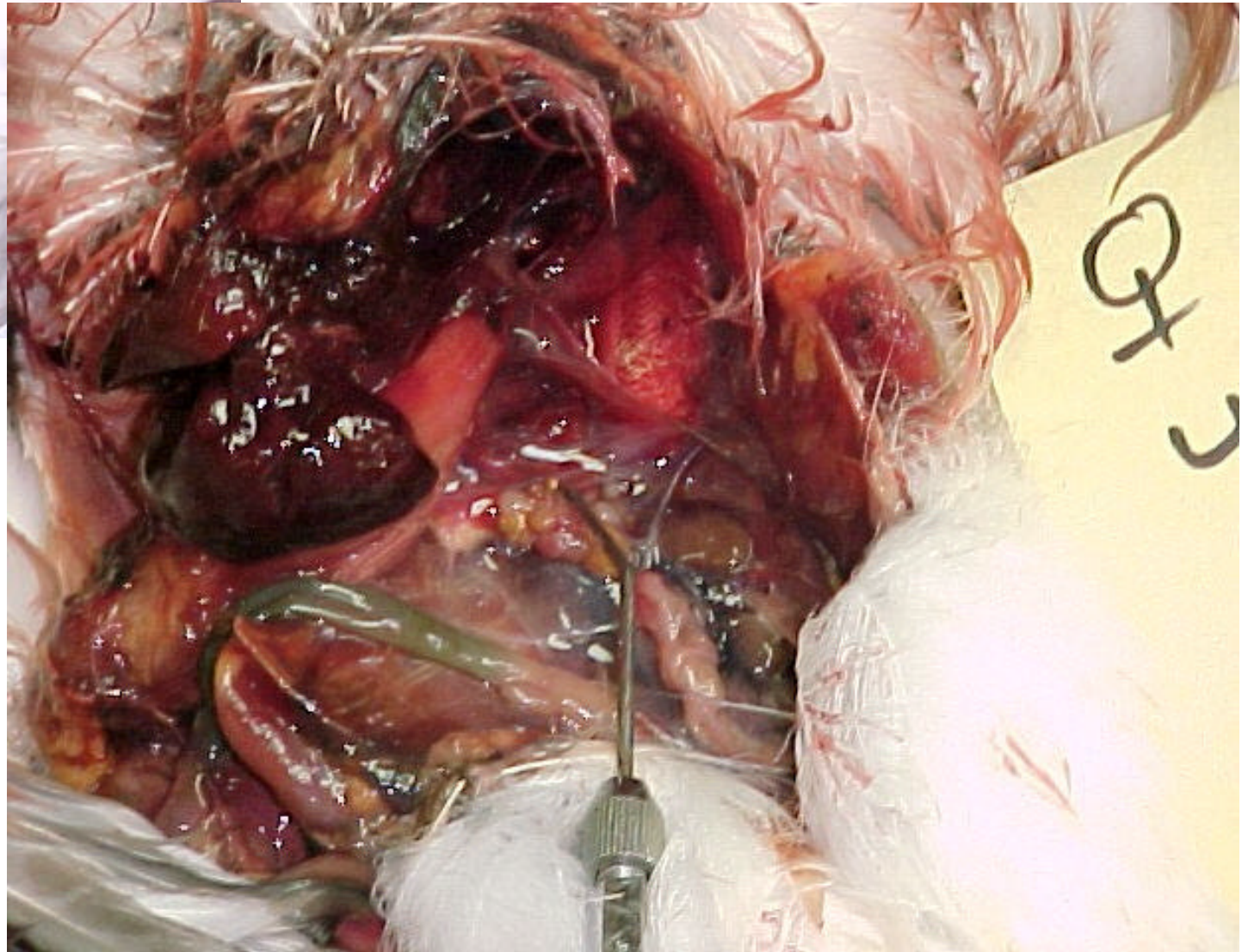


Mean Body Mass of Adult Laughing Gulls Shot at JFK International Airport, New York, 1991-2000



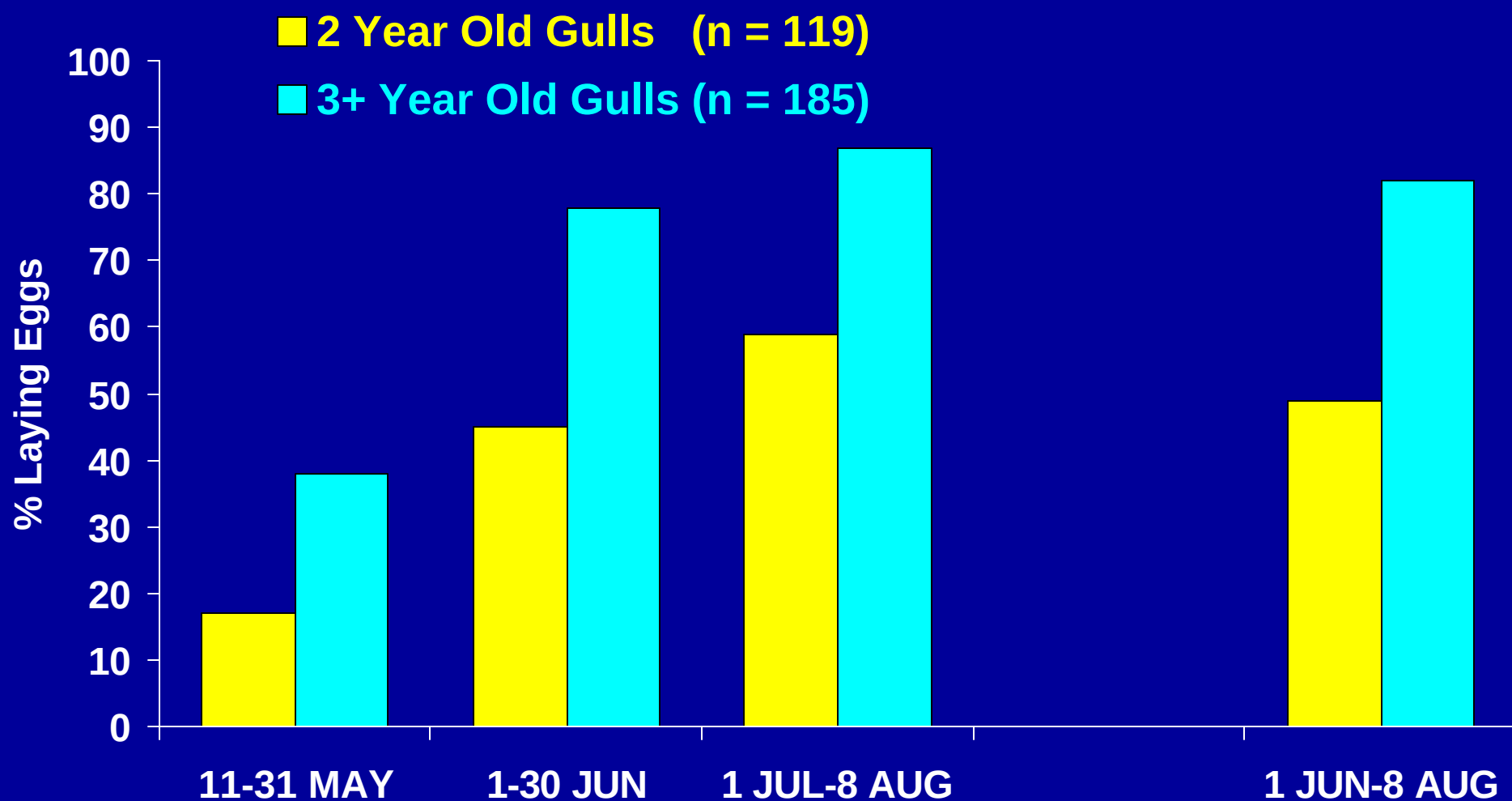
AGE COMPOSITION OF GULLS SHOT AT JFK INTERNATIONAL AIRPORT, NY, 1991-2000





Female Laughing Gulls Shot at JFK International Airport, NY, 2000

Percent Showing Evidence of Laying Eggs



Shotgun-toting feds killing sea gulls at JFK Airport

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Shutting down 8 stores in 17 cities across the country.



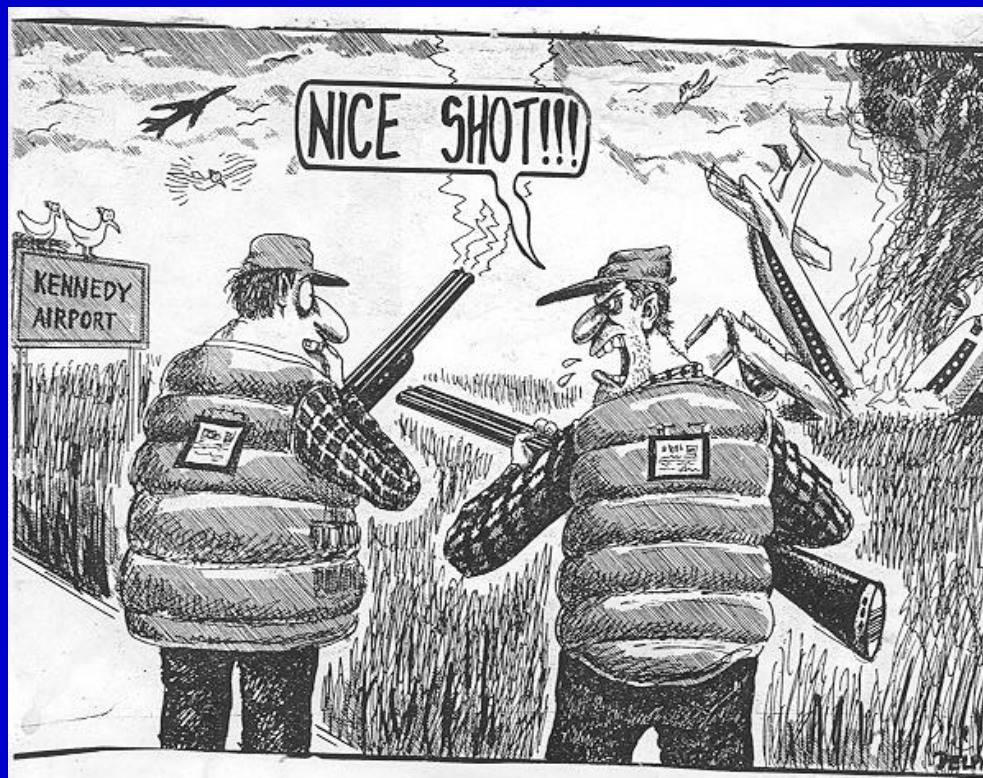
LEONA'S STILL QUEEN

Winning her third crown from London.



TOUGH TRIP FOR DINKINS

Mayor Dinkins' trip to the South is a tough one.



Dolbeer's Four Cardinal Rules for Lethal Control



1 Accurately document the numbers taken by species;



2 Document the impact that the removal has on local and regional populations;



3 Document that the animals taken are indeed the ones causing the damage and that their removal reduces the conflict;



4 Inflict minimal "suffering" on the removed animals.

In addition to the USDA Shooting Program, the Port Authority of New York and New Jersey has undertaken numerous other actions in the 1990s to reduce bird strike hazards. These actions include:

Hiring of full-time professional wildlife biologist (1995).

Improved training and equipment for bird patrol personnel.

Closure of landfills near JFK (1985, 1990) and improved coverage of food waste at airport.

Improved drainage to remove standing water.

Improved vegetation management (mowing grass 6-10 inches; 1999).

Implemented Falconry Program (1996).

Nest and egg destruction for Canada geese (1995).

The Metro Section

The New York Times

MONDAY, SEPTEMBER 15, 1997



Thomas Cullen deploying Morefar, a peregrine falcon on her first mission to frighten birds from Kennedy Airport jets.

When Birds of Man and Nature Meet

Falcons Keep Geese and Gulls From Colliding With Jets

By ANDREW C. REVKIN

As a Boeing 747 thundered to a landing at Kennedy International Airport, two silver Chevy Blazers raced down a road paralleling the runway, patrolling for intruders.

the engines of airliners.

The birds of prey, trained for hunting ducks and small game, are used to frighten, not kill, with flung pigeon breasts — bought from a Queens poultry supplier — acting as a lure. “Just the sight of an

tional Park Service scientists.

In 1989, an international panel of biologists recommended relocating the gull colony. But the Park Service — saying its mission is to nurture, not repel, birds — has insisted on conducting more research

In 1996, JFK implemented a falconry program to compliment the shooting program as part of an integrated approach to reducing bird strikes at the airport.

CITY

At the Airport, Where the Birds of Man and Nature Collide

Continued From Page B1

control unit of the United States Department of Agriculture has been shooting thousands of those gulls every summer.

So far, the falconry program appears to be working. Last year — the first year falconry was tried — there was a 61 percent decline in the number of birds striking airplanes while falcon flights were under way, compared with the same period in 1995, according to the Port Authority of New York and New Jersey. The num-

ber of gulls shot fell to 2,200 from 6,700 between 1995 and 1996. This year, the Port Authority approved a \$228,000 contract for the falconers. Airport officials say they expect that falcons will become a fixture, as permanent as the bristling radars and 30-story control tower.

"It's worth spending a little to save major costs from damage to aircraft and, God forbid, loss of life and limb," said Alfred J. Graser, the Port Authority general manager for airport operations and security.

Although it might seem inconsequential to have a one-pound gull or

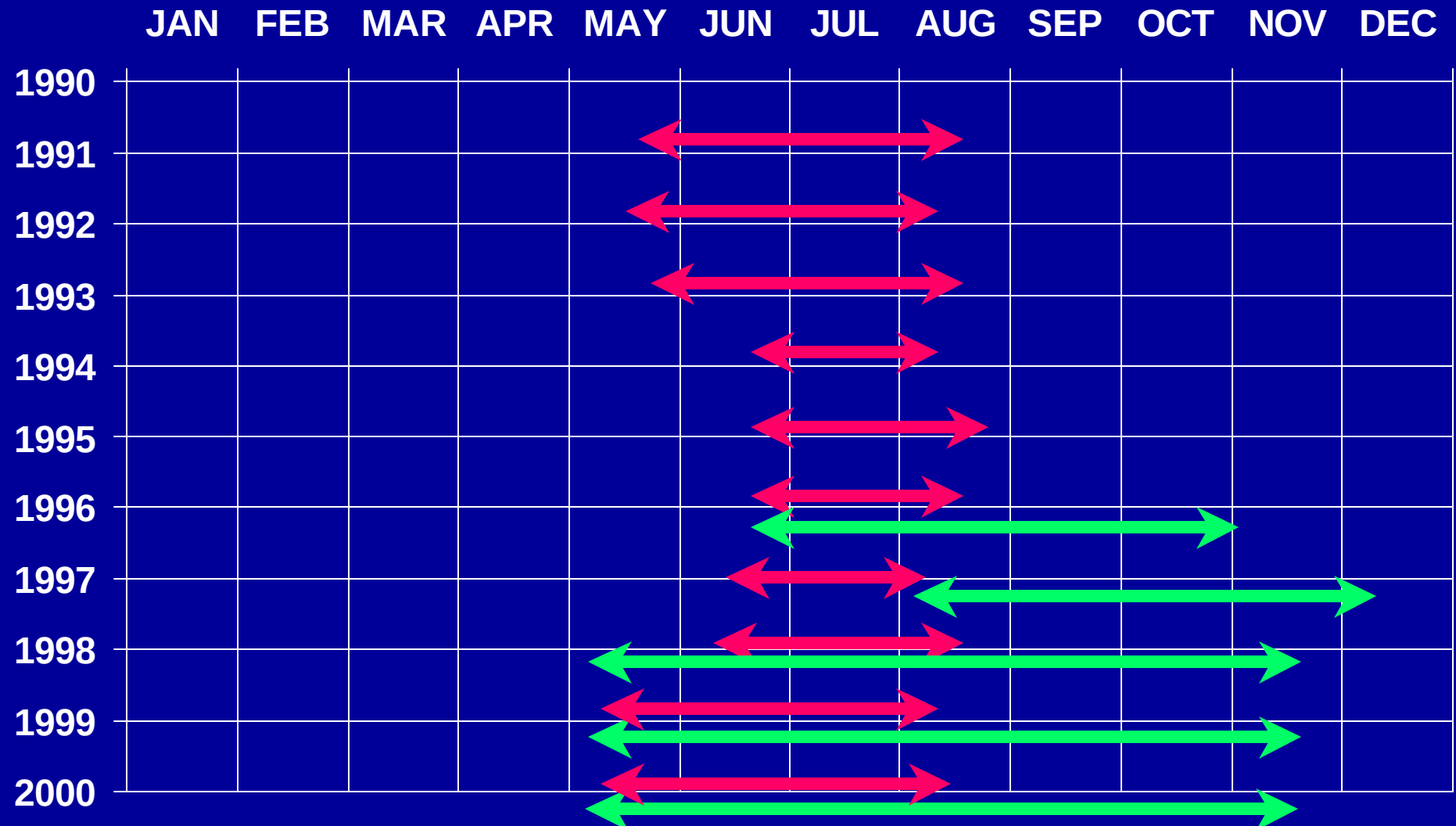
four-pound goose strike a 340,000-pound 747 or other aircraft, such collisions can have deadly consequences. Nationwide in an average year, there are 2,200 reports of birds striking civilian aircraft, said Richard A. Dolbeer, who directs an animal damage control unit at the Department of Agriculture. And in a recent analysis, Todd Curtis, an independent aviation safety consultant in Washington State, calculated that there is a 25 percent chance of a deadly collision between bird and airliner in the next 10 years.

The Federal Aviation Administra-

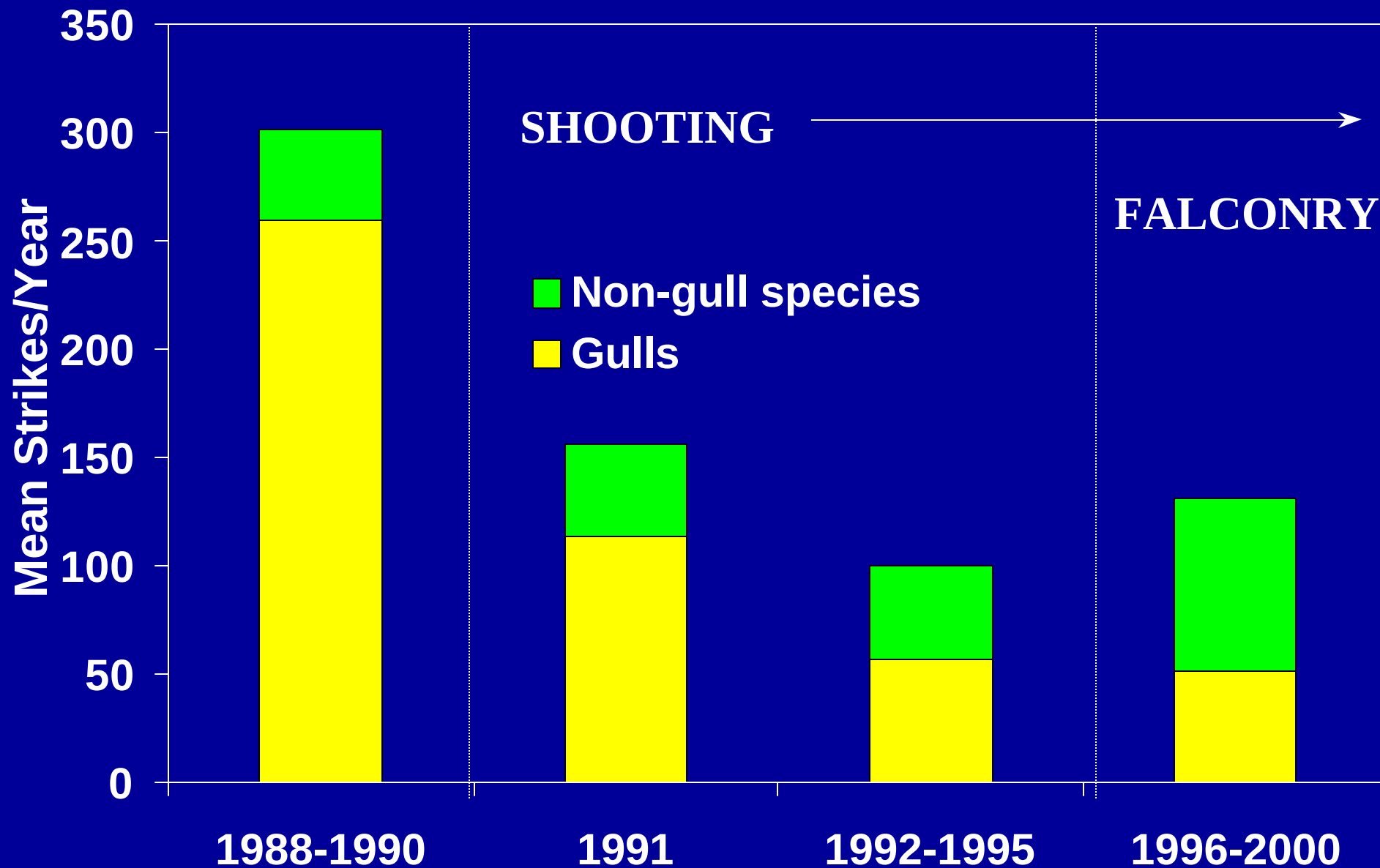
The laughing gull scoffs at the jet but fears the falcon.

tion has estimated that the bill for damage to civilian and military aircraft from collisions with birds is more than \$400 million a year in the United States alone. The situation is no better abroad. The Israeli Air Force has lost more planes to birds

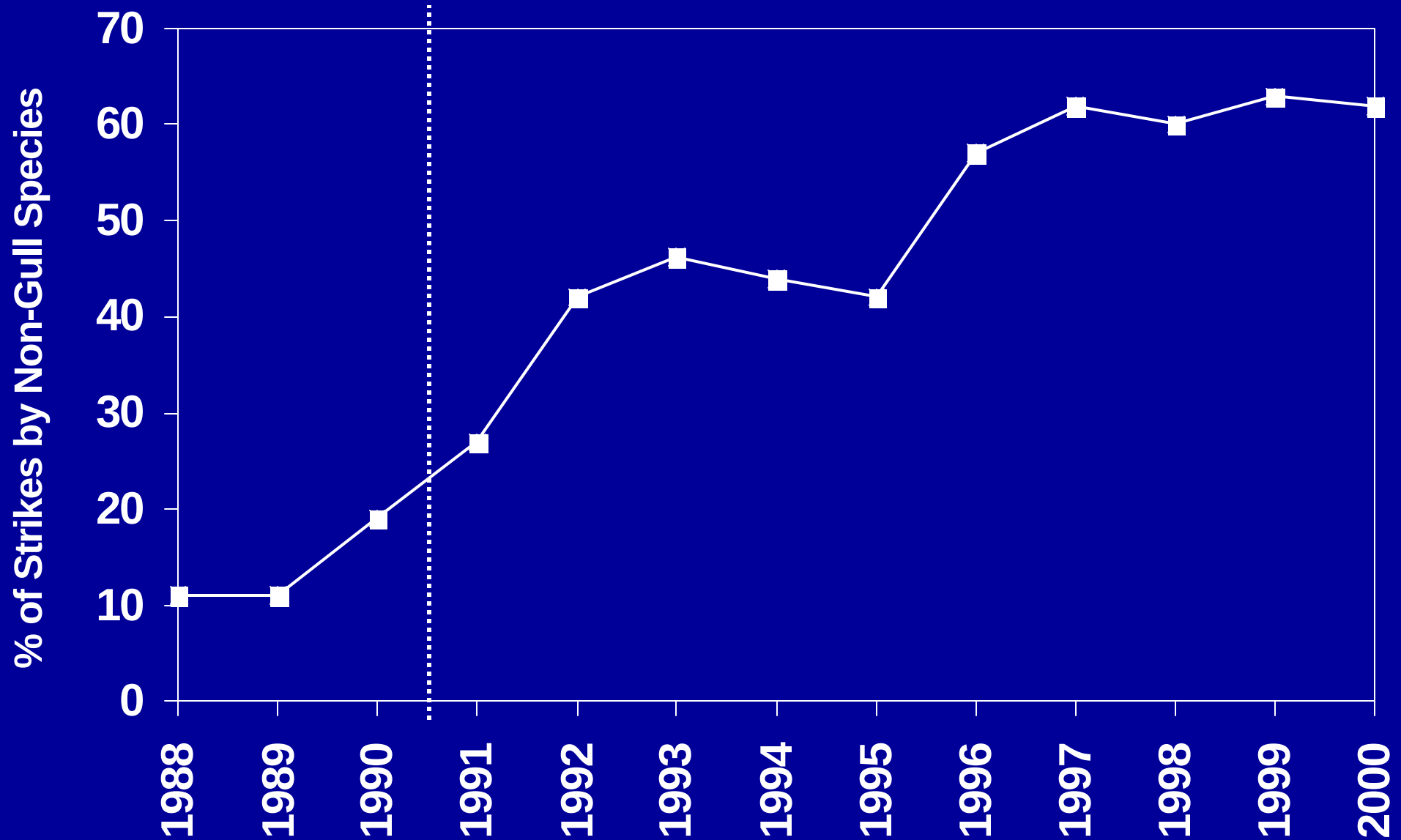
TIMING OF SHOOTING AND FALCONRY AT JFK, 1990-2000



Mean Bird Strikes/Year Involving Non-Gull Species and Gull Species at JFK International Airport, New York, 1988-2000



Percent of Strikes Involving Non-Gull Species at JFK International Airport, New York, 1988-2000



CONCLUSIONS (PART 1)

GOOD NEWS: SHOOTING DRAMATICALLY REDUCED STRIKES BY GULLS, 1991-2000

BAD NEWS: SHOOTING 63,000 GULLS GENERATED NEGATIVE PUBLICITY FOR JFK

GOOD NEWS: FALCONRY GENERATED MUCH POSITIVE PUBLICITY FOR JFK, 1996-2000

BAD NEWS: FALCONRY DID NOT APPEAR TO REDUCE STRIKES BY GULLS OR OTHER BIRDS

MORE RESEARCH NEEDED TO DEFINE FALCONRY'S ROLE ON AIRPORTS.

BIRD MANAGEMENT ON AIRPORTS MUST USE AN INTEGRATED APPROACH AND INCLUDE ALL HAZARDOUS SPECIES, NOT JUST GULLS OR OTHER CONSPICUOUS SPECIES.

CONCLUSIONS (PART 2)

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY HAS A DIFFICULT CHALLENGE BECAUSE JFK IS LOCATED NEXT TO THE “BIRD-RICH” ENVIRONMENT OF JAMAICA BAY.

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY SHOULD BE COMMENDED FOR IMPLEMENTING AN INTEGRATED, INNOVATIVE AND ADAPTIVE APPROACH TO REDUCING BIRD-AIRCRAFT COLLISIONS.

ALTHOUGH AIRPORTS SHOULD EMPHASIZE HABITAT MANAGEMENT TO REDUCING BIRD STRIKES, SOME LETHAL CONTROL IS USUALLY NECESSARY IN AN INTEGRATED MANAGEMENT PROGRAM.

LETHAL CONTROL MUST BE CARRIED OUT IN A RESPONSIBLE, WELL-DOCUMENTED MANNER BY TRAINED PERSONNEL.

OUR GOAL:

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

THANK YOU