



We are
Airports

AVIATION SAFETY IN A CHANGING WORLD

**WORLD BIRDSTRIKE ASSOCIATION
VIRTUAL WEBINAR
MARCH 7TH- 8TH, 2022**

John R Weller
BSC USA Past Chair
FAA National Wildlife Biologist



FAA
Office of Airports



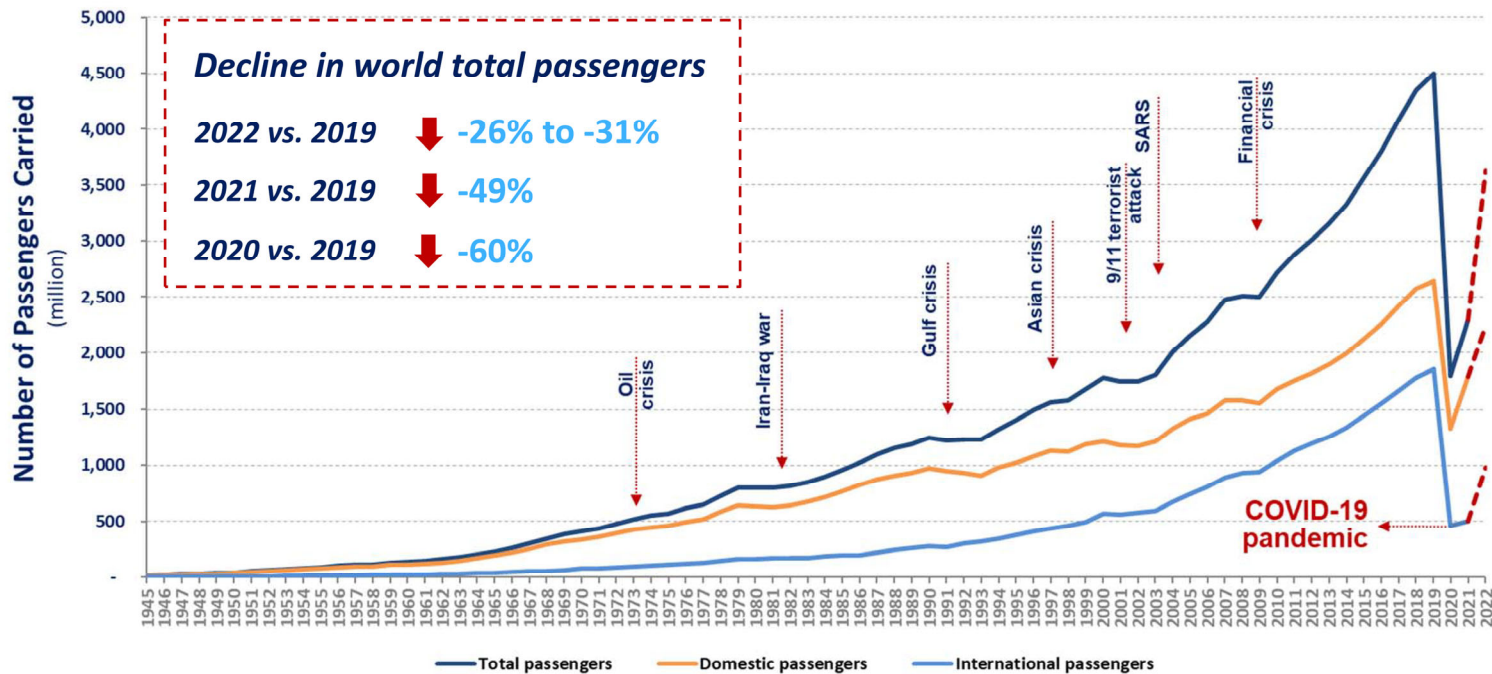
COVID-19 TRAVEL IMPACT WORLDWIDE



ICAO UNITING AVIATION

World passenger traffic collapses with unprecedented decline in history

World passenger traffic evolution 1945 – 2022



Source: ICAO Air Transport Reporting Form A and A-S plus ICAO estimates.



FAA
Office of Airports

COVID-19 ECONOMIC IMPACT WORLDWIDE



ICAO | UNITING AVIATION

**Year 2020/2021 results:
World total passenger traffic**

The COVID-19 impact on world scheduled passenger traffic for year **2020** (estimated actual results), compared to 2019 levels:

- Overall reduction of **50% of seats offered by airlines**
- Overall reduction of **2,703 million passengers (-60%)**
- Approx. **USD 372 billion loss** of gross passenger operating revenues of airlines

The COVID-19 impact on world scheduled passenger traffic for year **2021** (preliminary estimates), compared to 2019 levels:

- Overall reduction of **40% of seats offered by airlines**
- Overall reduction of **2,203 million passengers (-49%)**
- Approx. **USD 324 billion loss** of gross passenger operating revenues of airlines

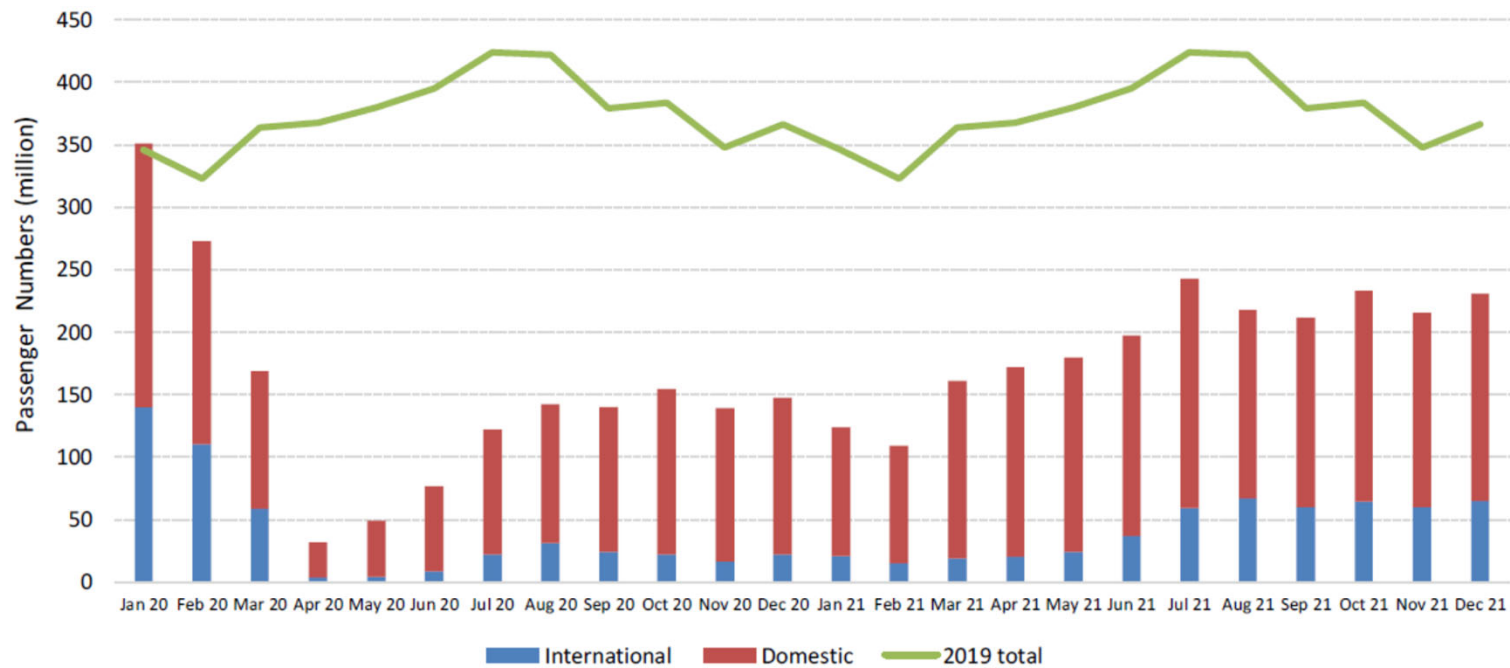
COVID-19 IMPACT: DOMESTIC VS INTERNATIONAL TRAVEL



ICAO | UNITING AVIATION

Moderate recovery in domestic travel while international travel remained stagnant

Monthly passenger numbers in 2020-21 vs. 2019

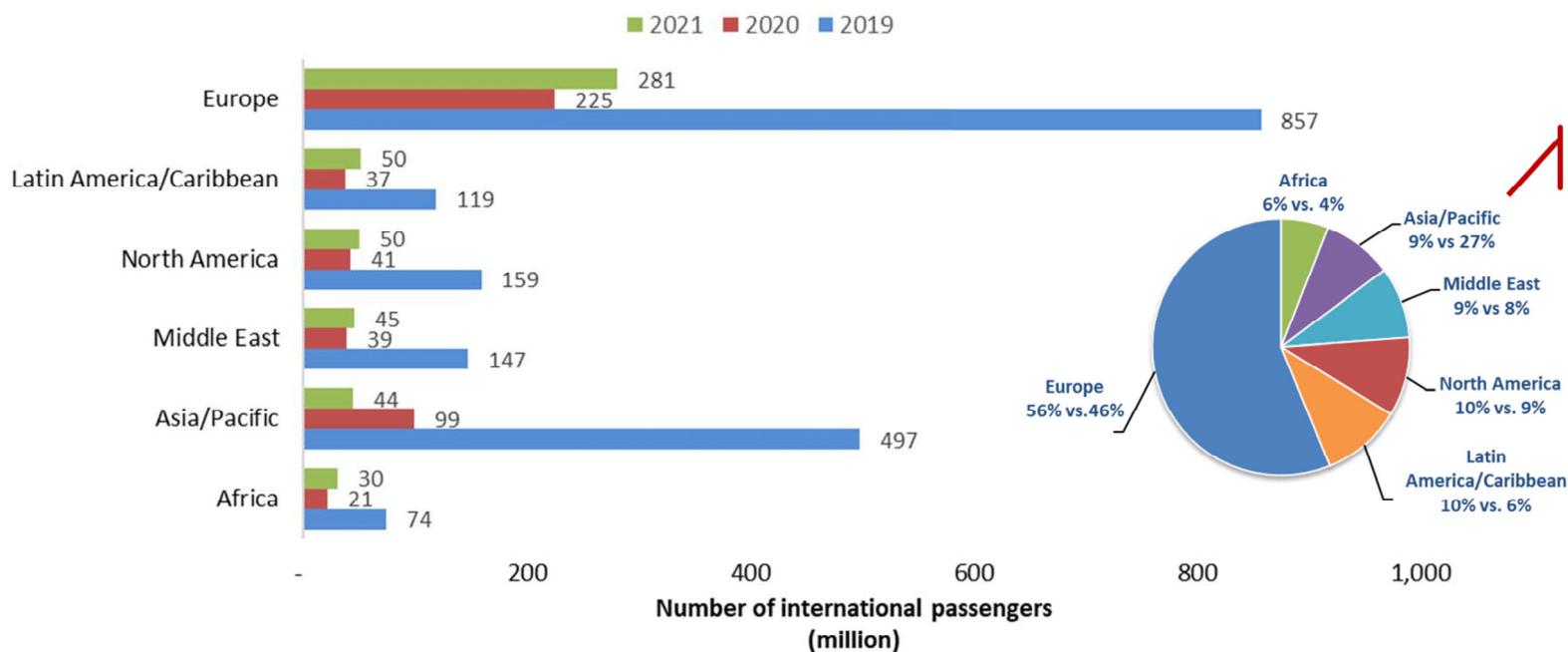


FAA
Office of Airports



Europe accounted for over half of the world international traffic in 2021

Number of international passengers by region (2019-2020-2021, based on from/to State)



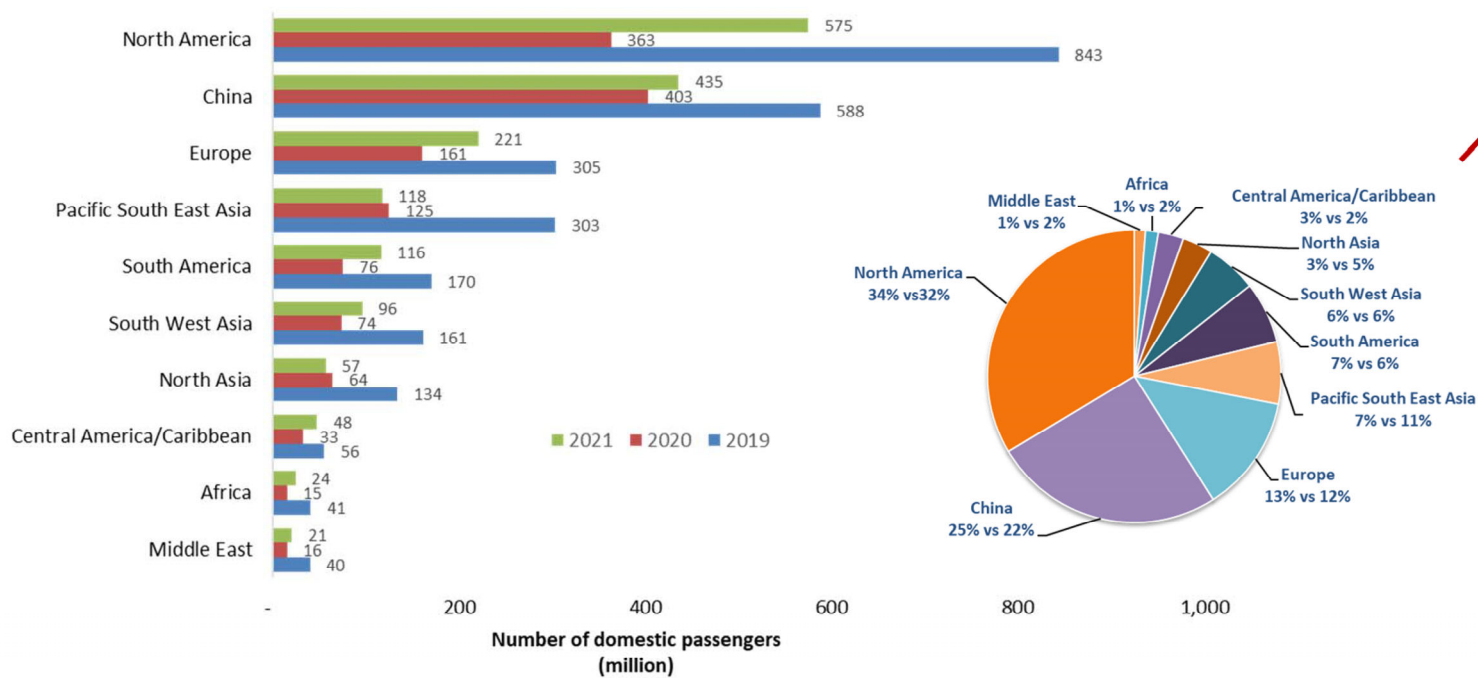
Source: ICAO long-term traffic forecasts, ADS-B and estimates





North America overtook China with over 30% share of world domestic passengers in 2021

Number of domestic passengers by Route Group (2019-2020-2021)



Share 2021 vs. 2019





Year 2022 outlook: International and domestic passenger traffic

The COVID-19 impact on world scheduled passenger traffic for year 2022 (estimated actual results), compared to 2019 levels:

- Overall reduction of **20% to 23% of seats offered by airlines**
- Overall reduction of **1,157 to 1,393 million passengers (-26% to -31%)**
- Approx. **USD 186 to 217 billion loss** of gross passenger operating revenues of airlines

International passenger traffic (2022, vs. 2019)

- Overall reduction of **35% to 39% of seats offered by airlines**
- Overall reduction of **791 to 898 million passengers (-43% to -48%)**
- Approx. **USD 156 to 175 billion loss** of gross operating revenues of airlines

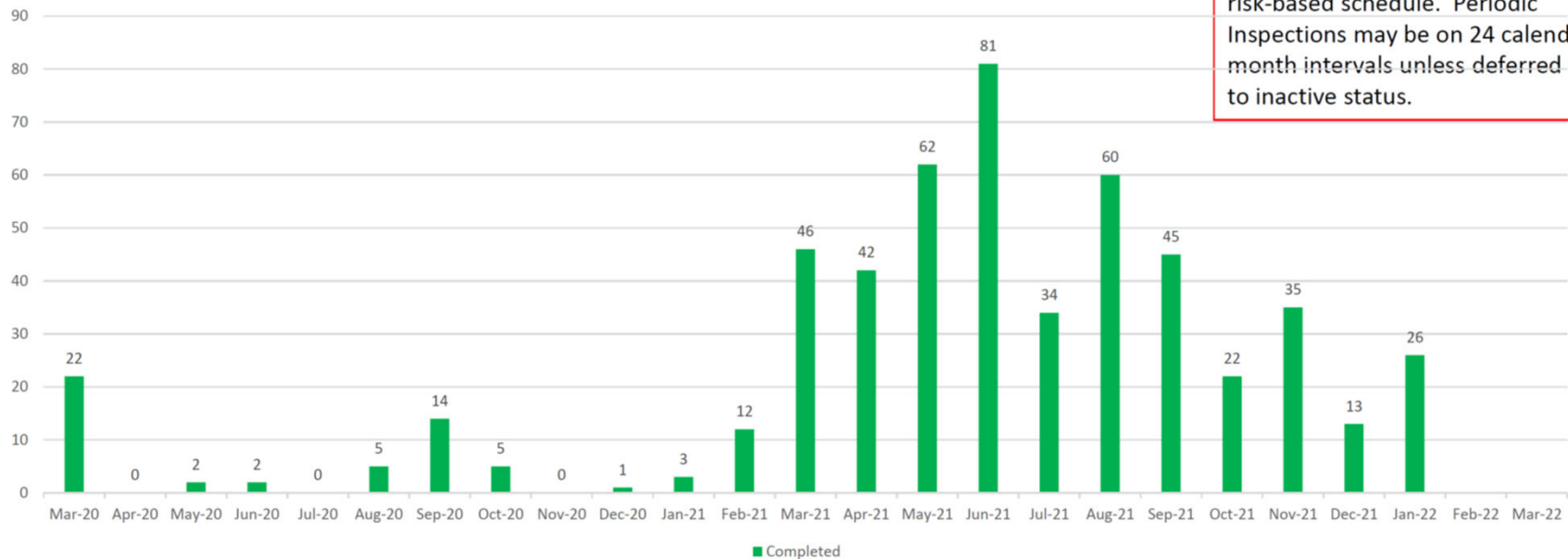
Domestic passenger traffic (2022, vs. 2019)

- Overall reduction of **9% to 11% of seats offered by airlines**
- Overall reduction of **366 to 495 million passengers (-14% to -19%)**
- Approx. **USD 31 to 42 billion loss** of gross operating revenues of airlines

FAA Airport Certification Inspections

Completed Periodic Inspections by Region (March 2020 through March 2022)

Note: Inspections are IAW PG #110. Inspection schedules follow a defined risk-based schedule. Periodic Inspections may be on 24 calendar month intervals unless deferred due to inactive status.



Note: National Emergency for COVID declared on March 13, 2020

Nationally - 532 Inspections Conducted

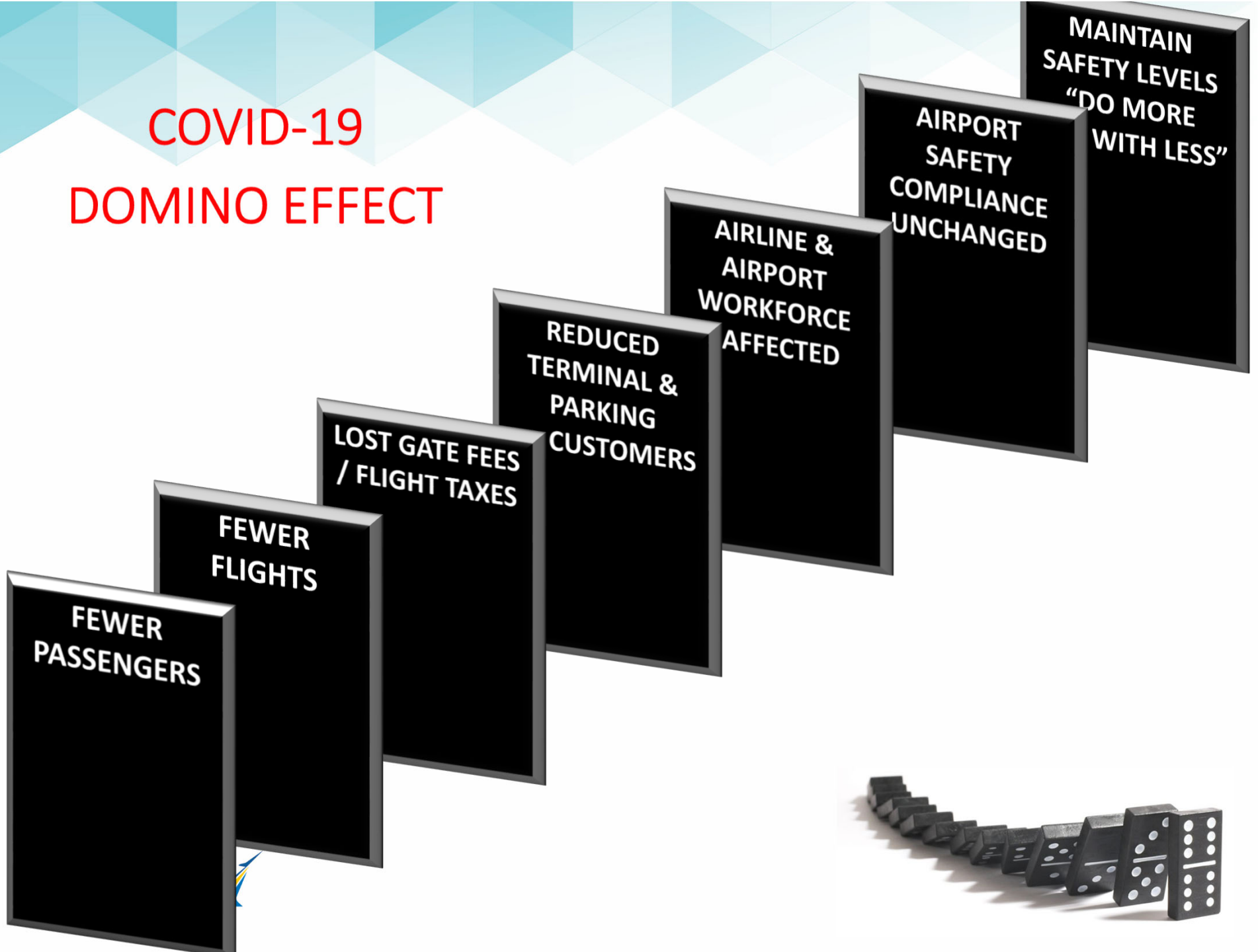
Data Current as of 31 January 2022⁴



FAA
Office of Airports

COVID-19

DOMINO EFFECT



FEWER PASSENGERS

FEWER FLIGHTS

LOST GATE FEES / FLIGHT TAXES

REDUCED TERMINAL & PARKING CUSTOMERS

AIRLINE & AIRPORT WORKFORCE AFFECTED

AIRPORT SAFETY COMPLIANCE UNCHANGED

MAINTAIN SAFETY LEVELS "DO MORE WITH LESS"



ASSESS

Wildlife Hazard
Assessment, Site Visit,
Continual Monitoring

PLAN

Wildlife Hazard Mgt Plan
(Responsibilities, Habitat /
Wildlife Mitigation &
Monitoring,
Communication, Training,
Resources, etc.)

MODIFY

Prioritization of
Resources, Funding &
Personnel

Wildlife Hazards to Aviation

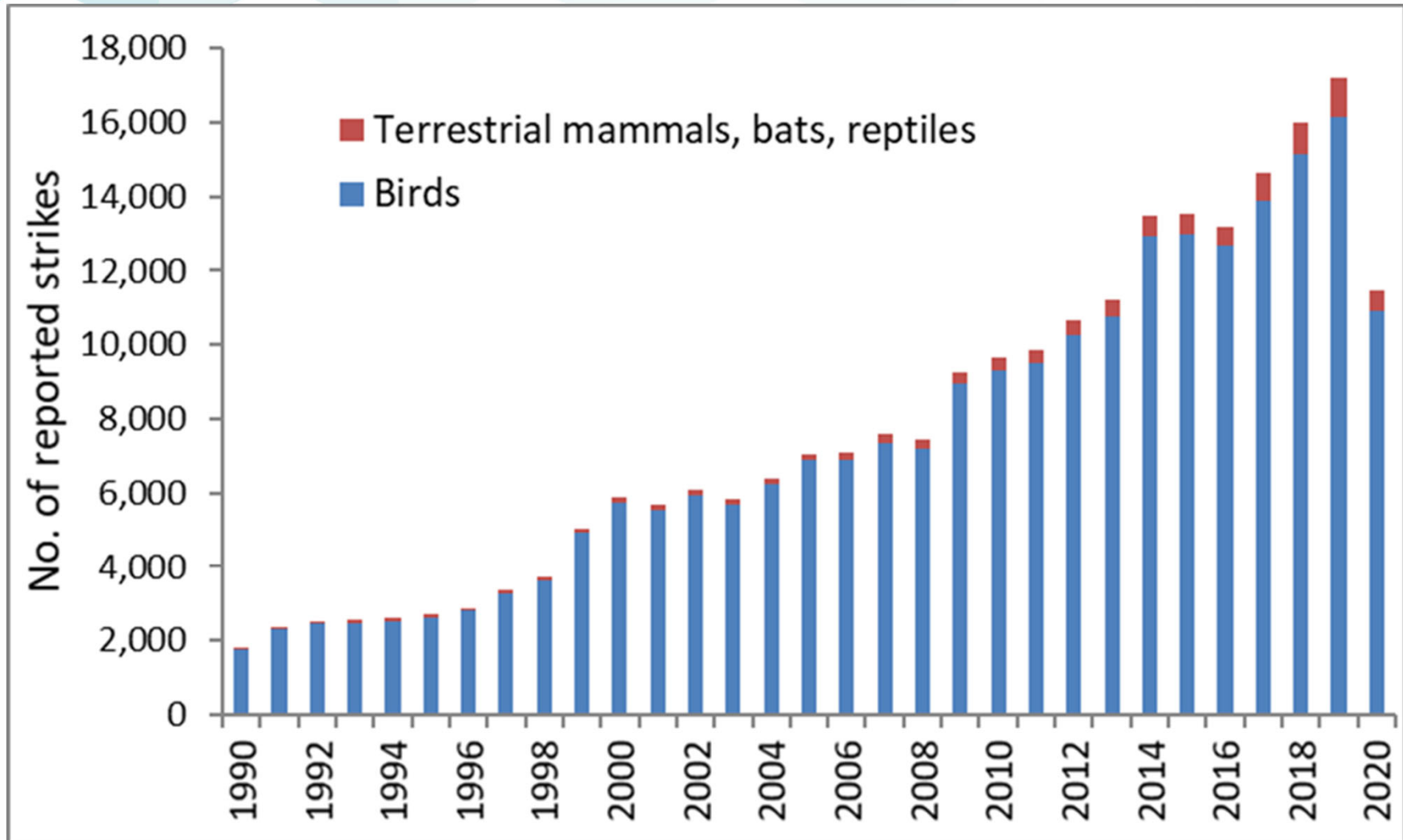
EVALUATE

Data Collection, Data
Analysis, Trends, Gaps,
Metrics, KPI's, Wildlife
Hazard Working Groups,
"Compliance vs
Excellence"

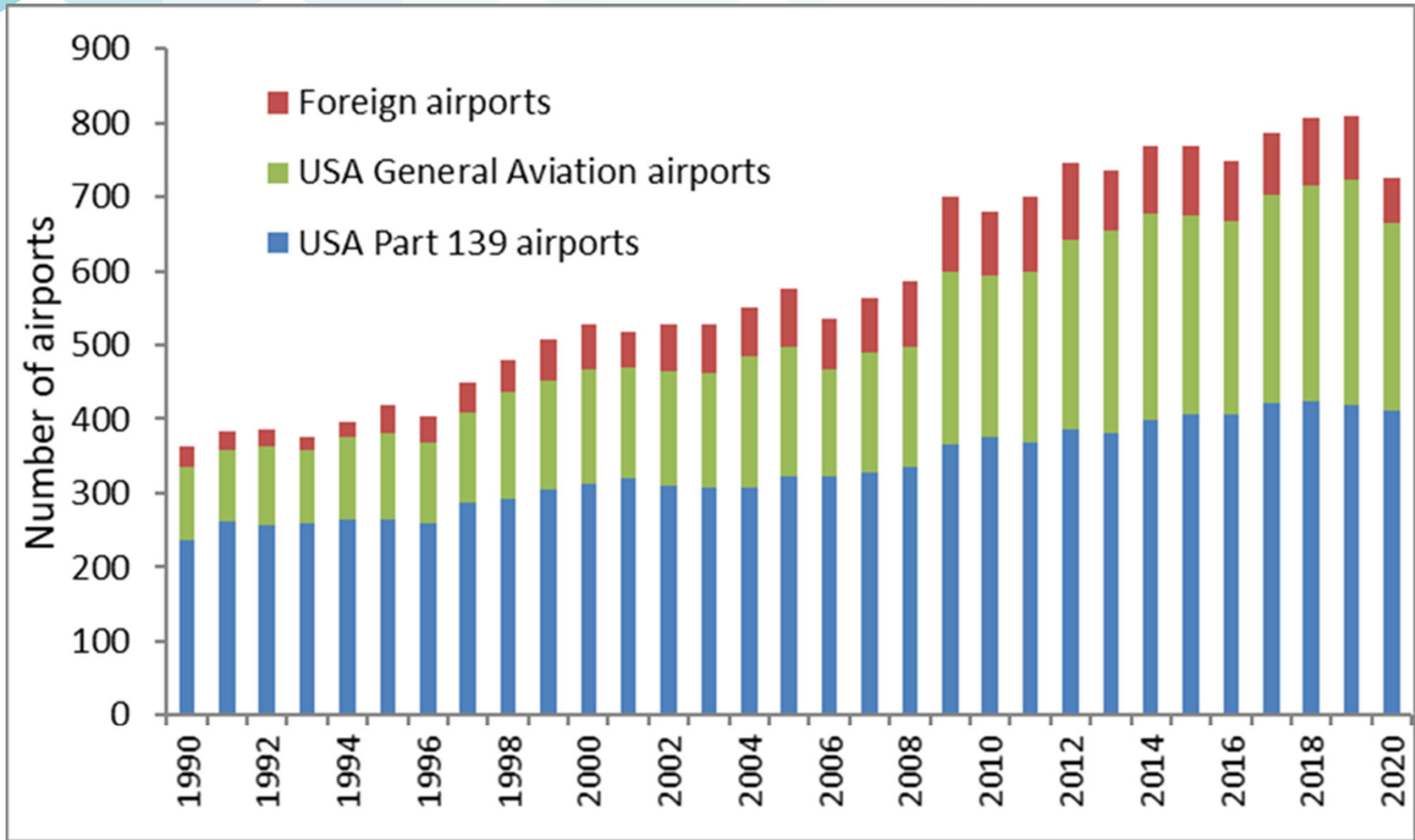
MITIGATE

Proactive (modify and
exclude) and Reactive
(Harass / disperse &
nonlethal / lethal removal)

Strikes Reported to Civil Aircraft, USA: 1990 - 2020



Strikes Reported to Civil Aircraft, USA: 1990 - 2020



COVID-19 Impacts to Wildlife Mitigation and Strike Reporting



Comparing March – December 2020 to March – December 2019, Covid-19 resulted in a 72% reduction in passenger travel, a 28% reduction in aircraft movements, and a 33% reduction in reported wildlife strikes. Regardless, the strike rate (strikes/100,000 movements) declined by only 7%



Strike rates initially increased at a few airports in 2020 but decreased overall



Airports reporting strikes decreased from a record high 722 in 2019 to 665 in 2020 (412 Part 139-certificated airports and 253 general aviation airports)



Decreased revenues and illness from COVID-19 impacted airport workforce numbers, wildlife mitigation prioritization and mitigation strategies

ICAO Wildlife Guidance

2016



ICAO

International Standards
and Recommended Practices

Annex 14 to the Convention on International Civil Aviation

Aerodromes

Volume I
Aerodrome Design and Operations
Seventh Edition, July 2016



This edition supersedes, on 10 November 2016, all previous editions of Annex 14, Volume I.
For information regarding the applicability of the Standards and Recommended Practices, see Chapter 1, 1.2 and the Foreword.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

2020



ICAO

Doc 9981

PROCEDURES FOR AIR NAVIGATION SERVICES

Aerodromes

Third Edition, 2020



This edition supersedes, on 5 November 2020, all previous editions of Doc 9981.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

2020



ICAO

Doc 9137

Airport Services Manual

Part 3 — Wildlife Hazard Management
Fifth Edition, 2020



Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION

We are
Airports

ICAO IBIS Manual - 1989

Doc 9332-AN/909

MANUAL ON THE ICAO BIRD STRIKE INFORMATION SYSTEM (IBIS)

THIRD EDITION — 1989



Approved by the Secretary General and published under his authority

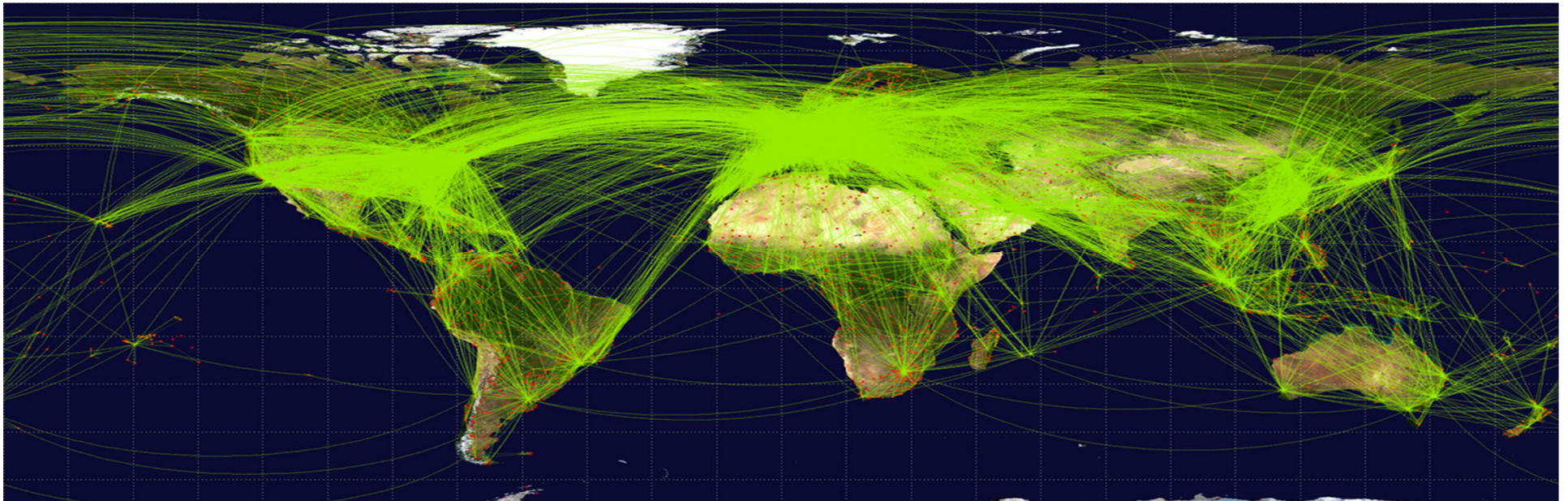
INTERNATIONAL CIVIL AVIATION ORGANIZATION

Table of Contents

	<i>Page</i>
Chapter 1 — Reporting	1
1.1 Printing and distribution of reporting forms	1
1.2 Reporting bird strike data	1
1.3 Additional questions	4
Chapter 2 — Analyses of Bird Strike Reports	5
2.1 State bird strike record print	5
2.2 World bird strike statistics	5
2.3 State bird strike statistics	15
2.4 Significant bird strike list	15
2.5 Special prints	15
2.6 Calculation by States of bird strike rates	17
Chapter 3 — Computer Storage of Bird Strike Reports	18
3.1 IBIS data sources	18
3.2 IBIS system description	18
3.3 Data file record description	18
3.4 Coding instructions	19
Appendix 1 — Codes for States, Territories and Oceans	A1-1
Appendix 2 — Codes for Aircraft by Manufacturer and Model	A2-1
Appendix 3 — Codes for Engines by Manufacturer and Model	A3-1
Appendix 4 — Codes for Birds	A4-1
Appendix 5 — Bird Master Record Format	A5-1

Update the IBIS Manual – Why?

- ✓ Ensure standardized strike definition
- ✓ Provide minimum standards for strike report forms
- ✓ New software systems available for recording / submitting strike data to ICAO
- ✓ ECCAIRS (aka: the European Coordination Centre for Accident and Incident Reporting system) is being updated
- ✓ ALL sections need to be fully updated / rewritten



Bird Strike Committee USA

**2022 BIRD STRIKE
COMMITTEE USA MEETING**
July 19-21 Salt Lake City, Utah



CALL FOR PRESENTATION PROPOSALS

Presentation proposals are now being accepted for the [2022 Bird Strike Committee USA Meeting](#). This year's conference theme is "Airport Wildlife Management During Unprecedented Times; the Challenge to Improvise, Adapt, and Overcome," and we are seeking proposals that cover the local, national, and international connection and consequences between wildlife hazards and aviation

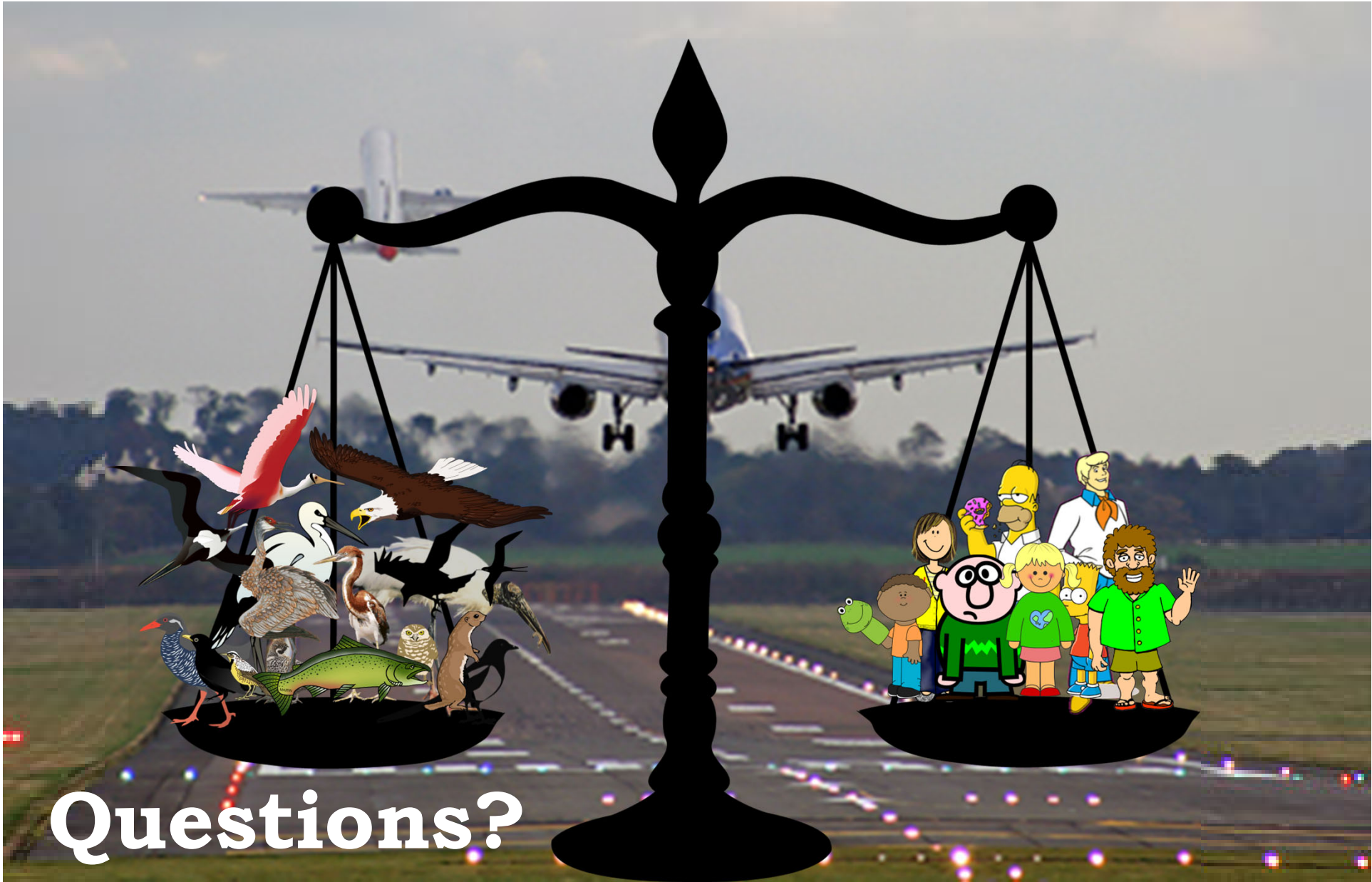
Submit your presentation proposals by Friday, May 27!

Bird Strike Committee USA



Bird Strike Organizations Worldwide

Bird Strike Committee USA Bird Strike Association of Canada Bird Strike Committee Italy
German Bird Strike Committee CARSAMPAF Australian Aviation Wildlife Hazard Group
UK Birdstrike Committee Aviation Ornithology Group Russia WBA



Questions?



FAA
Office of Airports