REGULATORY EVALUATION
an Approach for CAA’s to Assess the Effectiveness of Their Wildlife Programs

Shared Skies – WBA Conference
Bird / Wildlife Strike Prevention
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HOW DO YOU DETERMINE THE EFFECTIVENESS OF YOUR WILDLIFE PROGRAM?

- **REGULATORY COMPLIANCE**
  Regulatory compliance = probability of achieved goals and increased safety

- **MONITOR SAFETY DATA (broad, reactive)**
  Monitor hull losses, Fatalities

- **MONITOR TRENDS THROUGH DATA ANALYSIS / GAP ANALYSIS (specific, proactive)**
  Systematically evaluate strike data; Determine and Target data gaps and poor performance using metrics and KPI’s
Metrics are quantifiable measures used to gauge performance or progress (but can be qualitative).

Metrics use data from a live source (i.e., it's still updating with new information).

Select metrics that track procedures for increasing safety. Strike Data ratios and trends, Number of Airports with Wildlife Plans, Number of Airlines and Airports reporting strikes, etc.

All KPI's are metrics, but not all metrics are KPIs.

KPI's are KEY (vital signs focusing attention on what matters most).
“Give me six hours to chop down a tree and I will spend the first four sharpening the axe.”

Abraham Lincoln
"If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than 5 minutes."

- Albert Einstein
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Metric 1. Monitor ratio between damaging / non-damaging strikes

Metric 2. Monitor number damaging strikes per 100,000 operations.

Metric 3. Monitor number Part 139 certificated airports with WHA’s (100%)

Metric 4. Monitor number of GA airport Assessments or Site Visits initiated (124 airports [91%] of 136 have conducted WHAs or WHSVs;

Metric 5. Monitor the altitude of reported strikes including a comparison of damaging vs nondamaging strikes to evaluate off-airport hazards.

Metric 6. Systematic, comprehensive Gap Analysis (5 years) on reporting
14 CFR 139.337  
(revised 2010)

139.337(a) ... each certificate holder shall take immediate action to alleviate wildlife hazards whenever they are detected.
Advisory Circulars

**AC 150/5200-32B** REPORTING WILDLIFE AIRCRAFT STRIKES. May 31, 2013 (May 31, 2013)

**AC 150/5200-34A** CONSTRUCTION OR ESTABLISHMENT OF LANDFILLS NEAR PUBLIC AIRPORTS. January 26, 2006

**AC 150/5200-33B** HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS 8/28/2007


**AC No: 150/5200-38** PROTOCOL FOR THE CONDUCT AND REVIEW OF WHSVs, WHAs, WHMPs and CONTINUAL MONITORING August 2018
Certalerts – NonRegulatory Support

Certalert No. 04-16  Deer Hazard to Aircraft and Deer Fencing 12/13/2004
Certalert No. 98-05  Grasses Attractive To Hazardous Wildlife 9/21/1998
Certalert No. 04-09  Relationship Between FAA and Wildlife Services 8/30/2004
Certalert No. 02-06  Access to the FAA National Wildlife Aircraft Strike Database 10/1/2002
Certalert No. 03-03  Guidelines For Submitting Bird Strike Feather Remains For Identification 8/29/2003
Certalert No. 06-07  Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State - Listed Threatened and Endangered Species and Species of Special Concern on Airports Date: 11/21/2006
Certalert No. 09-10  Wildlife Hazard Assessments in Accordance with Part 139 Requirements June 11, 2009

Certalert No. 13-01 Federal and State Depredation Permit Assistance
January 30, 2013
Part 139.337 (f) and AC-38 - Plan shall include at least the following:

1. Authorities and responsibilities
2. WHA actions target dates for initiation and completion
3. Wildlife hazard management procedures
4. Habitat management
5. Permits (local, state, and federal)
6. Resources
7. Training
8. WHMP review / evaluation
National Wildlife Strike Database Report

Data current 1990 – Sep, 2018 (23 reports over 28 years)
209,000 strike incidents entered
USA strikes – birds (529 species; 97% of all strikes); terrestrial mammals (43 species); bats (22 species); reptiles (18 species)

About 38 strikes reported / day (<5% = damaging and decreasing)

Strike reporting increased 7.4-fold from 1,850 in 1990 to over 13,000 for years 2014 – 2016 and 14,400 for 2017.

82% of strikes occur <1,500 ft AGL – these strikes are within the 5 mile separation distance for attractants and can be successfully mitigated.

662 airports reported strikes in 2016 (403 were Part 139 airports; 259 were airports). Overall, 1,962 airports have reported strikes.

“Strikes are rare events, that happen every day”
Wildlife / Aircraft Strikes - from the ground up -

- 0 ft AGL = 41% of strikes
- 0-500 ft AGL = 71% of strikes
- 0-1,500 ft AGL = 82% of strikes
- 0-3,500 ft AGL = 92% of strikes

*(these strikes are within the 5 mile separation distance)*
STRIKE REPORT CHALLENGE – USE THE DATA

- Strike reporting continues to increase at all airports.

- Damaging strike within the airport environment (1,500 feet AGL) continue to decrease indicating safer airports.

![Graphs showing the number of strikes reported to civil aircraft and damaging strikes to civil aircraft in the USA from 1990 to 2015.](image)
EXPECTATIONS OF STRIKE DATA

- CAA needs enough data to:
  - determine high risk species
  - track national trends
  - provide scientific foundation for regulatory guidance

- Airports need enough data to: identify & mitigate hazardous species, strike dynamics and attractants and evaluate effectiveness of wildlife management program

- Industry needs enough data to: evaluate effectiveness of aircraft components
RESEARCH PROJECTS

>$25 million between 2009 and 2018

AIP FUNDING

>$350 million between 2009 and 2018
An MOU between the FAA and the BSC-USA was signed May 2012 to formalize this cooperative relationship.

MOA - Between the FAA, the U.S. Air Force & Army, EPA, USFWS and USDA to Address Aircraft-Wildlife Strikes
Multiple strike reports for a single strike event = improved Outreach.

Decrease in average bird size involved in strikes = improved safety & Outreach.


Questions...?