RPA S4 – Wildlife Hazard Mitigation

Presented to: REDAC Sub-Committee
Presented by: Jonathan Torres, ANG-E261
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RPA S4 Wildlife Hazard Mitigation Overview

Need

Reduction in Wildlife Strikes with Aircraft

Cost of Wildlife Strikes:

- $937 million/year in U.S
- $1.3 billion/year Worldwide
- 282 fatalities worldwide *
- 262 Aircraft destroyed worldwide*

*= since 1988

Research Goals

- Research, evaluate and communicate the effectiveness of various habitat management and wildlife control techniques for minimizing wildlife strikes with aircraft at and away from all airports nationwide.

- Assess and validate new avian detection technology to support standardization and guidance for airport sponsors .

- Increase airport, terminal and en-route safety by reducing the number of damaging and potentially fatal bird strikes by providing pilots and controllers with bird advisories.

Project Outlook

RPA S4 - Wildlife Hazard Mitigation	FY18	FY19
S4.1 Airport Wildlife Management		
S4.2 Wildlife Strike Data Collection / Analysis		
S4.3 Technology -- Surveillance and Deterrence		
S4.4 Bird Remains Identification		
S4.5 Wildlife Surveillance Concept (WISC)		
S4.6 Data Transmission Studies (JUP)		

S4.1 - Airport Wildlife Management

- USDA/APHIS/Wildlife Services Interagency Agreement
  - Task 1 – Operational Activities on Wildlife Hazards to Aviation
    - Activity 6 - General operational activities and special projects
  - Task 2 – Research Activities on Wildlife Hazards to Aviation
    - Activity 1 – Habitat use, movements and foraging strategies of hazardous wildlife on and near airports
    - Activity 2 – Research in basic wildlife biology and ecology, including sensory ecology, to develop and enhance nonlethal wildlife control methods.
    - Activity 3 – Developing methods and tools to reduce and inform management of wildlife food, water, and cover attractants on and near airports.

S4.2 – Wildlife Strike Data Collection/Analysis

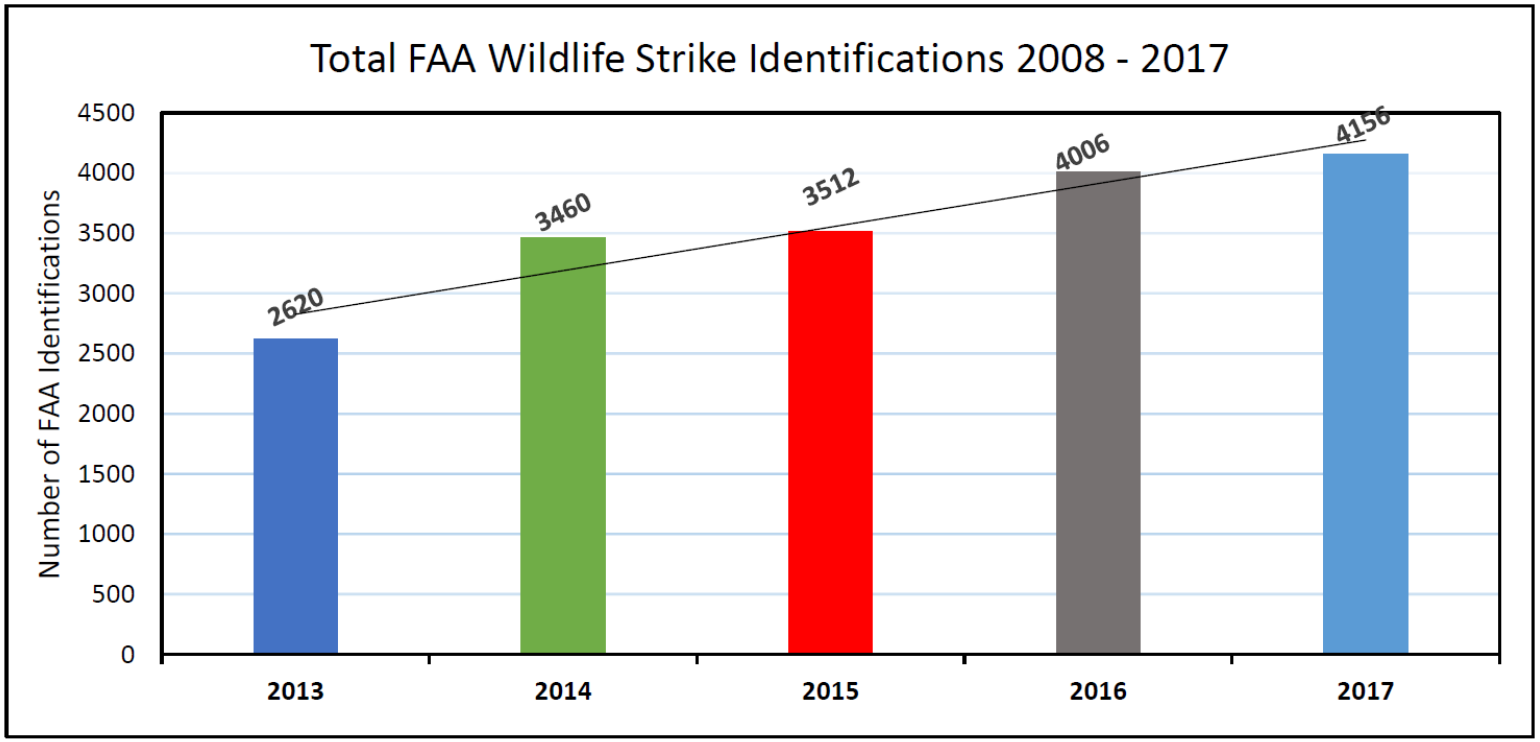
- USDA/APHIS/Wildlife Services Interagency Agreement
  - Task 1 – Operational Activities on Wildlife Hazards to Aviation
    - Activity 1 – National Wildlife Strike Database Quality and Validation
    - Activity 5 – Educational Outreach Program
  - Task 2 – Research Activities on Wildlife Hazards to Aviation
    - Activity 4 – Developing risk assessments associated with wildlife-aircraft collisions relative to management efforts at airports.
  - USDA will finish reviewing 2016 data by September 2018
  - When reviewing 2017 data, USDA will first focus on 2017 “damaging events” first.
- Contractor CSRA still maintaining legacy wildlife database.
  - Launch of new database has been postponed.

S4.3 – Technology – Surveillance and Deterrence

- Evaluating Pharovision Interceptor Bird Detection System at Seattle-Tacoma International Airport.
  - Currently under repair.
- A Con-ops/ User's Guide will be developed for avian radar.
  - Audience will be airport operators and wildlife biologist.
- CEAT is looking at NEXRAD, specifically new dual polarization moments, to identify bird targets in the atmosphere.

S4.4 Bird Remains Identification

- **Interagency Agreement with the Smithsonian Institute**



The total number of expertise wildlife strike identifications conducted by the Smithsonian FIL for the FAA Wildlife Hazard Program (2013-2017). **Total = 17,754**

S4.5 Wildlife Surveillance Concept (WiSC) (1 of 2)

- **Service Level Agreement with FAA NextGen's Advanced Concepts Branch (ANG-C54)**

ATC Benefits Whitepaper	**July 27, 2018**
WiSC Information Requirements Whitepaper	**October 31, 2018**
WiSC Final Concept of Operations Document	**January 31, 2019**
Technical Guidance for WiSC-related Research	**February 28, 2019**

Tower simulator used for Human-in-the-Loop Demonstration

S4.5 WiSC (2 of 2)

- **Florida Institute of Technology through PEGASAS will support WiSC with dissemination of avian threat information by traffic controller tower personnel.**
  - Perform a literature survey on aircraft pilot avian threat information needs by phase of flight.
  - Conduct a Subject Matter Expert (SME) panel with representative aircraft pilots to: a) validate pilot avian threat information needs, and 2) gain pilot perspectives on challenges and benefits of implementing the Wildlife Surveillance Concept.

Questions?