

An Analysis of Wildlife Strike Reporting at 40 Part 139 Airports at four Federal Aviation Administration Regions (2016-2020)

Nikhil Khale

Embry-Riddle Aeronautical University (United States)

khalen@my.erau.edu

Flavio A.C. Mendonca, Ph.D., MBA. – Faculty Advisor

coimbraf@erau.edu

Abstract

Purpose: The purpose of this current study is threefold:

1. To identify wildlife strike reporting trends at 40 busiest Part 139 Class I airports in the following Federal Aviation Administration (FAA) regions – East (AEA), Southwest (ASO), Western Pacific (AWP), and Central (ACE) from 2016 through 2020,
2. To investigate the existence of a difference in wildlife strike reporting per 100,000 aircraft operations (wildlife strike index) between the four FAA regions during the same period; and
3. To develop information based upon the data analyzed that can be used by aviation stakeholders for the safety management of wildlife hazards to aviation.

The following research questions will be addressed in the current study:

- a. What are the descriptive statistics for type of operator, time of day, level of damage to aircraft, altitude of strike, and phase of flight when examining wildlife-strike report data from the 40 busiest Part 139 Class 1 in the AEA, ASO, AWP and ACE FAA regions?

- b. What is the number of wildlife strike reports per 100,000 movements (wildlife strike index) for each of the 40 analyzed airports during 2016 – 2020?
- c. Is there a difference in the wildlife strike index between the four FAA regions from 2016 – 2020?

Design/Methodology: The research questions will be answered utilizing wildlife strike data from the Federal Aviation Administration’s National Wildlife Strike Database (NWSD) as well as aircraft operations data from the Bureau of Transportation Statistics (BTS) database. It is important to note that the BTS will also be utilized for the identification of the airports to be analyzed in this study (2016-2020). Both databases (NWSD/BTS) are publicly available and can be accessed electronically.

Originality/value: This study will add updated data and information to the existing wealth of knowledge regarding damaging strikes and strikes by FAA region across the United States. It will provide valuable information that can be utilized by Part 139 airport operators to update their Safety Management Systems (SMS) and to incorporate additional strategies to mitigate the risk of aircraft accidents resulting from wildlife strikes. The obtained information can also be utilized by aviation stakeholders to create additional training for pilots so that they have the competence to mitigate wildlife strikes as appropriate.

Keywords: wildlife strikes, damaging strikes, aviation safety