

Modeling species-specific bird strike risk for U.S. military aircraft

Amanda L. Bowe, *Department of Wildlife, Fisheries & Aquaculture, Mississippi State University and USDA/APHIS/WS/NWRC, Ohio Field Station; Phone: 484(256-8189; E-mail: Amanda.bowe@msstate.edu*

Raymond B. Iglay, *Department of Wildlife, Fisheries, and Aquaculture, Mississippi State University, 775 Stone Blvd, a211 Thompson Hall, Mississippi State, MS 39762 USA; Phone (662) 325-593.3; Email: ray.iglay@msstate.edu*

Morgan B. Pfeiffer, *USDA/APHIS/Wildlife Services/National Wildlife Research Center, 6100 Columbus Avenue, Sandusky, OH 44870*

Bradley F. Blackwell, *USDA/APHIS/Wildlife Services/National Wildlife Research Center, 6100 Columbus Avenue, Sandusky, OH 44870*

Michael J. Begier, *USDA/APHIS/Wildlife Services, 1400 Independence Ave SW, Room 1621 South Agriculture Building, Washington, DC 20250–3402 USA*

Travis L. DeVault, *USDA/APHIS/Wildlife Services/National Wildlife Research Center, 6100 Columbus Avenue, Sandusky, OH 44870*

Abstract. Over 3500 bird strikes with U.S. military aircraft (USAF and USN) are reported annually with significant negative impacts on operational costs, human safety and mission readiness. USDA Wildlife Services and airbase personnel invest significant time and resources attempting to reduce bird strikes with military aircraft. The USAF Bird Avoidance Model (BAM) helps pilots and flight managers predict the relative strike risk by time period using environmental variables generalized across species, but the strike risk associated with individual bird species on an airbase is not well understood. We are developing a model intended to provide a clearly defined measure of the probability of a damaging strike occurring with a specific species allowing airbase safety officers to better prioritize resources, make appropriate management decisions and justify management actions necessary to reduce bird strike risk. A recent study developed a species-specific, economic risk model for civil aircraft by combining a species-specific metric of strike frequency with relative degree of damage associated with a strike of that species (relative hazard score). Although relative hazard scores for commonly-struck species have been developed for military aircraft, the relationship between hazard and species-specific strike frequencies must be discerned to develop an initial risk model. We provide an update on the development of a species-specific risk model for military aircraft and the role of airbase personnel in collecting data necessary to support on-going modeling efforts.
