

Avian Survey Methods for Use on Airports

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ABSTRACT: Management of wildlife, whether to mitigate damage, enhance safety, or effect conservation goals, requires identification of hazards posed by or to members of a particular species population or guild, and prioritization of management goals. We examined the special problem of managing birds to reduce hazards to aviation, particularly those species known to cause structural damage to aircraft when struck, as well as posing problems to airport facilities. Our objectives were to synthesize sampling theory and methods to provide airport biologists with 1) means to design and implement an avian survey on an airport that will maximize accuracy in quantifying avian hazards; 2) an understanding of bias and precision, and their influences on quantification of avian hazards; 3) suggestions on how to quantify avian hazards and use these data to estimate relative risk posed to aviation safety by a particular species or guild by time period and habitat type; and 4) knowledge of how data can be used to prioritize management goals. Our recommendations are intended to compliment U.S. Federal Aviation Administration procedures for Wildlife Hazard Assessments and subsequent management on airports. We stress the need for survey data to be ecologically relevant and accurate, such that management guidelines are defensible. However, we recognize that “real world” issues, such as regulatory, labor, and financial constraints, as well as the dynamics of airport environments, inevitably influence survey methods. Though we do not advocate use of naive count data in estimating relative abundance or habitat use, we recognize that animal observations obtained by airport biologists outside of a standardized sampling protocol are critical for identifying potential hazards to aviation safety. We recommend field testing of our suggestions and development of training materials for airport biologists that distill the information that we will present in light of constraints affecting survey design and conduct.

Key Words: airport, avian, survey methodology, Wildlife Hazard Assessment

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