8-8-2000

FACTORS ASSOCIATED WITH DAMAGING BIRD STRIKES FOR UNITED STATES AIR FORCE AIRCRAFT

Christine A. Tedrow
U.S. Air Force Academy

Patrick F. Scanlon
Virginia Polytechnic Institute & State University, Blacksburg, VA

James A. Parkhurst
Virginia Polytechnic Institute & State University, jparkhur@vt.edu

Steve L. McMullin
Virginia Polytechnic Institute & State University, Blacksburg, VA

Proceedings of 2nd Bird Strike Committee-USA/Canada Meeting, Minneapolis, MN
8-10 Aug 2000 (www.birdstrike.org)

FACTORS ASSOCIATED WITH DAMAGING BIRD STRIKES FOR UNITED STATES AIR FORCE AIRCRAFT

Christine A. Tedrow, USAF, U.S. Air Force Academy, Department of Biology, Colorado Springs, CO 80840 USA

Patrick F. Scanlon, James A. Parkhurst, and Steve L. McMullin, Department of Fisheries and Wildlife Sciences, Virginia Polytechnic Institute & State University, Blacksburg, VA 24061 USA (540-231-4586; fax 540-231-7580; pscanlon@vt.edu)

Analysis of strike data is critical to determine the true economic costs of bird strikes, determine the magnitude of safety issues, and develop preventive measures. Analysis of USAF bird-strike data identified trends and indicated suggested relationships among factors contributing to damaging strikes. From FY 1988 through FY 1997, the annual mean was 2,668 bird strikes with peaks evident in fall and spring. Daylight and dusk were hazardous for bird strikes. More bird strikes occurred during airfield operations and when aircraft were operating at low altitudes (and when soaring birds were more numerous). Aircraft speed, phase of flight, taxonomic group, bird mass and aircraft group were the strongest predictors of damaging bird strikes. Bird strike rates were calculated for USAF aircraft. Bomber aircraft had the highest strike rate; these aircraft frequently fly long missions at low altitudes where they are likely to encounter birds. The analyses indicated that factors contributing to USAF bird strikes overlap and interact. The study allows recommendations for improving reporting of bird strikes and data management as well as make recommendations for airfield management. Results will enable USAF to better focus research on preventing bird strikes, and assess the effectiveness of bird management programs.