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DEVELOPMENT OF A BIRD AVOIDANCE MODEL FOR NAVAL AIR FACILITY EL CENTRO, CALIFORNIA

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Two weeks after the Elmendorf AFB-AWACS crash (22 September 1995), the US Navy lost an F-18 Hornet to a birdstrike at Naval Air Facility El Centro (NAFEC) in southern California. NAFEC is surrounded by agricultural land where crops are grown year round, and its location just 26-km south of the Salton Sea National Wildlife Refuge suggests a very high probability of additional serious birdstrikes in the future. We are developing a computer-based Bird-Avoidance Model for the airfield and its two associated bombing ranges, to decrease the number of damaging birdstrikes. We are currently conducting bird counts to assess the distribution of birds in the area throughout the year. Additionally, we are analyzing more than 38,000 records in the Air Force birdstrike database and combining those data with our onsite observations to develop an index of the birdstrike hazard at each site throughout the year. Air Force data are also being analyzed to evaluate differences in the vulnerability of each aircraft type to birdstrike damage. Combining aircraft vulnerability with hazards at each site yields the birdstrike risk. The predictions of the Bird-Avoidance Model will be compared with and tested against Navy birdstrike records. After completion, the model will be accessed via the Internet by flight schedulers, aircrew, and others involved in birdstrike-hazard management. The model will be made available to the Navy by June 2001.