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John Ledbetter
Santa Barbara, CA

John Gray
URS Corporation, 130 Robin Hill Road, Suite 100, Goleta, CA

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Assessing Bird Strike Hazards in Coastal Wetlands through Field Experiments

John Ledbetter, City of Santa Barbara, Planning Division, 630 Garden Street, Santa Barbara, CA 93112 USA

John Gray, URS Corporation, 130 Robin Hill Road, Suite 100, Goleta, CA 93117 USA

Santa Barbara Municipal Airport (SBA) is located in and adjacent to Goleta Slough, a large coastal salt marsh with limited tidal circulation. Various government and non-government agencies are pursuing a long-term project to restore the historic tidal circulation to the slough to improve ecological conditions. SBA recently completed a study to assess feasibility of conducting a controlled field experiment in the slough to evaluate the relationship between bird strike hazards and the presence of tidal and non-tidal wetlands near the airfield. The study indicated that a limited field experiment, in which new estuarine marsh areas are temporarily restored, would provide valuable empirical data on bird behavior and strike hazards. The study included provisions to ensure public safety during the experiment. The information from the field experiment will be used to determine the viability of a larger, long-term wetland restoration program in Goleta Slough, and appropriate bird strike hazard management actions. The need to conduct the Feasibility Study was an outgrowth of SBA's Master Plan update process, which began in 1991. The FAA's highest priority project identified in the Master Plan is to extend the Runway Safety Areas at either of the principal runway 7-25, which will necessarily impact the surrounding Goleta Slough coastal estuary. Over the last 10 years, SBA has worked closely with federal, state, and local regulatory agencies, as well as the environmental community, to develop a restoration plan for the slough that would provide the basis for the Runway Safety Area project mitigation requirements. As the Master Plan moved through the environmental assessment phase of the approval process, it became apparent that one of the main tenants of the slough plan, the restoration of tidal circulation, could potentially exacerbate the incidence of bird strikes. As the debate began to heat-up among the environmental community, USDA/Wildlife Services, SBA, and the FAA, the approval process ground to a halt. Finally, a compromise was struck in 1998 that bifurcated the Master Plan update process and the tidal restoration project. All parties agreed that prior to any further consideration of a tidal restoration project, scientific data was needed to better understand the relationship between coastal estuarine habitat, seasonal wetlands, and the incidence of bird strikes. Thus, the Master Plan update identified a mitigation plan without tidal restoration, which ultimately included a 4:1 replacement ratio for the seasonal wetlands impacted by the Runway Safety project. On a parallel tract, all parties also agreed to move forward in a deliberate and incremental fashion towards a managed experiment to test these relationships between habitats and bird strikes.