

**Abstract**

In seeking ways to reduce aircraft noise at airports as part of the Silent Aircraft Initiative, researchers studied the quiet flight of the owl in reducing airframe noise. Investigators have identified three features of the owl wing that aid in noise reduction: (1) comb-like features on the leading edge that keeps top surface flow attached, (2) a trailing edge fringe which prevents the scattering of air as it crosses the trailing edge, and (3) velvety feathers that act to suppress noise. This study of leading and trailing edge features applied to a conventional wing model airplane to determine if there was a difference in aerodynamic efficiency that accompanied the noise reduction. Results of two independent samples were not significant at the .05 Alpha, which suggests no difference in wing efficiency. The author believes a further study is still warranted and that a larger sample size would demonstrate significance.