The Influence of Lunar Phase and Predation on the Vocalization Behavior of Eastern Whip-poor-wills

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The negative population trend of Whip-poor-wills (*Caprimulgus vociferous*) across the North American breeding bird survey area, combined with the difficulty of studying nocturnal birds, leaves critical gaps in our scientific knowledge base for this species. Many species in the Caprimulgidae family (Goatsuckers) are known to increase their singing during brighter moon phases. In Common Poorwills (*Phalaenoptilus nuttallii*) this is attributed to defensive actions to decrease the risk of predation, but the reason for this behavior in Whip-poor-wills is undocumented.

The overall goal of this study was to examine Whip-poor-will singing behavior in relation to moon phase and predator presence/absence by quantifying vocalization across various lunar phases with and without the implied presence of a predator. 10 Areas of known Whip-poor-will occurrence were monitored for one lunar cycle. A control treatment and one of two randomly assigned playback treatments were applied at each location and the response of Whip-poor-wills was recorded.

A control treatment showed singing to increase on nights with brighter moon phases. The average response of Whip-poor-wills following a predator playback was greater during a full moon than a new moon. During the full moon, there was little difference in singing rate before and after a predator playback, while singing decreased the most following predator playback during a new moon. However, most tests were statistically insignificant. Results will be analyzed to determine if predation is a valid explanation for increased singing with brighter moon phases. Opportunities to improve Whip-poor-will sampling methods and to better population size estimates will also be explored.