



Abstract of Paper

Presented by the Wetlands Institute Staff at the
Atlantic Estuarine Research Society Fall Meeting, October 5-7, 2006
The Community College of Baltimore, Baltimore, Maryland

Evaluation of iButtons for determining spatial and temporal patterns of nesting failure in Least Tern (*Sterna antillarum*) colonies.

Ilene Eberly

The Wetlands Institute, 1075 Stone Harbor Boulevard, Stone Harbor, NJ 08247



Least tern nest with Ibutton
(temperature data logger) deployed

Least terns are one of the several bird species that nest in colonies on coastal beaches and sandy sections of salt marsh islands. Two colonies located in Cape May County, NJ, were monitored during the 2006 summer nesting season. Disturbance from predators and human activities frequently interrupt incubation, exposing eggs to potential predators and/or potentially detrimental temperature fluctuations.

Position in the colony (e.g. edge vs. center) has been shown to affect nesting success. Additionally, the spatial distribution of nests within the colony (e.g. clustered vs. scattered) may affect nesting success. IButtons (Dallas Semiconductor,

Dallas, TX) were used to log temperature/time data for 30 individual nests at Stone Harbor Point and 12 nests at Cape May Point State Park. The resultant data showed whether or not terns were incubating their eggs. Spatial information was also collected for each of the experimental nests. Initial results from the iButtons suggest that they can successfully be used to determine presence/absence of adult terns on their nests and to monitor nest-temperature fluctuations associated with abandonment. Preliminary spatial information analyses, however, have been largely inconclusive, suggesting that temporally-based factors (e.g. timing of predation) may be more important than spatially-based factors (e.g. edge effects) in explaining least tern nesting failure.



Adult least tern
walking around in the
nesting colony