

26th Annual Symposium on Sea Turtle Biology and Conservation

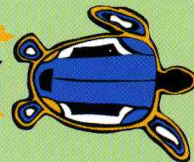
Island of Crete, Greece, 3-8 April 2006



Book of Abstracts

COMPILERS: Mike Frick, Aliko Panagopoulou, Alan F. Rees, Kris Williams

INTERNATIONAL SEA TURTLE SOCIETY



Athens, Greece
March 2006

TEMPERATURE COMPARISON OF LOGGERHEAD SEA TURTLE NESTING BEACHES THROUGHOUT FLORIDA

Jennifer Estes¹, T. Wibbels¹, J. Wyneken², T. Tucker³, L. Ehrhart⁴, R. Carthy⁵, R. Scarpino⁵, E.R. Martin⁶, M. Bresett⁷, C. Johnson⁸, B. Ball⁹, J. Schmid¹⁰, J. Vaughn², S. Condran³, J. Grimes³, and P. Clark³

¹ University of Alabama at Birmingham, Birmingham, AL, USA

² Florida Atlantic University, Boca Raton, FL, USA

³ Mote Marine Lab, Sarasota, FL, USA

⁴ University of Central Florida, Orlando, FL, USA

⁵ University of Florida, Gainesville, FL, USA

⁶ Ecological Associates, Stuart, FL, USA

⁷ Quantum Resources, St. Lucie, FL, USA

⁸ Marinelifelife Center, Juno Beach, FL, USA

⁹ Sanibel-Captiva Conservation Foundation, Sanibel Island, FL, USA

¹⁰ Florida Dept. of Env. Protection, Naples, FL, USA

Loggerheads nesting in the southeastern U.S. represent one of the largest nesting aggregations of *Caretta caretta* in the world. The majority of this nesting occurs in Florida. Loggerheads possess temperature-dependent sex determination (TSD) which can produce a wide variety of sex ratios. Therefore, TSD has conservation and ecological implications. The current study represents a comprehensive and simultaneous comparison of nesting

beach temperatures throughout the range of major loggerhead nesting beaches in Florida. Beach temperatures were monitored at mid-nest depth (40 cm) in areas where the majority of nesting occurred. Beach temperatures were monitored for two nesting seasons using data loggers on 8 to 13 loggerhead nesting beaches throughout Florida. Although data loggers were lost on several of the nesting beaches due to the abundance of hurricanes during 2004 and 2005, data were obtained from many of the beaches. In general, beach temperatures during the nesting seasons varied relative to weather and, in particular, to precipitation. Most temperatures recorded at mid-nest depth were within a range of 26-32°C, with an approximate average of 30°C. Preliminary analysis suggests that temperatures recorded on a single beach tended to be similar. The results also indicate that some beaches may be consistently warmer or cooler than others. The findings of this study facilitate the identification of nesting beaches which may be of conservation and management interest due to their thermal characteristics.