PROCEEDINGS OF THE SECOND MEDITERRANEAN CONFERENCE ON MARINE TURTLES

Kemer, Antalya, Turkey, 4-7 May 2005

Editors:
Andreas Demetropoulos
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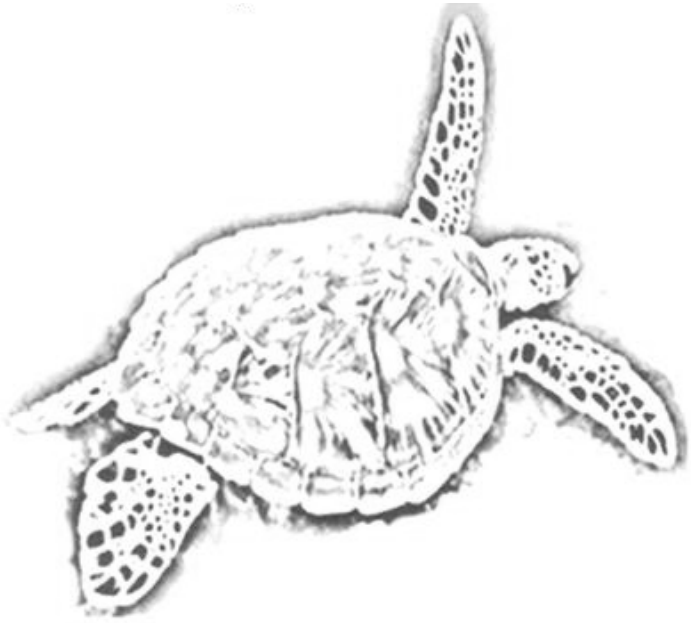

Barcelona Convention – Bern Convention – Bonn Convention (CMS)

April 2009

LOGGERHEAD SEA TURTLE HATCHLING SEX RATIOS FROM ZAKYNTHOS: SMALL-SCALE DIFFERENCES MIGHT BE CRUCIAL FOR THE MEDITERRANEAN METAPOPULATION

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Sex determination in sea turtles is temperature-dependent with cold temperatures producing males and warm temperatures females. This mechanism raises concerns in view of global warming. We estimated hatchling sex ratios in the nesting aggregation of loggerhead sea turtles (*Caretta caretta*) of the Greek island of Zakynthos (composed of six distinct nesting beaches) to investigate whether the individual beaches produce different sex ratios and to judge the importance of this largest Mediterranean nesting aggregation for the metapopulation. Estimates of hatchling sex ratios were obtained by clutch incubation duration and sand temperature profiles in 2003. In addition, we measured temperature within clutches to determine whether metabolic heating is likely to affect sex ratios. Clear-cut differences in estimated hatchling sex ratios were found between two groups of beaches. The overall hatchling sex ratio of Zakynthos was estimated at 75% females. Through a correlation of air with sand temperatures, we inferred a rough estimate of hatchling sex ratios during the past 20 years. We conclude that high conservation priority should be given to the beaches producing a male-biased sex ratio. They seem to buffer the overall hatchling sex ratio of Zakynthos from the effect of climate warming. Since it is unlikely that any other major Mediterranean nesting aggregation produces a high number of male hatchlings, we hypothesize that the male loggerheads produced on Zakynthos are of great importance to the entire metapopulation.