

Thirty-eight Years of Loggerhead Turtle Nesting in Laganas Bay, Zakynthos, Greece: A Review

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ABSTRACT. – Here, we present 38 years of nesting data of the loggerhead population in Laganas Bay, Zakynthos, Greece, adding data for 2010–2021 to existing published data for 1984–2009. This rookery, encompassing six discrete beaches of 5.5 km total length, features the highest nesting density in the Mediterranean. The annual nest numbers, ranging from 667 to 2018, showed no significant long-term trend. Beach nesting contributions increased on some public-accessed beaches (as did nesting success), but decreased on a remote beach that previously held >50% of all nests. These changes might be attributed to management actions by the National Marine Park of Zakynthos improving conditions for sea turtles (e.g., restricting nighttime access to the public), indicating that the previously recorded high nesting density on the remote beach may have been atypical. Although no significant phenological changes were detected with the available data in the 20-year period 2002–2021, the date of the first hatched nest shifted significantly towards earlier dates in the 38-year dataset. Clutch size and body size of nesting turtles exhibited significantly decreasing trends. Hatching success, hatchling emergence success and in-nest hatchling mortality showed significantly increasing trends. The number of viable hatchlings decreased over the seasons, albeit not significantly, possibly a result of the decreasing clutch size. Incubation durations were revealed as shortening on all beaches, a potential sign of global warming, with a consequent suggested increase of female primary sex ratio. Continuation of this long-term monitoring program is expected to provide further insights in the reproductive traits of this regionally important loggerhead population.

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