DO TOURIST ACTIVITIES AFFECT GREEN TURTLE (CHELONIA MYDAS) NESTING BEHAVIOUR AND HATCHING SUCCESS AT TORTUGUERO, COSTA RICA?

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Tortuguero National Park in Costa Rica has become an extremely popular tourist destination. Since the early 1980’s tourism has increased dramatically from less than 1,000 people per year to more than 116,000 visitors in 2007. Of the tourists who visit Tortuguero, around 40,000 people a year participate in organized turtle tours during the green turtle nesting season. National Park staff impose strict controls to minimize negative impacts to turtles as a result of tourist activities; all tour groups require a registered guide, visitation is limited to a small section of beach and time limits are imposed. Since 2001, the Caribbean Conservation Corporation, together with Tortuguero National Park and the local community, has implemented a new turtle visitation system known as the Turtle Spotter Program to reduce the disturbance to turtles by human presence on the beach. Since its inception, there has been a documented increase in the proportion of nests to false crawls, as a result of fewer emerging turtles being disturbed by tour groups. The Turtle Spotter Program limits the time groups are on the beach, it also minimises the distance that tourists are walking and controls the number of people around the turtle. However, there are still concerns that the presence of tourists may adversely affect female nesting behaviour and that the physical action of people walking on a nest will lead to reduced hatching success. This paper will discuss the results of investigations undertaken at Tortuguero in 2008 to address these important concerns. Firstly it will compare the behaviour of ‘experimental’ females (observed by tour groups) to that of ‘control’ individuals observed only by researchers. Each phase of the nesting process was timed, from oviposition to the turtle returning to the sea, to determine if any significant differences in behaviour exist between the two study groups, and to ascertain if such behavioural changes can be correlated to the number of tourists present during nesting. Second, the results of a trampling study will be examined. The hatching success of pairs of ‘experimental’ and ‘control’ nests will be compared, to assess the impact of physical trampling (such as that resulting from tourists walking over a nest). ‘Experimental’ nests were subject to either ‘high’ or ‘low’ levels of trampling throughout the incubation period; ‘high’ was the equivalent of 10 tour groups passing over the nest, ‘low’ the equivalent of two tour groups. It is hoped that the findings from these studies will provide scientific justification for the continued implementation of the Turtle Spotter Program at Tortuguero, and enable Tortuguero National Park to establish limits relating to the maximum number of tourists present around a single turtle at any given time. They will also provide valuable information for other nesting beaches where tourism is permitted, allowing better management of tourist activities to prevent potentially damaging uncontrolled tourist access, and so improve turtle conservation efforts.