EVALUATION OF NEW TURTLE-TOUR VISITATION SYSTEM AT TORTUGUERO, COSTA RICA

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Introduction Tortuguero National Park in Costa Rica is a popular site for tourism, with green turtles representing the main attraction during the June-October period. The number of visitors has increased since the 1980s, with 31,655 and 36,104 tourists participating in turtle tours in 2004 and 2005. Sea turtle tourism generates considerable income and employment opportunities for Tortuguero villagers and business owners (Troëng & Drews 2004). Tours to observe sea turtles are limited to 8.4 km of the 29.4 km beach and to four hours (20:00-24:00 hr) each night. Tours are predominantly led by local guides (Peskin 2002). In 2004, a new visitation system was implemented along the public beach section (5.6 km). In 2005, the new system was expanded to the entire 8.4 km for part of the nesting season. Instead of guides looking for turtles, the new system involves "spotters" who look for turtles and inform guides waiting at pre-determined locations. Tourists approach turtles using paths behind the beach. The system minimizes the time tourists spend on the beach and aspire to reduce disturbance. Our study aimed to evaluate this new system. Methods Tortuguero Conservation Area staff recorded the number of tour permits issued. Caribbean Conservation Corporation staff recorded the number of nests and 'half-moon' crawls each morning.

'Half-moon' crawls are events where no eggs were laid and can be related to human disturbance. We analyzed visitation and track data using a generalized additive model (GAM) with nests as the response variable and year, Julian date, half-moons, site (public beach/ national park), system (old/new), and visitor numbers as covariates. Results Year, Julian date, half-moon crawls, site, and system had significant effects on nest numbers; the number of visitors did not have a significant effect. The number of nests was greater during nights and along sections where the new system was implemented, even when other covariates were considered. For this reason, we believe that the increased nesting is the consequence of the new system's reduced impacts. The GAM model accounted for 82% of the variance. Discussion It appears the new system has reduced disturbance to turtles and has resulted in increased nesting. To ensure that increased visitation, under the new system, does not have a negative impact on nesting, we recommend continued monitoring of visitor and nest numbers. The new system created 13 jobs as "turtle-spotters" for Tortuguero villagers. These positions are supported with funds raised from business owners, and administered by the CCC. To consolidate the new system, we recommend the establishment of a permanent funding mechanism (visitation fees or business owner contributions) to pay salaries, equipment, and path maintenance. We believe the new system may be successfully implemented on other beaches where tourists come to observe turtle nesting.

References:

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