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DECLINE OF HAWKSBILL TURTLES *ERETMOCHELYS IMBRICATA* IN CARIBBEAN COSTA RICA

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Introduction

The objective of this presentation is to summarize existing information about hawksbill turtles in Caribbean Costa Rica.

Historical Information

Historical information about hawksbill turtles in Caribbean Costa Rica is scarce and limited to anecdotal accounts. Fishing of hawksbills along the coast has occurred at least since the end of the Eighteenth Century (Palmer 1993). In 1881, a Swedish explorer observed approximately 20 hawksbills turned on their backs on the beach of Cahuita (Bovallius 1888). At the time, hawksbill shell was said to be the most valuable fishery resource available. In 1923, the U.S. Consul in Port Limón estimated an annual take of approximately 750 hawksbills (Consular Report by J.J. Meily cited in Tressler 1923). An active fishery for hawksbills off the beach at Tortuguero continued until 1973 (Carr and Stancyk 1975).

Hawksbill Encounters During Night Patrols

Data collected during green turtle monitoring at Tortuguero show a considerable decline in hawksbill encounters per unit of patrol effort for 4 four- year periods between 1956 and 2000. Linear regression of ln (hawksbill encounters per unit effort) shows an average 3.9 % annual decline between 1956-1959 and 1997-2000 (Carr and Stancyk 1975, Bjorndal et al. 1993 and CCC Unpublished Data).

Tag Returns

Data from metal tags and satellite transmitters indicate that Tortuguero hawksbills feed in Nicaraguan, Panamanian and Honduran waters where more effort is invested in turtle fishing than in Costa Rica.

mtDNA-analysis

Maximum likelihood analysis was employed, using SPAM32 software (Anon. 2000), to compare mtDNA haplotype frequencies for Tortuguero and other nesting beaches throughout the Caribbean with feeding ground samples from Mexico, Cuba and Puerto Rico. Nesting ground samples used in analysis were Belize, Mexico, Mexico*, Puerto Rico, Puerto Rico*, US Virgin Island, Antigua, Barbados, Brazil (Bass 1999), Costa Rica (CCC Unpublished Data), Cuba –Breeding Center, Doce Leguas –1994 and Doce Leguas –1997 (Díaz-Fernandez et al. 1999) and feeding ground samples used in analysis included Cuba - Zones A, B and D, Mexico and Puerto Rico (Díaz-Fernandez et al. 1999). The analysis indicates that Tortuguero hawksbills are present in all these feeding grounds (in Cuba it is estimated that Tortuguero hawksbills made up 4.6% of the feeding ground sample, in Mexico 5.5% and in Puerto Rico 6.3%) where they may be subject to further human induced mortality.

Threats

Illegal fishing of hawksbills at low levels still occurs in Costa Rica (pers. obs.). However, Tortuguero hawksbills may be more affected by human induced mortality outside of Costa Rican borders. Taking into consideration legal hawksbill fishing in many Caribbean countries and illegal fishing elsewhere in the region, the future of the Tortuguero hawksbill population appears bleak.

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