

## The adventures of three green turtles crossing the Gulf of Mexico (post-nesting migrations of green sea turtles in Lechuguillas, Veracruz-Mexico)

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Significant populations of green turtles (*Chelonia mydas*) nest in the state of Veracruz, Mexico. Since 1994, more than 950 nesting green turtles have been tagged at Lechuguillas, Veracruz. Since, no tags or data from nesting green turtles have been reported or recovered within or outside of Mexico. We employed satellite telemetry in an effort to identify the resident foraging grounds and to track the routes taken to reach them. Satellite transmitters were attached to three nesting green turtles at Campamento Tortuguero in Lechuguillas, Veracruz, Mexico. Tagging was done during August and September 2000 and 2002. The turtles' movements were monitored by collecting longitude and latitude data using Satellite System service. All data points were interpreted and plotted using ArcView 3.2 GIS mapping software. Two turtles traveled from their nesting ground in Mexico to feeding grounds in the Marquesas Key area off the coast of Florida. Zyanya covered the 985-kilometer route in a southeastern curve, at an average rate of 0.631 km/hr, while Roberta traveled in the opposite direction at 0.362 km/hr for a total of 1,430 kilometers in a northeasterly direction. The last turtle named Manuelita traveled a 664-kilometer route in a southeastern curve, mean speed during movement 1.2 km/hr and stopped at feeding grounds off the coast of Campeche, Mexico. Different routes and different feeding ground areas were used for three turtles nesting in the same place.

## Hatchling disorientations associated with beach nourishment projects on the east coast of Florida, USA

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Beach nourishment projects mitigate the effects of erosion in Florida and are coordinated with multiple engineering and environmental agencies to ensure the provision and enhancement of endangered species habitat (i.e. beach mice, sea turtle nesting, Wilson's plover). State and Federal agencies require that special permit conditions regarding the design and implementation of beach nourishment projects be met to minimize the potential negative effects to nesting marine turtles, while engineers must design projects that elevate and expand the beach profile to prevent further erosion. Five kilometers of shoreline along the east coast of central Florida were nourished before the 2002 marine turtle nesting season. This shoreline restoration project involved elevating the beach profile as much as 8 feet in some areas. As a result of the elevation and a lack of sufficient dune vegetation, light sources that had not previously illuminated the beach became visible. Hatchling marine turtles rely almost exclusively on vision to orient to the sea and often become disoriented by artificial beachfront lighting. In the kilometers of beach nourished during 2002, hatchling disorientations are now being observed where previously none had been recorded. In some half kilometers, levels increased to as high as 20% of the total nests recorded for that area. The impacts of beach nourishment on sea turtle hatchling disorientation behavior are not well documented. While beaches are gaining shoreline restoration that inadvertently may benefit nesting sea turtles, the potential to negatively impact hatchling sea turtle's survival still needs to be addressed.





PROCEEDINGS  
OF THE TWENTY-FOURTH  
ANNUAL SYMPOSIUM ON SEA TURTLE  
BIOLOGY AND CONSERVATION



22 to 29 February 2004  
San Jose, Costa Rica

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U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
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January 2008

