



NOAA Technical Memorandum NMFS-SEFSC-631

PROCEEDINGS OF THE THIRTY-FIRST ANNUAL SYMPOSIUM ON SEA TURTLE BIOLOGY AND CONSERVATION



10 to 16 April 2011
San Diego, California, USA

Compiled by:
T. Todd Jones & Bryan P. Wallace

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA Fisheries Service
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, Florida 33149

May 2012
(Updated November 2012)



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John Bryson, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Dr. Jane Lubchenco, Under Secretary for Oceans and Atmosphere

NATIONAL MARINE FISHERIES SERVICE
Samuel Rauch III, Acting Assistant Administrator for Fisheries

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mean size of captured turtles 79.28 cm CCL (range = 53.5-91.8 cm). There were only two recaptures during the project period. Only adult females and subadults were observed. The highest rate of capture was associated with tidal period, likely associated with movements into or away from the foraging ground; we found no evidence of seasonal changes in abundance. A satellite tag was deployed on adult female, to monitor her foraging movements inside the Dulce Gulf. An evaluation of the foraging areas revealed large aggregations of *Gracilaria* sp. on rock button in combination with sand, mud, and sponge areas, particularly along mangrove coastline (*Rhizophora mangle*) and river mouths. The most important threats observed were sedimentation from rivers, plastic litter, incidental interactions with fishing gear, and presumably pesticides due to runoff from agriculture activities as oil palm plantations, cattle raising and rice plantations.

HAWAIIAN GREEN TURTLES UP AND DOWN THE ANAHULU RIVER

David L. Clarke¹, George Balazs², and Stacy Hargrove²

¹ Iolani High School, 563 Kamoku St. 96826 Honolulu Hawaii. USA

² Pacific Islands Fisheries Science Center, NOAA Fisheries, 2570 Dole Street, Honolulu, Hawaii USA

Green turtles (*Chelonia mydas*) have become very numerous and popular in Hawaii. Tourists flock to see them on the North Shore of Oahu most notably at Laniakea Beach causing traffic congestion and safety concerns. Here we provide preliminary information on what may be some of the densest concentrations of green turtles in the Hawaiian Archipelago outside of seasonal nesting at French Frigate Shoals. Green turtle movements were monitored by visual counts at the Anahulu River mouth at Haleiwa for a total of 9 evening and 2 morning observation sessions during the months of September and October 2008- a period of almost no surf or rainfall on Oahu's North Shore. During 22 hours of observation 968 green turtle sightings were made moving either upstream or downstream. 122 (12.6%) were recorded as being juveniles <50 cm, and 87.4% as either sub-adults or adults. The greatest number seen (N=205) was during a morning observation session; most were moving downstream, while 31 were moving upstream (although some may have been counted more than once). In other instances sightings were not as impressive with as few as 11 turtles observed during a 120 minute evening viewing session. Up to 20 individuals were recorded during a 5-minute period. On average during a 2-hour viewing session 88 individuals were recorded. All turtles appeared in good health, with only 1% being recorded with tumors and 2 with missing fins. One turtle was observed with fishing line and a plastic bobber attached to its fin, but it was moving freely. A total of 26 adult males were identified but no gender breakdown was determined during observations unless a lengthened tail was obvious. We satellite tagged two of the turtles and confirmed heavy use of the Anahulu River habitat, along with adjacent sea areas of Kaiaka, Waialua, and Haleiwa. The tracks clearly showed the turtles moving up and down the river, inland as far as approximately 3 km. A hypothesis for these movements may be related to the safety the river provides, as most predators like large tiger sharks apparently do not venture up the river. The Anahulu River mouth was observed to be an area of considerable water-based recreational activities including swimming, stand-up, canoe and kayak paddling and fishing. The human activities appeared to have little or no impact on the turtles' movements. Tides and water flow appeared to be greater issues for the turtles. At certain times of the year, and periods of the day, the Anahulu River mouth may be one of the best and safest areas in all of Hawaii to view turtles in their natural environment. This study documents what may be one of the most significant green turtle resting habitats in the Hawaiian Islands and further monitoring and investigation are highly recommended.