

PSD Marine Turtle Research Program Report to the WPRFMC for May - July 2010

Prepared August 16, 2010

Colette Wabnitz, an MTRP and Ecosystems and Oceanography Division collaborative researcher, has been awarded her doctoral degree from the University of British Columbia. A major chapter of Colette's dissertation, using ECOPATH modeling, details the population of foraging green turtles at Kaloko-Honokohau National Historical Park being at carrying capacity. A Center-approved manuscript of these findings has now been submitted for publication to the journal *Marine Ecology Progress Series*.

Denise Parker has been monitoring and mapping 29 satellite-tagged juvenile loggerheads deployed from Japan. The turtles were released in the high southern seas of Japan between Kagoshima and Okinawa. All but one of the turtles swam north along the Japanese coast, while the remaining turtle moved toward Okinawa. This work is a collaborative project between the Ecosystems and Oceanography Division and the Marine Turtle Research Program aimed at elucidating the pelagic ecology of loggerheads in the North Pacific.

Stacy Hargrove participated in the annual Hawksbill Recovery Implementation Working Group Meeting in May hosted by the USFWS and PIRO. Stacy gave a presentation on hawksbill strandings in Hawaii from 1982-2009. The MTRP also hosted a demonstration necropsy session at Halawa Valley State of Hawaii Agriculture Facility for the participants of the workshop. USGS Dr. Thierry Work and George Balazs used a hawksbill turtle (recently found dead in a crab trap in Waikiki) and an olive ridley (recently found in Kahului, Maui) for the training and demonstration session.

Also during May, the ocean capture research of hawksbill turtles was successfully and safely accomplished at Oneuli, Makena, on Maui south shore. Stacy Hargrove and George Balazs worked in collaboration with Marc Rice (Hawaii Preparatory Academy) and several volunteer Maui residents that regularly report sightings of hawksbills to MTRP.

Peter Dutton and Amy Frey of the SWFSC produced an informative and interesting summary report of genetic analysis of green turtle nest samples collected by MTRP working in close cooperation with the volunteer community organization, Molokai Turtle Trackers. Green turtle nesting tracks and nests are rigorously recorded on a daily basis each summer at Kawa'aloa Beach on Molokai's North Shore. Results to date suggest that the turtles at this site started from a single "founding" individual. Hence, there is the potential for a new and possibly significant nesting colony to form here in coming decades.

On June 1, 2010, Brenda Becker (MMRP) and George Balazs worked together to conduct a survey of green turtle nesting and monk seal use of Manana (Rabbit) Island, a State of Hawaii Seabird Sanctuary off the east coast of Oahu. Mr. Jaap Eijzenja, biologist with the DLNR Division of Forestry and Wildlife, generously hosted Becker and Balazs by providing boat transportation. A green turtle nest was identified and marked for future monitoring. Additional nests are expected, since the nesting season is in the early stage. Green turtle nests were first documented on Manana Island during the summer of 2008, but an on-sight survey wasn't possible due to logistical limitations. The date of June 1, 2010 was of special interest for Balazs, who had never before had the opportunity to work on Manana Island.

Brenda Asuncion of Hawaii Pacific University completed her Master's thesis entitled "Characterizing juvenile green turtle habitat use in Kawainui, Oahu: A multi-disciplinary approach." Stacy Hargrove was a member of Brenda's graduate committee as part of MTRP academic, field work, and funding support for Brenda's work. Brenda is currently working under an HIMB/NOAA Fellowship with the Hawaiian Islands Humpback Whale National Marine Sanctuary here on Oahu. An electronic copy of Brenda's thesis has been deposited in the Center's library. Over the past approximate 20 years, the Center within MTRP has provided academic, field work, and/or financial support for six PhD thesis projects and six Master's thesis projects. All were completed successfully. Two Master's projects and one PhD project are currently underway with significant collaborative help from MTRP.

At the request of Wende Goo, George Balazs gave a one-hour recorded audio interview to Monument staffer Naia Watson for a major book project being undertaken in collaboration with Kamehameha Schools. Photographs taken during the 1970s were also supplied to Naia for possible use. The draft title of the book is "Papahānaumokuākea: Voices of the Northwestern Hawaiian Islands."

In June, one of MTRP's 3rd Quarter Milestone Completion Reports was submitted on schedule. The Milestone involved the publication of a major journal paper on pathology studies of 71 turtles taken as bycatch in the Hawaii-based high seas longline fishery over the past 12 years. Forced submergence, and documentation of changes in the lungs associated with drowning, constituted significant findings of the investigation.

From July 10-18, 2010, Jeff Polovina and George Balazs worked in partnership with Lui Bell (SPREP), biologists of the Fiji Fisheries Department and WWF, and village fishermen to gain science insight and satellite tag three loggerheads occurring near Yadua Bua Island, Fiji (See 3 photos). Southern Stock loggerheads in the Fiji Islands have received almost no research attention. There is the distinct possibility that some of these loggerheads are bouncing in and out from neritic to pelagic existence, similar to what has been shown by EOD/MTRP at Muroto Point working in partnership with the Sea Turtle Association of Japan.



Photo 1. Villagers at Yadua Bua Island, Vanua Levu, Fiji preparing to release satellite tagged loggerhead on July 14, 2010.



Photo 2. Fijian elementary school children participating in release of satellite-tagged loggerhead at Yadua Bua.



Photo 3 (left to right). Aisake Batibasaga, Chief of Research Fiji Fisheries Division, 100-year old resident of Yadua Bua, Jeff Polovina, and George Balazs. When asked to what he attributed to his age and good health, he answered “eating lots of fish and praying daily to God.”