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## **COMING OF AGE: FOUR DECADES OF TAGGING SHEDS LIGHT ON TIME TO MATURITY FOR HAWAIIAN GREEN TURTLES\***

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Hawaiian green turtles have been the subject of intensive study on both the nesting beach and foraging grounds for more than four decades. However, the first known tags attached to Hawaiian green turtles occurred nearly 80 years ago in June 1934 when brass tags were placed on 3 adult turtles prior to release at sea near Laysan Island in the Northwestern Hawaiian Islands (NWHI). In June 1950 an unknown number of green turtles were tagged by Vernon Brock (State of Hawaii Division of Fish and Game) in the NWHI using small stainless steel plates fastened to the carapace. The first flipper tags were used in 1965 when a tagging effort focused on basking green turtles was initiated by the US Fish and Wildlife Service in the NWHI. By 1972, more than 800 turtles had been tagged. In June 1973, George Balazs, then with the Hawaii Institute of Marine Biology, commenced systematic surveys and tagging of nesters at East Island, French Frigate Shoals (FFS). Later that year, Balazs began tagging green turtles on their foraging grounds at Kiholo Bay on the Island of Hawaii. During the past four decades more than 15,000 green turtles have been tagged in Hawaii with various types of flipper tags and PIT tags. Metal flipper tags were replaced by PIT tags in 1996. Today, every turtle encountered on the nesting beach or captured on a foraging ground gets a PIT tag in each rear flipper. While metal tags have not been used for nearly 15 years, nesters show up each year at East Island sporting their shiny jewelry from the past. A primary goal of tagging research is to track individual animals throughout the course of their life. With estimates of age at maturity for Hawaiian green turtles ranging from 25-50 years, the amount of time required to see results from tagging studies is equally as long. We will present a summary of green turtles tagged as juveniles on foraging grounds and later recovered on the nesting beach at FFS. During the 2010 nesting season, the 38th consecutive year of monitoring at East Island, 47/231 (20%) nesters still had metal flipper tags. Thirteen of those individuals were originally tagged as juveniles on a foraging ground in the main Hawaiian Islands. Five of the thirteen were documented nesting for the first time in 2010, whereas the other eight had been seen at East Island in earlier years. The time at large for those five turtles ranged from 14.1 to 32.0 years and coincides with earlier estimates for age at maturity of Hawaiian green turtles.

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