



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center Honolulu Laboratory
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October 14, 1987

F/SWC2:GHB

MEMORANDUM FOR: William G. Gilmartin
FROM: George H. Balazs
SUBJECT: Summary report for my October 8, 1987 trip to Kauai to excavate turtle nests and necropsy a stranded turtle in collaboration with State Aquatic Biologist Don Heacock.

Between June and August of this year six turtle "nests" were recorded at Lawai Kai Beach on the south shore of Kauai. The adjacent land is a privately owned estate and botanical gardens open to the public under controlled conditions. The resident manager, Mr. Toshio Kaneko and his family, have carefully monitored these nesting occurrences and compiled detailed data. A photograph taken during the early morning hours of July 28th confirmed the species to be Chelonia mydas (green turtle). Possibly two turtles have been involved in these nestings. However, the approximate 15 day intervals between nestings show that a single turtle could have been responsible. For many weeks now, Mr. Kaneko and his family have made checks each morning for hatchling tracks (nest emergence), but none have been seen.

Four of the six nests were excavated and examined by Balazs, Heacock, and Kaneko on October 8th. The two others were left intact, since sufficient time may not have passed for full incubation and hatchling emergence. Of the four dug up, one was judged to be a "false" nest (no eggs laid). Eggs were found in the other three nests, but there were no signs of hatchling development or emergence. All of the eggs (268 total) were manually opened and determined to be completely infertile. The fine roots of beach morning glory plants had in many cases entwined the eggs, but this was unrelated to the absence of embryonic development. The number of eggs in each nest was as follows: June 25 - 99 eggs; July 11 - 73; and July 27 - 96 eggs. The two remaining nests will continue to be watched by Mr. Kaneko. During early November they will be excavated and examined under my guidance.

On Wednesday morning, October 7th, the day before my scheduled trip to Kauai, a large dead green turtle was found stranded near the river mouth at Anahola Bay on the northeast shore of Kauai. The turtle was quite fresh, so the decision was made to store it overnight under refrigeration so a necropsy could be conducted during my visit. We subsequently carried out this work at the Kauai sanitary landfill a short distance outside of Lihue. The turtle was found to be an adult male measuring 81 cm in curved



carapace length. It's entire tail, most of the right hind flipper, and a sizeable crescent segment (30 cm) of the posterior carapace were missing, all of which were clearly the result of shark attack. There were no internal or external signs of disease, or any other indication to account for the turtle's death. The stomach and intestines were moderately filled with algal food material consisting of Amansia glomerata and Pterocladia capillacea. The shark attack apparently proved fatal to the turtle, although it was noted that the abdominal cavity had not been punctured. Prior to leaving the dump the shell was further mutilated to prevent someone from taking it home as a "trophy". In addition, Don Heacock notified State conservation enforcement officers as to why the remains of a sea turtle were at the dump (should someone report it).

The follow-up done on these turtle nests illustrates the extreme importance of documenting hatchling production. It is very encouraging indeed to have sporadic nestings by green turtles happening again here in the main Hawaiian Islands. However, we need to continue to monitor these events to determine their productivity and actual contribution to population recovery. In the present case it was, unfortunately, not very great.

cc: Donald Heacock
Paul Kawamoto
Gene Witham
WPPO