

East Island Turtle Report, 1997
U.S. Fish and Wildlife Service
Allison Veit
Tim Clark

I. General Monitoring

The 1997 turtle season was a short season consisting of only one month of monitoring. There were 481 nesting green sea turtles (*Chelonia mydas*) identified on East Island during this time as calculated from the ID data.

Turtle Camp began on May 30, 1997 and went through July 1, 1997 consisting of 33 nights of monitoring. Each night ideally consisted of five turtle walks around the island at 21:00, 23:00, 1:00, 3:00, 5:00, and 7:00 (sunset to sunrise). This schedule was often impractical this year due to the large numbers of turtles. Walks often lasted up to three hours. Due to the duration between walks, it is possible that some turtles that were up crawling or digging false pits were not seen. However, it is unlikely that those turtles that actually nested were not recorded as being up.

There were 591 possible nests recorded on East Island during the season. Eggs were witnessed for 149 of these nests. Turtles were seen covering egg chambers (patty-caking) for 148 nests and backfilling 294 nests.

II. Data Notes

Identification data is recorded in the DBASEIII file EASTID97.DBF. This includes tag numbers applied and measurements taken for nesting females in the 1997 season on East Island. It also includes tumored turtle information. Sighting information is recorded in the DBASEIII file ESTSIG97.DBF. This file contains the turtle activity for each night of monitoring.

Moto-tool numbers V40 through V518 were used during the 1997 season. One turtle was not engraved with a moto-tool number. This turtle was identified by a tag number and designated UK1 in the ID and sightings files. In the sightings file the tag is also recorded in the VERTAGNO column. V411 was engraved on two separate turtles. In the ID and sightings files they are identified as 411A and 411B. V411 is used in the sightings file when it is unknown which turtle was on land.

Due to the large number of turtles tag this season F-, -T, and -C tag series were used. The following table lists the tag series and the island on which they were applied. Tern Island is included in the table for convenience, since one walk a night was conducted where any new turtle without a tag received one hind flipper tag.

Tag series	Island applied
F939 - F999	Tern Island
122C - 200C	East Island
581C - 658C	Tern Island
659C - 999C	East Island
127T - 150T	East Island
152T - 800T	East Island
801T - Current	Tern Island

The following tags were misapplied and recovered: F995, 131C, 172C, 173C, 591C, 671C, 759C, 849C, 877C, 917C, 922C, 993C, 146T, 165T, 208T, 426T, 455T, 518T, 538T, 632T, 669T, 683T, and 777T.

The following tags were misapplied and lost: 143C, 916C, 975C, 995C, 427T, 526T, 539T, 757T, and 776T

III. Tumors

There were forty-six tumored turtles identified during the 1997 season. They were listed as V62, V79, V113, V122, V129, V137, V141, V159, V160, V161, V182, V219, V223, V239, V243, V250, V257, V260, V279, V283, V292, V316, V348, V354, V355, V363, V383, V391, V393, V395, V399, V404, V408, V413, V427, V428, V441, V448, V453, V455, V474, V484, V502, V512, V516, and T160. Tumor location and size are found in EASTID97.DBF.

IV. Biopsy samples

Biopsies were taken from 47 turtles for genetic studies. A 6 mm circular sample was taken with a leather punch from the hind flipper. Sixteen of the turtles biopsied had old tags. The remainder had never been tagged. None of the turtles had tumors. The moto-tool number and old tags are as follows: V41 (U140 RHF), V43 (A581 LHF), V44 (U773 RHF), V46 (A928 LHF), V49 (U303 RHF), V53 (F705 RHF), V54, V58 (Y628 LHF), V59 (U220 RHF), V60 (U645 LHF), V67, V69 (F750 LHF), V92 (F729 LHF), V95, V99, V100 (F84 LHF), V104 (F739 RHF), V108 (A432 LHF), V113 (U164 LHF), V122, V125, V131 (U977 LHF), V142, V152, V186, V207, V212, V257, V278, V284, V327, V349 (U452 LHF), V400, V410, V423, V431, V434, V438, V446, V447, V451, V454, V456, V457, V458, T55 (F952 LFL), and T136. Biopsy information is listed in EASTID97.DBF under the comments.

V. Data loggers

Four data loggers were buried on Tern Island and eight were buried on East Island to measure sub-surface temperatures during the nesting and hatchling season. East island data loggers were designated E1-E8. Tern Island data loggers were designated T1-T4. The data loggers were buried 40 cm deep at various locations around the islands. The dates they were buried are as follows: May 31 - E1, E2, E3, E4, E6, E7, and E8. June 1 - E5. June 2 - T1, T2, T3, and T4. Each data logger is tied to a stake and a map of approximate locations of the data loggers accompanies this report and is on file in the Tern Island office. The data loggers were left in the ground at the termination of turtle camp to be recovered at a later date.

VI. Miscellaneous Notes

Two satellite transmitters were recovered from turtles. One from turtle V44 on 5/30 and the other from V91 on 6/3. The shell under the transmitter on both turtles was in excellent condition.

Nests from V44 and V91 were staked for excavation later this season. The nests dug by V44 were marked on 6/17 and 6/28. The nest dug by V91 was marked on 6/16. Precise locations of these staked nests is recorded in the field notebooks for those nights.

A turtle was found stranded on 6/7 by the north seawall on Tern Island. She was tagged, measured, engraved with moto-tool number T104, a biopsy sample was taken, and she was released.

Our tag supply began to dwindle in the middle of the season. Starting on 6/14 only two hind flipper tags were placed on each turtle. Starting 6/16 only one hind flipper tag was placed on each turtle. New tags arrived on 6/24 allowing us to resume placing four tags on each turtle.

Turtle V438 died while crawling on East Island on 6/19 and was found dead on the morning of 6/20. She was tagged 583T LHF on 6/18. She had no old tags nor tumors, and was measured 99 cm curved carapace and 92 cm straight carapace lengths. A necropsy was performed on 6/21. Tissue samples from all major organs, a crop sample, and the left and right humerus were sent to George Balazs for further analysis.

A male turtle with old fiberglass on its carapace, possibly from an old satellite transmitter, was seen basking on East Island on 6/20. He had tags U651 RHF and U652 LHF and was missing one half of his left front flipper.

To: George Balazs
From: Tim Clark
Re: Dead turtle V438

June 23, 1997

A sea turtle was found dead on East Island, French Frigate Shoals on June 20, 1997. She was removed to Tern Island where a necropsy was performed. Tissue and crop samples as well as the left and right humerus were sent to National Marine Fisheries Service, Honolulu laboratory.

Turtle V438 was first seen June 18, 1996 at 2129 hours. She was observed crawling and digging egg chambers until 0628. She was tagged (583T LHF), had no old tags, no tumors, and measured 99 cm curved and 92 cm straight carapace lengths. A biopsy sample was taken.

On June 19 turtle V438 was sighted at 2114 between the parallel log and the old machinery on the east side of the island. She stayed in the same location without moving all night. On the morning of June 20 she was examined at 1000 and found dead.

V438 was taken to Tern Island on June 20 and placed in a container of water and ice in the woodshop. A necropsy was performed on June 21 by Tim Clark and Melissa Shaw. Samples were taken from all major organs and preserved in 10 % formalin. Crop contents were removed and frozen. The front flippers were removed but the humerus were not extracted until June 23. The left and right humerus were frozen. Eggs were abundant but only three had shells. No internal tumors were present and the organs looked normal.

Tern Island Green Sea Turtle Night Surveys, 1997

Nightly surveys of nesting green sea turtles were conducted during the 1997 turtle season. A walk was conducted every night at midnight on Tern Island. The walk began on South Beach at the barracks, included East beach and ended at Shell beach. The time sighted and the general stage of nesting was recorded for any turtle identified during the walk. Turtles were checked for moto-tool numbers. If the turtle did not have a number, one was engraved on the third lateral scute on the right side of the carapace. Tern Island turtles were given a "T" prefix during the 1997 season. New turtles encountered were also checked for tumors and any old tags were recorded. If the turtle had no old tags one hind flipper tag was applied.

The methods used this season differed from the original protocol in two ways.

1. Nightly walks were supposed to occur one hour after high tide. This turned out to be impractical since a high tide early in the evening would cause walks to occur before most of the turtles had a chance to start nesting. If the high tide occurred late in the night, the walk was too close to morning, when a second walk was undertaken by a Fish and Wildlife Service staff or volunteer to search for and mark possible nest that occurred during the night. After discussion with the Honolulu FWS office and George Balazs a midnight walk was approved.
2. No tags were supposed to be applied in the original protocol.