

# Green Sea Turtle Nesting Survey, Moloka'i, 2005

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## 2005 Green Sea Turtle Nesting Survey Kawa'aloa Bay, Moloka'i

The 2005 Green Sea Turtle nesting survey was carried out from the morning of May 2 when the first turtle track of the season (from the night of May 1) appeared at Kawa'aloa Bay until November 14.

This year, 2005, was a poor year for hatches. Only 12 hatches occurred from 37 adult female turtles that came in and at least dug pits. This is less than one third success rate. Past years have usually been nearer to one half. It is doubtful whether this was due to poor observation. At least one observer was on the beach at Kawa'aloa Bay walking from East to West end and back every day of the season with the exception of a day of rain when observers could not negotiate the muddy road in. While lack of training was a problem at first, and landmarks were not always recognized by the turtlers in their descriptions of tracks, by and large, some degree of accuracy was met. Obviously in early July some mistakes were made. Hatches in the end of August sometimes could not be made to agree with locations used to describe turtle pits made in July. A new map and more distinct landmarks should solve this problem in 2006.

It is to be noted that 20 turtles came in on the sand before one laid viable eggs that resulted in a hatch. Seven of these turtles made false crawls, but 13 turtles dug at least one pit. It was July 25 before a female's eggs successfully incubated. These were laid May 24.

There seems to be little correlation between the number of pits dug by a female and the occurrence of hatches. Hatches occurred on three occasions where only one pit was dug. Three hatches occurred when two pits were dug. One hatch occurred when three pits were dug, and one hatch occurred when four pits were dug.

One can note that almost all the turtle activity occurred at the river and east of there this year. Twice a turtle came in on the west end of the beach and dug a pit. Seven times turtles made false crawls appreciably west of the river.

There were at least two beach cleanups on Kawa'aloa Bay during the turtle nesting season. Beach cleanup crews are noble self-sacrificing individuals who are greatly appreciated by the public and the turtlers for beautifying the sands. However, bags of refuse dragged across pits, markers removed, and general disturbance of the sand may not be the best for incubating turtles. It is to be suggested that beach clean up crews not be deployed during turtle nesting season, May through November, since they not only make it hard for turtlers to locate lays, but also may change the natural beach habitat for turtles. A log or a piece of plastic across a nest may alter the temperature in the nest, thus changing the climate for length of incubation of the eggs or sex determination of the baby turtles. Remove it and these effects are altered.

Picking up extraneous objects, ropes, nets etc. near the waters edge while patrolling the beach should hurt nothing, and may even make it safer for turtles to transit. On at least one occasion an emerging baby turtle was found tangled in netting, which was in the nest hole.

On this beach little is present to disturb the emerging nestlings. Ghost crabs Oxypode ceratophthalmus Take some small toll, and on a few occasions cat tracks appeared where hatchlings tracks disappeared. Birds seem to be no problem since hatchlings reach the water at night and the birds are flying over in the daytime.

From time to time it is advisable to dig a hatched nest to determine how accurately baby tracks represent the actual eggs hatched. This was done at the end of the 2005 season.

On November 14, 2005 a work party of 7 dug up the hatched eggs from the only nest they could still locate, #31 pit. The inaccuracy of the original count at this pit, 40 hatchlings, can easily be observed since the number of hatched eggs in the pit turned out to be 79, with two spoiled eggs in addition. Because the turtle counts made by the individual turtlers are made the morning after the night hatches, much time has occurred for wind blown sand to obliterate tracks, for crabs to obscure tracks with their crawls, and for turtle tracks to be confused by multiple baby turtles criss-crossing over previously made crawls.

After a period of 45 to 71 days from the time the pits are dug by the female turtles and eggs laid until eggs hatch, and then allowing a safe interval after the hatch to be sure diggers do not disturb still emerging turtles, much has changed physically in the area around the lay. Pits are completely filled in by drifting sand. Any markers left are moved by wind or displaced by beach goers. Beach cleanup crews have moved, or removed, landmarks used by the turtle crews to describe locations of nests. Furthermore one has to know with pinpoint accuracy where a hatched nest was found, since the eggs, at time of digging are approximately three feet below the surface with more sand sliding into the pit dug, with every shovel full removed.

In the early days of November a Monk Seal was observed basking on the east end of the beach on several mornings.

Submitted by Joan Aidem