

Review of Marine Turtle Monitoring Programme in Nevis for 2005

Lemuel Pemberton, Craig David, Kayno David, Jamal Daniel, Kurwin Mintos, Natasha d'lima,
Rene Walters, Nerisha John, Joel Williams

INTRODUCTION

2005 has been the third consecutive year of sea turtle nesting beach monitoring on Nevis. As was the case with the first two years the main focus of monitoring efforts was on the index nesting beach - Lovers or Seahaven Beach. A small number of beach patrols were also conducted at Jones' Bay, Herbert's Beach, Garling Bay and Indian Castle Beach (Map 1). The general public and fishers assisted greatly in the monitoring process that was spearheaded by the Nevis Turtle Group and the Department of Fisheries.

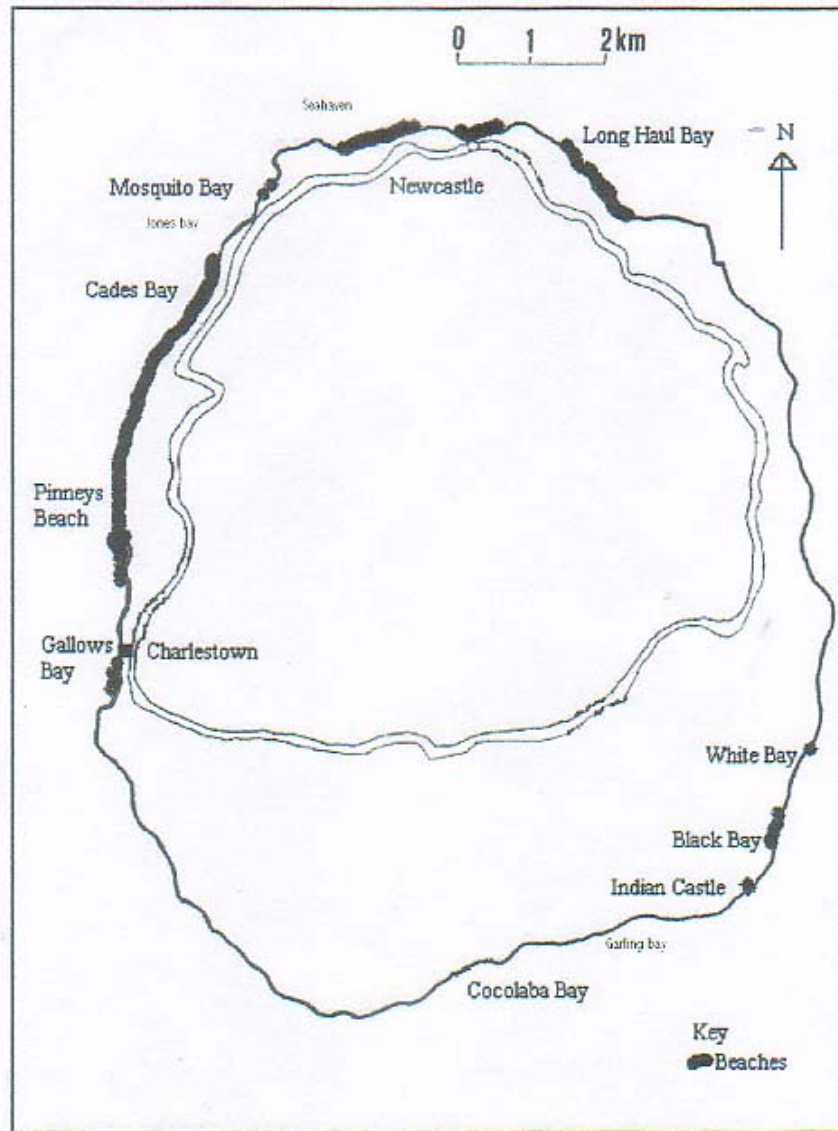
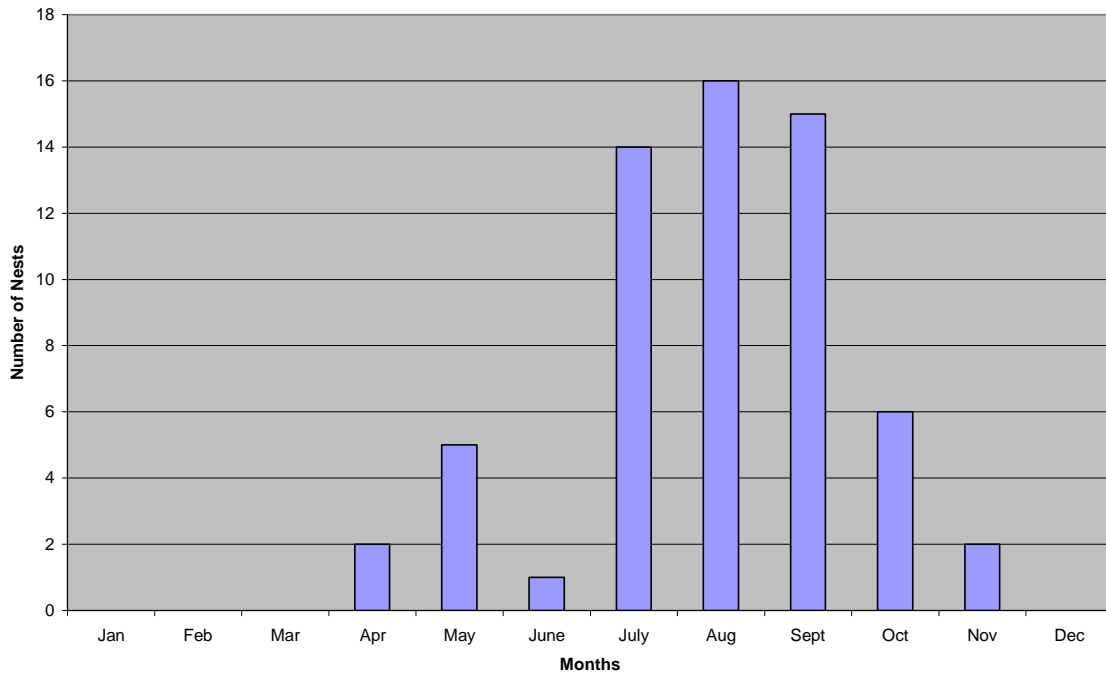


Figure 4.4. Location of the major beaches on Nevis.

THE MONITORING PROCESS

Nesting beach monitoring occurred during the period March to mid December. In March, morning surveys were done. There was no recorded activity during this month (*Figure 1*).

Figure 1: Nests by month, Seahaven Beach



There was a gradual stepping up of patrols as the season became more active with the beach being patrolled on a daily basis in August and September. Nevis Turtle Group members, Craig David, Kayno David, Kurwin Mintos, Jamal Daniel and Natasha d’Lima were especially instrumental in this process.

NESTING ACTIVITY

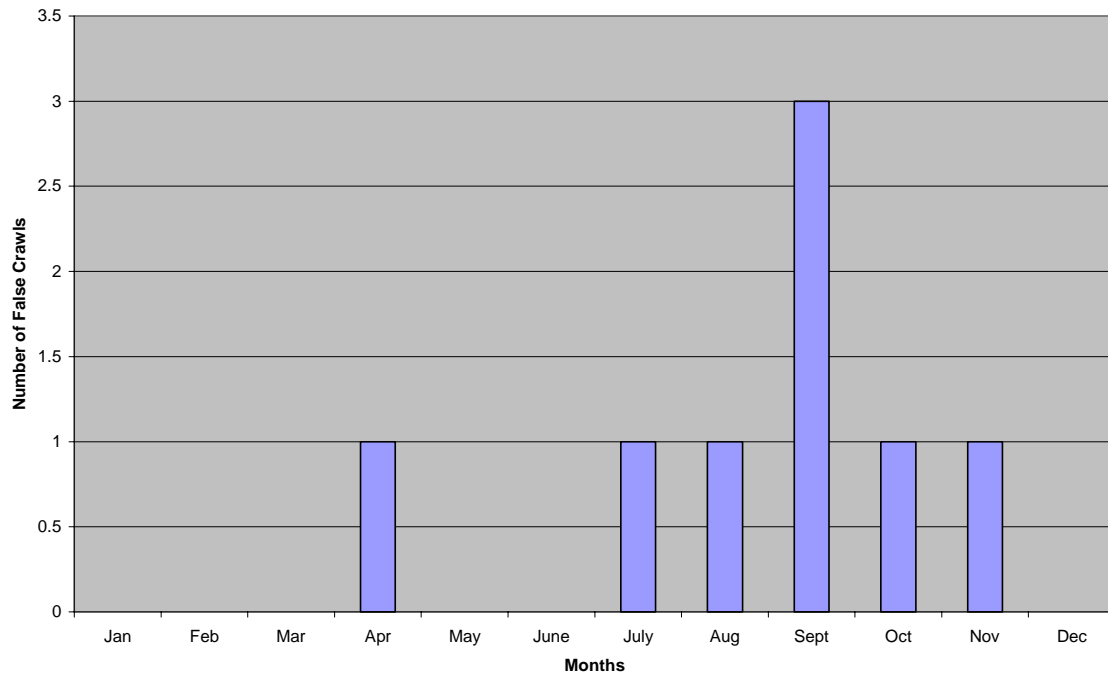
A total of 61 nests were recorded on Seahaven beach during the 2005 season. However, at least a dozen were missed by patrollers and it is estimated that about 75 clutches of eggs were laid here. The period of highest activity was July, August and September (*Figure 1*). The Leatherbacks nested during the period of April to June while the Hawksbills nested

during the period April to November. Only one Leatherback was actually seen nesting on the beach though the number nesting here this year could have been two or three. Seven Leatherback crawls were noted and tree nests positively identified.

FALSE CRAWLS

As in previous years there were a number of false crawls (*Figure 2*).

Figure 2: False Crawls on Seahaven Beach

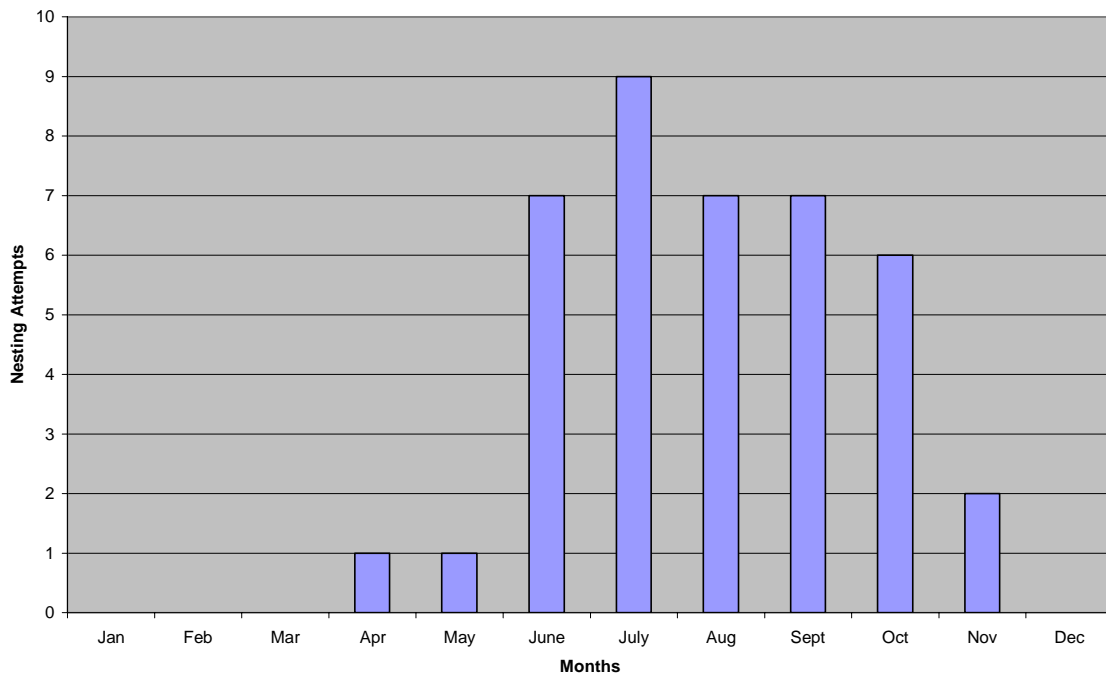


All those observed were done by Hawksbills. No false crawls were identified as been done by Leatherbacks. They seemed to have at least made nesting attempts. False crawls were highest in the month of September and were overall lower in number than in 2004.

NESTING ATTEMPTS

This activity was highest from June to October being highest in the month of July (*Figure 3*).

Figure 3 : Nesting attempts, Seahaven Beach

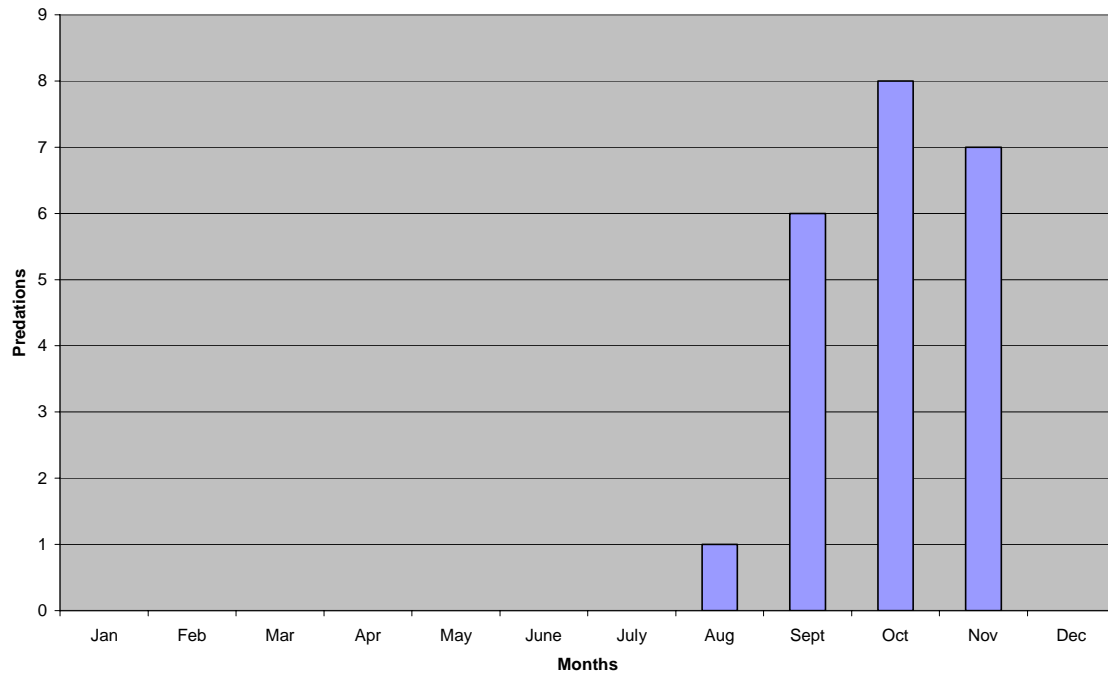


This generally coincides with the period when the most clutches of eggs are laid. All the noted nesting attempts were made by Hawksbill turtles that spent between a few minutes and two hours on the beach without laying eggs.

PREDATION

As in previous years predation of turtle eggs by animals remained a problem. The main predator was the mongoose that ate both turtle eggs and turtle hatchlings. Stray dogs were seen on the beach on a number of occasions. It is possible but not confirmed that these may have dug up some nests and eaten some turtle eggs and hatchlings. A new predator – the recently introduced to Nevis fire ant – attacked turtle eggs in a number of nests. This was especially noticeable on the section of beach west of the Lovers' Lane access road. As the number of hatching events increased the mongooses became more aggressive in their attempts to dig up nests with hatchlings about to emerge and nests where hatchlings had already emerged. In no case did the mongooses seem to attempt to dig up freshly laid eggs. Late in the nesting season an attempt was made to deter mongoose predation by spreading hot pepper sauce on eggs in nests that had been excavated by Nevis Turtle Group members. The effect of this on mongoose predation is yet to be ascertained. In the 2006 season further attempts will be made to decrease mongoose predation by this or other methods that may be experimented with. Predations were highest from September through November (*Figure 4*).

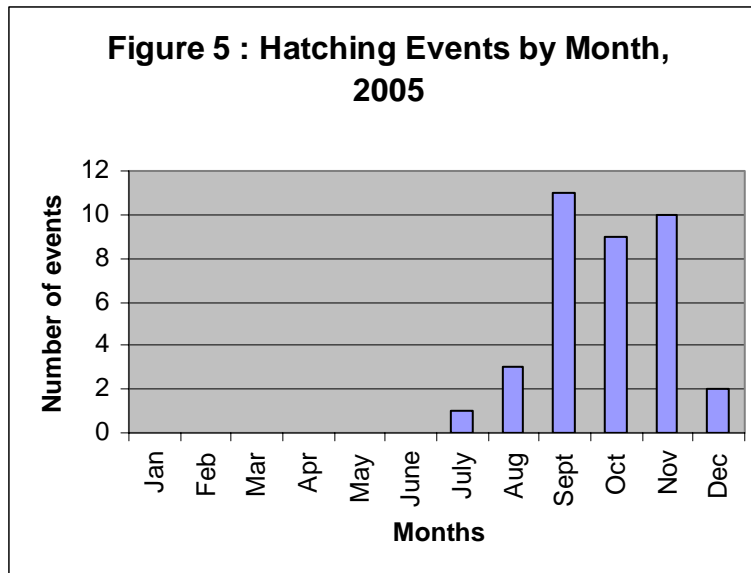
Figure 4: Predations by Month on Seahaven Beach



Nests located on or above the vegetation line were more likely to be predated than those below it.

HATCHING EVENTS

Hatching events were highest from September through to November (*Figure 5*) thus coinciding with the months when predations were highest.



Clutch success was greater on the section of the beach west of the pond than on the stretch of beach east of the pond. This may be due to the fact that the western section of Lovers Beach is generally wider than the eastern end. The sand on the eastern end of the beach is generally darker than on the western sector and the depth of the sand is generally shallower in the eastern section as well. Furthermore, the clay to sand content in the eastern section appears higher and this section appears to be more susceptible to being inundated by high tides and to being eroded by the sea.

POACHING

There was a low incidence of poaching in 2005. Though some attempts at poaching eggs were noted (less than 10) only one appeared to be successful. One turtle was poached in the month of October but was retrieved with the help of the Police at the New Castle Police Station. Unfortunately, it appeared as if this turtle was later caught by a turtle fisherman (tag #'s WH 332, WH 335) – a Hawksbill turtle. The public education programme and the frequent beach patrols may have resulted in the reduction of poaching. However, these efforts need to be extended to other nesting beaches on Nevis if we are to continue to have a nesting population of turtles.

CLUTCH SUCCESS

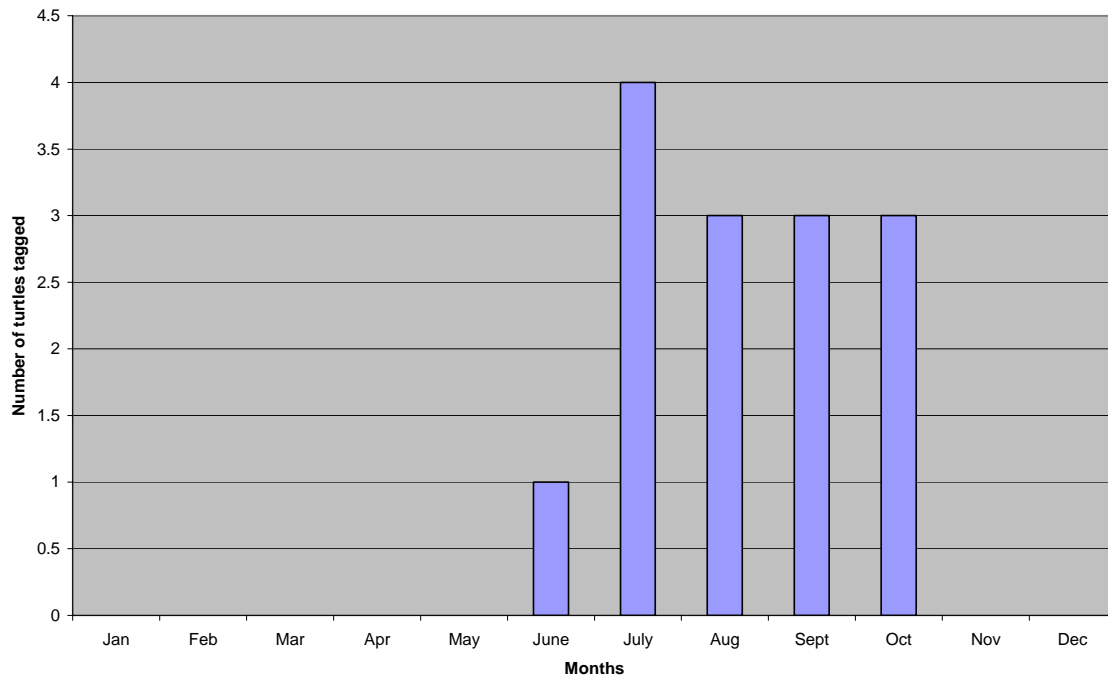
This varied according to the type of turtle and the location of the nest along the beach. We previously mentioned that clutches located on the western sector of the beach were more successful than those laid in the eastern sector. Clutch success was higher for Hawksbill than for Leatherback turtles. No Green turtles nested on Lovers' Beach. There were five nests or nesting attempts by Green turtles at Dog Bay in the Indian Castle area. One of these nests was excavated and it had a clutch success of 67%. A total of 28 nests that had not been predated were excavated. About 6 other nests that had been predated had also been excavated. However, the level of disturbance in the latter was so great as to make the determination of clutch success impossible. 24 of the nests excavated were Hawksbill nests and the average clutch success was 84%. Three Leatherback nests were excavated and these showed a success rate of 26% giving a success rate of 77.4% for all nests excavated on Lovers' Beach. The overall clutch success on the island was 77%. However, it must be noted that there were only an estimated seven Leatherback nests on Lovers' Beach and an estimated four Green turtle nests on Dog Bay beach, Indian Castle. Lack of personnel/volunteers meant that other sea turtle nesting beaches could not be covered adequately. Periodic checks were made on these beaches.

Checks were also made when citizens called in and made reports of sightings of hatchlings, turtle tracks on the beach or made reports of suspected poaching.

TAGGING

A total of 14 turtles were tagged during 2005. 13 of these were hawksbills and one was a leatherback turtle. Levels of tagging were highest during the middle months of the year during the same period when levels of nesting were highest (*Figure 6*).

Figure 6 : Tagging by month on Seahaven Beach



Inconel tags were used on the hawksbill turtles and Monel tags on the leatherback. One tag was attached to each of the front flippers of the hawksbills and one tag to each hind flipper of the leatherback. A number of these turtles re-nested and seemed to have suffered no ill effects due to the tagging experience. However, none of the turtles tagged during 2003 were positively identified though one appeared to have a slightly torn flipper at a point where a tag may have been attached. It is hoped that some of these turtles will be seen during the 2006 nesting season.

CONCLUSION

2005 was another successful year for monitoring of nesting turtles on Lovers' Beach. However, sea turtles in the island's waters continue to face challenges such as legal and illegal harvesting, incidental capture in nets and poaching of sea turtle eggs and of nesting turtles. Predation by mongooses, dogs and fire ants continues to be a problem as does driving of vehicles on the beaches, the lighting of bonfires on the beaches and the deposition of garbage onto the shoreline or areas immediately behind the shoreline. It is hoped that increased conservation efforts in 2006 will yield greater success.