



Capture and Consumption of Sea Turtles in the Manning Straits, Solomon Islands



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Abstract

Sea turtles are an integral part of marine ecosystems and they have been under threat from human activities such as capture and consumption. Habitat destruction has been recognized as being among the primary causes of extinction of marine and terrestrial species, both plants and animals, worldwide. The surging population in the Solomon Islands has also led to the destruction of critically important turtle nesting habitats. This paper focuses on capture and consumption of different life stages (eggs, juveniles & adults) of turtles (hawksbill and green) harvested from the last 20 years of harvesting. It compares data from 20 years to 10 years and with current harvest rate. The driving force behind the capture of sea turtles for the Manning Strait was identified. All collected data was analyzed using the SPSS. From this research, it was found that harvesting rate for eggs, juveniles and adults were still high (around 1000 turtles per year). Harvesting of sea turtles are not only subsistence but for special events as well. Green turtles are the favorite meat for the communities compared to that of hawksbills turtle. Hawksbill are mostly harvested by the communities for their shells, which are used to make ornaments. It is important that sea turtles be harvested sustainably so that future generation can also enjoy.

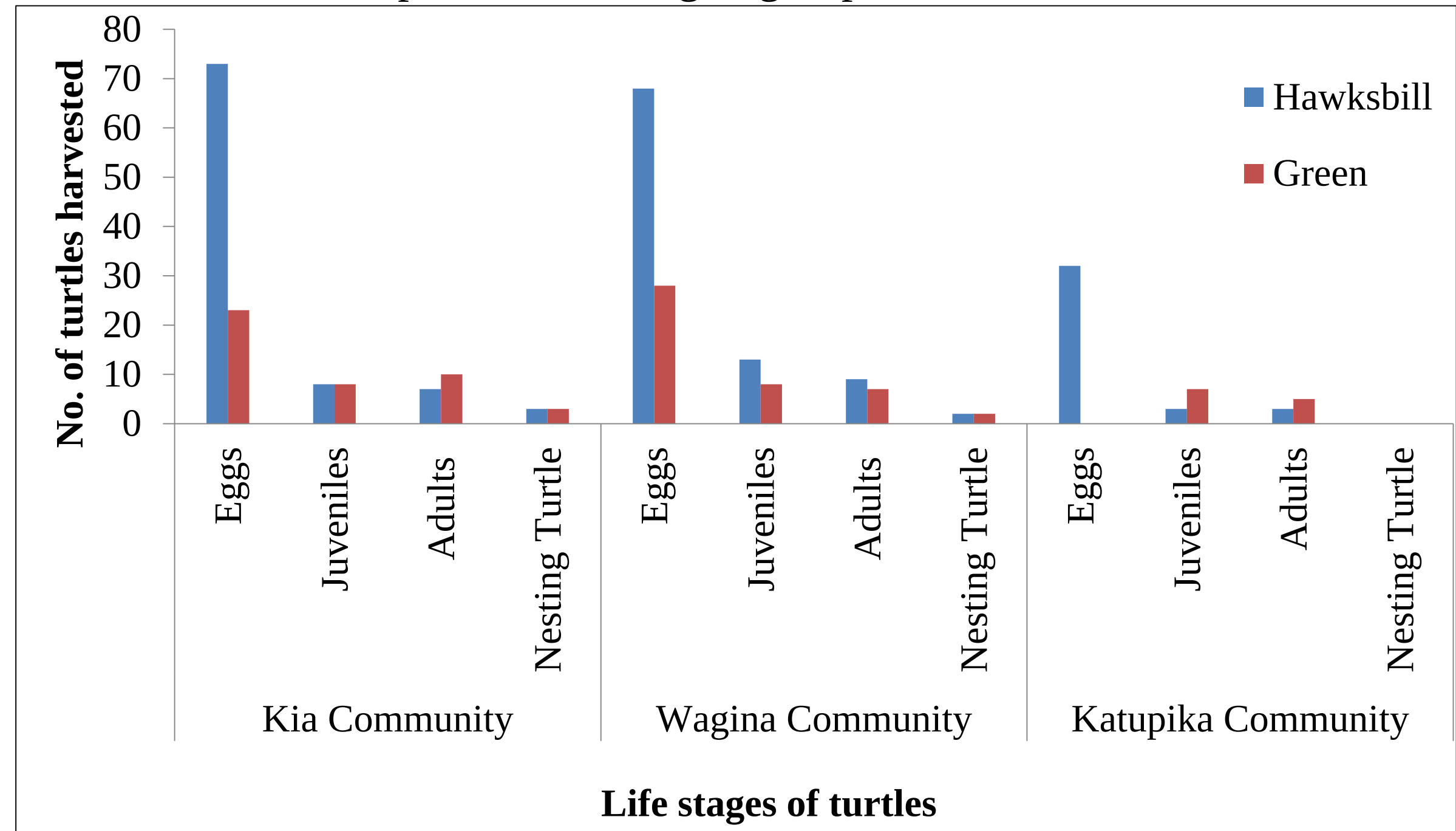
Discussion

The finding suggest that the current rate of capture in Manning Strait has reduced and thus recovery of local turtle populations is possibly happening (Hamilton et al. 2015). There is still reports of illegal harvesting from the Arnavon marine protected area though there is continuous monitoring at night. Overharvesting of eggs & juveniles, harvesting of nesting females, illegal fishing techniques, beach disturbance, predation and climate change are some of the possible causes of turtle population decline for the Manning Strait. The modes of capture that were greatest threat to sea turtles in Manning Strait include hooked harpoons, fishing nets, rodeo, spearing and custom leaves. The recall bias during interview was one of the biggest challenges as respondents were finding it difficult to recall the correct information for last 10-20 years. Under Solomon Islands law, turtle meats are strictly banned for commercial sale, only subsistence harvesting is allowed (Broderick 1988; Mortimer 2002).

Methods and Materials

This research was carried out by the means of semi-structured interviews and questionnaires for Manning Straits group. Two trips were made to the research site to collect data through group and individual interviews. This research used PGIS to identify the spatial location of turtle harvesting on Arnavon Islands. Imagery maps were used to identify and locate the exact areas of capture and the harvest in the nearby communities for the Manning Straits. A total of 230 individuals participated in this research which included 23 groups (5 person/group) and 46 face-to-face interviews. The data was analyzed using the SPSS software.

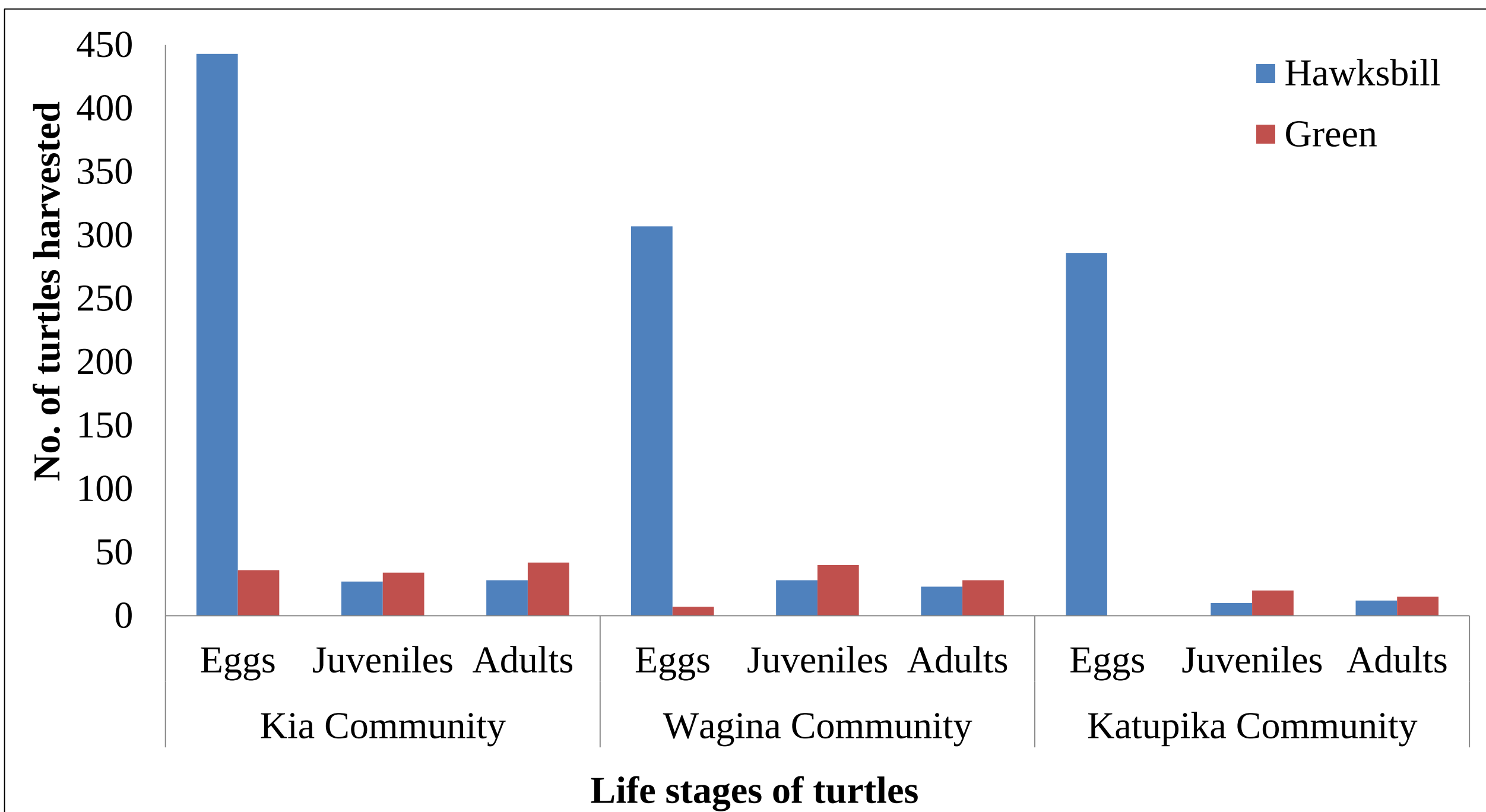
Figure 1. Average number of different stage of sea turtles per community and species according to group interview



Results

Harvest per year was estimated for the different life stages of turtles separately for each community based upon group and individual interviews (**Figure 2 and Figure 3**). The total harvest of hawksbill eggs for three communities ranges from 1000 to 1200 eggs, as reported for groups and individuals interview. The total harvest for the Manning Strait alone is around 360-400 adult turtles per year and of which 10% of the total harvest are the nesting female turtles. The estimated total number of turtles harvested and consumed in 2014-2015 was 246 turtles per year and 365 turtles per year for hawksbill and green respectively. Overall, green turtle harvest and consumption is high for all three communities, but there is a slight reduction (24%) in harvest compared to last decade.

Figure 2: Average number of different life stages of sea turtles harvested per community for the both species according to the individual interview



Conclusions

This research was carried out to examine the status of sea turtle capture and consumption for the Manning Strait in the Solomon Islands. The estimated total number of turtles harvested and consumed in Solomon Islands is more than 1000 turtles per year. As a critically endangered species, it is important that measures are in place to monitor harvesting rate across Solomon Islands.

It is highly recommended that (i) establishing more marine protected areas for the Manning Strait and also for each province in the Solomon Islands (ii) community participation in conservation efforts is essential (iii) creating more public awareness for conservation (iv) establishing a national harvest quote for subsistence capture and (v) seek donor funding for establishment and monitoring. The outcomes of this research may be very beneficial to the communities and organizations that are engaged in marine conservation.



Figure 3. Release of hatchlings



Figure 4. Juvenile Hawksbill .

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