



2016-2017 Sea Turtle Monitoring and Protection Program - Interns' Report

Beach Monitoring Stats

A total of 15 sea turtle activities were observed during the 2016 nesting season (July 28 - November 1): 11 nests and 4 dry runs. Of these nests at least were 6 inundated by storm surges during the month of October. Three nest depredations were observed; however, depredations appear to have occurred after hatching, due to the presence of clearly hatched egg shells present in the cavity. Therefore, these depredations did not likely have severe impacts on the overall success of these nests. These nests were all laid outside of 'season' and are not reflected in the total number of nests listed above. Three nests were excavated this season. Future management needs for next season were identified to make the program even more successful for the 2017 season.

Education Outreach Projects

The sea turtle interns, with the help of the National Park's Interpretive Ranger Laurel Brannick, spread awareness of sea turtle conservation by providing informative sea turtle talks at the local schools on St. John. The presentations informed students of the general life history of sea turtles, adaptations to the marine environment, habitat and diet, threats, and conservation efforts. Following the presentations, the students created drawings that highlighted the topics they found most interesting. In addition, each student colored a small square of paper, which resulted in a sea turtle mosaic made by the cooperative effort of the children of St. John. Some students were able to participate in a nesting relay race, mimicking the nesting process of a hawksbill sea turtle. Around 85 children in grades 2nd-6th from Julius E. Sprauve, St. John Christian Academy, Giff Hill, and the homeschoolers of St. John were reached through this conservation outreach effort.

Nest protection

Due to the high rate of depredation encountered during the 2015 nesting season, intensive efforts were initiated this nesting season to reduce the effects of predators on sea turtle nests. These efforts included the eradication of mongoose near nesting beaches and the development of methods for screening nests. While no nests were screened this season, the materials and methods have been developed and revised for implementation next season.

Maho Foraging Study

The Sea Turtle Program interns have begun a pilot study that they intend to be utilized for further research. After observing a severe decline of the native seagrass *Thalassia testudinum* (green turtles' primary food source), and a dramatic increase of the invasive species *Halophila decipiens*, the question was asked: ***Are the green turtles eating the invasive Halophila, even in the presence of native Thalassia? What will happen to the turtles when all the native seagrass is gone?*** The interns cataloged foraging behaviors of individual sea turtles found in Maho Bay, a popular green turtle foraging ground. During their in-water surveys, Adren and Catherine obtained GPS tracks of habitat utilization, video recordings of foraging behavior, and additional information such as time spent performing certain



behaviors and the species of grass being foraged. In addition, each turtle was photographed to create an ID database, giving each turtle a specific profile describing their distinguishing characteristics and markings. They hope this information will one day lead to the development of more comprehensive research of the relationship between seagrass distribution and green turtle foraging behavior.

Marine Debris

Due to the high volume of trash discarded and washed up on our beaches, an initiative was taken to promote awareness of the threats associated with marine debris through the use of informative signs. Marine debris poses hazards to wildlife through ingestion and entanglement. Debris often resembles food sources and can cause choking, blockage, starvation, or toxicity. It is estimated that between one third and one half of all sea turtles ingest plastic products throughout their lifetime. Due to these pollution-related hazards, signs were created to be mounted in the bathroom stalls of high-use beaches to educate the public of the dangers of marine debris.

Night Watch

Since most sea turtle nesting activity is performed during the night, the Night Watch project was created in an effort to observe and record nesting activities on the beaches of St. John. Interns and volunteers sat out on beaches after sunset, patiently waiting for a female to crawl up the shore and lay her nest. Although no turtles were encountered during these watches, there was a great turnout of interested turtle enthusiasts.

Project Background:

Hawksbill (*Eretmochelys imbricata*) Hawksbill sea turtles contribute the majority of our nests on St. John. While these turtles nest year-round, the peak of the nesting season is from August to November in the Virgin Islands. During this time, these turtles will return to their natal beaches and deposit between 3-5 nests at 14 day intervals. Each nest contains around 100-200 ping-pong shaped eggs that incubate for around 55-75 days. This is the smallest of our sea turtles in the USVI; reaching between 24-35 inches and averaging 100-150 pounds. This turtle gets its name from the narrow and pointed beak that resembles a hawk's bill. This turtle is found near reefs, feeding predominantly on sponges. Hawksbill sea turtles are internationally listed as Critically Endangered and nationally listed as Endangered, mostly due to human induced threats. Aside from the common threats of all sea turtles, global hawksbill populations have been severely reduced due to overharvest for their desirable shells.

Green (*Chelonia mydas*) Green turtles are commonly found along the shores of St. John foraging on sea grasses. These turtles are the largest of the hard-shelled turtles found in the USVI. The average length of an adult is around 40 inches and can weigh somewhere between 200-500 pounds. Due to a diet of sea grasses, this turtle gets its name from the greenish color of their fat. Green turtles are internationally listed as Endangered, and nationally listed as Threatened. These turtles are commonly poached for their meat and eggs.

Leatherback (*Dermochelys coriacea*) Leatherback sea turtles are the largest of all turtles. Adults can exceed 9 feet in length and weigh more than 2000 pounds. These turtles are roughly the size of a

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Volkswagen Beetle! They feed primarily on jellyfish, and will often mistakenly ingest plastic debris floating in the water. Leatherbacks, unlike other sea turtles, do not have a hard shell--hence the name. This flexible carapace gives them the ability to dive to depths greater than 3900 feet. Although these turtles spend the majority of their time in the open water, leatherbacks have been known to nest on St. John. Trunk Bay was named after the large 'trunk-like' turtles using the area as a nesting ground. Nationally listed as Endangered, and internationally ranked Critically Endangered, these turtles face a variety of threats ranging from entanglement in fishing gear to the harvest of eggs.

Loggerhead (*Caretta caretta*) It is not common to see loggerheads around St. John, although sightings have been reported. Loggerhead sea turtles are a large-bodied turtle, typically measuring around 30-42 inches long and weighing between 250-400 pounds. Loggerheads are named for their relatively large heads that are adequately adapted to crushing their diet of hard-shelled prey. These turtles are internationally listed as Endangered, and nationally listed as Threatened. A number of threats influence the populations of these turtles including the harvest of meat and eggs, impacts from fisheries, and habitat modification.