

Sea Turtles of Barbados

by Phil Rudin

Barbados is a visually stunning island surrounded by an enchanting turquoise-blue sea that is home to an abundance of Caribbean marine life. Miles of unbroken white sand beaches like “The Crane” (rated one of the top ten beaches in the world) are set in a backdrop of sloping cliffs that rise from the sea to heights of 100 feet or more. Barbados is the easternmost Caribbean island and is part of the Windward Islands chain. The island formed as a result of volcanic activity which later led to the growth of huge coral formations which surround the island and extend to approximately 300 feet.

The Barbados Sea Turtle Project at the University of the West Indies-Cave Hill Campus was established to restore marine sea turtle populations and to act as a catalyst for similar efforts in other Caribbean countries. The project hopes to achieve this goal through conservation measures, monitoring programs, education and public awareness activities. The project has formed partnerships at the national Government level, with the tourist sector and serves as the international focal point for Widecast (Wider Caribbean Sea Turtle Conservation Network) in Barbados.

The Widecast network has coordinators in more than forty Caribbean nations and territories which link scientists, resource managers, policy-makers, educators and conservationists. Widecast’s



A team member swims a captured turtle slowly to the surface

objectives are to obtain and update information on sea turtles in the Caribbean and to provide current management recommendations to area governments. Widecast and the Barbados turtle project hope to reverse declines in turtle populations of both endangered and vulnerable sea turtle stocks through government enforcement of national laws and international agreements, as well as conservation and education efforts.

Over 900 hawksbill and green turtles have



A turtle weigh-in.

been tagged and identified by BSTP since mid 1998 when the in-water tagging program began. Turtles that are re-sighted after six months or more are again measured to provide information on growth rates, movements between reefs and where the most important foraging habitats are off the Barbados coastline. Genetic analyses through DNA testing show that the nesting populations of hawksbills in the Caribbean are highly structured while the foraging grounds are quite mixed throughout the



Measurement of carapace using a cloth tape.

Caribbean range. By studying turtles in the water rather than on native beaches a more accurate picture of their movements can be gained.

I had the opportunity to join three BSTP staff members Barry Krueger Ph.D. and volunteer interns April Stevens and Micah Herriot, during part of the in-water monitoring program aboard the 'Ali Cat', a Hightide Watersports dive vessel. Hightide Watersports is located on the grounds of the prestigious Coral Reef Club. They have collaborated with BSTP so that their dive and snorkel customers



Measurement of carapace using calipers.

have the opportunity to experience the fieldwork involved with this turtle research project. Once the 'Ali Cat' has reached the dive location Hightide staff members accompany their clients on a reef dive while the turtle researchers enter the water as a group in a different area. Once I entered the water with the research team we descended to about sixty feet and formed a line 20 feet above the reef and about 50 to 100 feet apart drifting with the current. I immediately noticed the large number of barrel sponges that turtles had been feeding on, a



Flipper tag to track and gain data.

good sign that we were in the right area for turtle collecting. The three member team then began looking for turtles of around a foot or more in length, most often hawksbill and green turtles. Once a turtle has been spotted the team surrounds it and attempt to catch the turtle by hand. Once a turtle has been secured one of the team members swims it to the surface and it is taken aboard the Ali Cat. The turtle is then placed on its back on the dive deck in the shade and the team diver returns to the reef to continue the hunt.



Laparoscopic examination to determine the turtles sex.

During this process issues arise, foremost is the safety of the turtles and divers. As April explained, the last 20 to 25 feet are the most critical as the turtle begins to become more buoyant near the surface. As a result the diver may tend to rocket to the surface and not be able to make a required safety stop or a slow enough ascent. On the surface the handler has to control the turtle until the boat arrives and the turtle is loaded aboard. Once all of the divers are back aboard the Ali Cat the data collection process begins. The turtles are then

measured, weighed, given an identification number, tagged and the sex of the turtle is determined. A snip of flesh is also taken for DNA testing to determine the turtle's location of birth all while meticulous written records are being maintained. This allows the researchers to determine how far the turtles are traveling to forage in the area. Measurements are made with a cloth tape along the carapace (top shell) and also with a set of calipers. These measurements are then logged along with the weight of the turtle so that growth patterns can be established in recaptured turtles.

A grinding tool is used to cut an identification number into the carapace. White paint is then used to make the number more visible to team divers while in the water. Once a turtle is released it is not recaptured for at least six months, the number is shed during the growing process so that no permanent marking remains.

A custom-manufactured flipper tag is then inserted into the turtle's flipper. The turtle tagging techniques are used to gain data for storage in the Caribbean states data storage base. When long distance tag returns occur the information is shared through the Widecast marine turtle tagging center.

If the turtles sex cannot be determined a laparoscopic examination is used to determine if gonads are present in the turtle. A very small incision is made behind the rear flipper and the laparoscope is inserted, once the sex is determined the incision is closed with a single suture to prevent infection. Thousands of these

procedures have been performed around the world without any harm to the turtles. The turtles are then returned to the sea where they continue to provide valuable insight into their life cycle.

If you are interested in joining in a turtle dive in Barbados contact

www.divehightide.com

Phil Rudin





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