

St Eustatius Marine Park

In affiliation with WIDECAST
(Wider Caribbean Sea Turtle Conservation Network)

(First Annual Report) Year End Report, 2002

The coast line of St Eustatius (approx 20 miles) is dotted with only a few sandy stretches of beach, the largest of these, Zeelandia beach is thought to be a nesting area for four species of “endangered” sea turtle the Green (*Chelonia mydas*), Loggerhead (*Caretta caretta*), Leatherback (*Dermochelys coriacea*), and Hawksbill (*Eretmochelys imbricata*). Unfortunately Zeelandia beach is also used for sand mining and as a recreational area for activities that include joyriding, both these exploits of Zeelandia come into direct conflict with sea turtle nesting. In August 2001 the St Eustatius government provided Zeelandia with protected status to prevent further anthropogenic erosion of the sand and afford protection for nesting sea turtles, in conjunction with this the St Eustatius Marine Park in affiliation with the Wider Caribbean Sea Turtle Conservation Network established its Sea Turtle Protection and Monitoring program.

The overall goal of the first year of the Sea Turtle Protection and Monitoring program is to promote the long term survival of the endangered sea turtle populations by safeguarding critical habitat on St. Eustatius, providing important information to scientists and Marine Protected Area managers in the wider Caribbean, and directly involving the local community in the program in order to promote a better understanding of the importance of long-term conservation. The program is necessary for evaluating the success of conservation, management and regulatory actions intended to result in stable or increasing populations at the local level.

The Sea Turtle Protection and Monitoring program started in April with the arrival of the Marine Park intern. The initial project plan¹ involved monitoring of Zeelandia beach at night for nesting females which were tagged with metal flipper tags before returning to the ocean and continuing to monitor the nests until the hatchlings emerged. In reality due to a lack of staffing the beach was only monitored a few nights a week and the majority of data was collected from turtle crawls the following mornings.

PROJECT IMPACT

Community Involvement is one of three primary objectives in the Statia Marine Park’s turtle tagging/monitoring program. Providing an understanding of conservation for local islanders, especially children, is crucial to the sustained survival of the endangered sea turtles nesting at Zeelandia beach. Sea turtles are particularly good candidates for public

¹ Proposed methods taken from financial aid request attached to appendix

education. Coastal peoples in particular have observed sea turtles in one setting or another, and the connection between protecting sea turtles and protecting large segments of the economic base (e.g. fisheries, tourism) can be clearly articulated to local islanders. Sea turtles are integral to the cultural history of Statians and have an added potential for capturing the imagination and emotion of the citizenry. This program needs to embrace all available avenues of communication, including print and electronic media, school curricula, public displays and local gatherings.

Human impacts on the sea turtles of St. Eustatius include include:

1. Ingestion of debris – Part of the sea turtle program includes a bi-weekly clean-up of Zeelandia beach, which has already begun but so far has not lured many islanders. The list of materials found in turtle digestive tracks is also found on Zeelandia beach...plastic bags, line, rope, pieces from bottles, paper, Styrofoam, rubber, cigarette filters, wax, cellophane, fish hooks, and glass.
2. Fishing and incidental capture – Lobster and crab pots and hook and line fishing cause entanglement, mutilation, and debilitation. Entanglement in derelict fishing gear is also a serious problem for sea turtles. Entanglement can result in reduced mobility, making the turtle unable feed or flee from predators.
3. Sand mining – Large quantities of sand were dug from Zeelandia beach with heavy equipment to be used in the production of concrete. Sand mining destroys the beach, eliminates nesting, and is recognized as a threat to sea turtle populations. The beach is closed to mining, but contractors are fighting to have it reopened.

Artificial lighting on nesting beaches is detrimental to sea turtles because it disrupts critical behaviors. Luckily, St. Eustatius is mostly free from development near Zeelandia beach, but development can be expected over the next twenty years.

The **Community Involvement** component to this program is crucial and will help to prevent these human impacts to sea turtles. Long term conservation of sea turtles involves changing habits of coastal communities in which natural resources use is a vital source of income. Local islanders must be drawn into conservation and research programs to generate benefits to the community. Integrating the “community involvement” aspect into the turtle tagging program ensures that new generations are raised with a more conservationist outlook. Involving youth and other local islanders in sea turtle tagging and nest monitoring will encourage a general ecological sensitivity and concern. Without the “community involvement” component, the project will become fragile.

Appendix

METHODS

The tagging of even a few turtles, particularly at nesting beaches where tagging has never been conducted, can yield valuable insight into migrations and the locations of resident

foraging areas. Historically, tagging has been the single-most valuable activity in advancing our understanding of sea turtles and their conservation needs in relation to complex life cycles, slow growth rates, reproductive migrations, and delayed sexual maturity.

Monel and Inconel metal flipper tags will be used. A special applicator will be used for proper attachment. All tags and applicators have already been provided by WIDECAST. All tag applicators will be inspected and cleaned on a routine basis and discarded when they cease to function properly.

The external tags will be attached on the front flippers at a proximal location, where the swimming strokes will cause minimal up-and-down movement of the tag on hawksbills and loggerheads. Tags will be applied to the hind flippers of nesting leatherbacks, due to their unique swimming technique.

Once the nesting females have safely finished nesting, she will be captured toward the end of her crawl before she re-enters the water. After nesting, females tend to be less difficult to handle due to exhaustion, and her nesting activities will not be disturbed.

Local participants (volunteers) will aid in spotting the nesting females, and will always stand behind the female during tagging if not directly involved. Those volunteers from the community directly involved will not apply the tags, but will assist in stabilizing the female while tags are applied by marine park staff.

Sea turtles will begin nesting in May and continue throughout the month of August, and rarely into the month of September. Tagging will take place during these months. Hatchlings incubate for approximately three (3) months, and will hatch on Zeelandia through November and possibly into December. Nest and hatchling monitoring and research will be ongoing until December, when data analyses and assessment will be initiated.

A Marine Turtle Tagging Database CD, which was distributed through WIDECAST and sponsored by UNDP, The Environmental Trust, and the Barbados Sea Turtle Project will be used throughout the program. The CD includes these data entry modules:

1. Nesting Data
2. Sighting Data
3. Capture-At-Sea Data (Statia Marine Park turtle tagging program will not collect this data during this year's program)
4. Stranding Data
5. Hatching Data
6. Lost Tag Report