When the winter winds start to blow and summer officially comes to an end, so does sea turtle season. For years, these highly endangered creatures have suffered at the hands of mankind, and now it may only be through human intervention that they are kept from becoming extinct. Through the efforts of programs such as Mote’s Sea Turtle Research and Conservation Program, a difference is being made. The 1994 season proved to be as successful as it was busy, and even brought some surprising visitors.

The Sea Turtle Research and Conservation Program officially began at Mote in 1982. It was started as a cooperative effort by Mote employee Jenny Mapes and Belinda Perry of Sarasota County’s Natural Resources Department. The program’s original mission was to monitor nests on the beaches of Sarasota County and move them to safe hatcheries. Today, the program consists of one full-time staff member, two part-time (during season) technicians, and up to 9 undergraduate students, each here for 8-week internships. Together with the assistance of nearly 160 volunteers, the program monitors more than 25 miles of beach - stretching from Casperson Beach in southern Venice to the Sarasota/Manatee County line on Longboat Key - participates in research projects, and responds to both live and dead stranded animals.

Sea turtle season officially occurs between May 1st and October 31st and is divided into two different portions: nesting and hatches. The nesting season begins when the female turtles come up on our beaches to deposit their eggs, which is the only time they are known to return to land. In 1994, the season kicked off on April 29 with the first nest being laid on Siesta Key.

Volunteers walk assigned stretches of beach in the early morning hours looking for the telltale signs of turtle tracks. These tracks, which resemble the tracks left by tractor tires, lead up the beach and then back down to the water, usually in a V-shape. At the point of most of these V’s are nests that house
an average of 100 eggs. Approximately 50% of the time, the turtle emerging from the water will not make a nest. These emergences are known as “false crawls” and may be due to a human disturbance or some unknown factor. Most times the animal will return later to a different place on the beach and eventually nest. According to Jerris Foote, Senior Biologist and Sea Turtle Program Manager, the average female turtle lays from one to eight nests during the entire season.

To determine, among other things, if the mother turtles return to the same area from year to year, Mote began a tagging study on Casey Key in 1987. This location was chosen due to its reputation as a good nesting beach - having one of the highest density of nests in a continuous 4.2 mile stretch of beach. The Sarasota County Natural Resources Department carries out a similar tagging program on Manasota Key. Through the use of an all-terrain vehicle (ATV), the entire beach can be covered in approximately one hour - allowing a better chance to observe as many turtles as possible. The animal cannot be disturbed while digging her nest, and the researchers must wait until she begins depositing her eggs to approach her. Among the things noted are the length and width of the animal, any distinguishing characteristics, evidence of trauma, the species, phases of the moon, the nest’s location relative to buildings and light sources, and tide patterns. Once all the data are recorded, the turtle is observed for any evidence of previous tags, and, if she is not already tagged, tags will be affixed to both front flippers.

During this past season, 145 observations were made of turtles nesting on Casey Key, 85 of which were newly tagged. The non-corrosive metal tags are supplied by the National Marine Fisheries Service (NMFS) and are stamped with both the return address for NMFS and individual numbers assigned to a specific tagging agency. Thus, animals tagged by Mote are distinguishable from those tagged by another agency. “It’s important to be able to distinguish between animals,” states Foote. “Since the turtles are area-specific, instead of site-specific, a few of the Casey Key nesters will go to nearby Manasota Key to nest and vice versa. Since they spend so much of their lives in the water, there is really little known about what happens to them once they've hatched.”

This year saw the return of 32 animals to Casey Key that had been previously tagged by Mote’s program - four of which were originally tagged in 1987! “There is usually a 2 to 3 year interval between nestings,” states Foote, “although that can vary.” For example, turtle #100, has been observed nesting on Casey in 1987, 1989, 1991, and 1994, while one of the other turtles from 1987 only returned to Casey Key in 1991 and 1994.

A welcome surprise this year has been the return of green turtles (Chelonia mydas) nesting on the beaches of Southwest Florida. The primary species found nesting here previously has been the loggerhead turtle (Caretta caretta). Although the green turtles have regularly nested on the east coast of Florida, and occasionally in the panhandle, they have not been documented in our area for quite some time. Historical journals dating from the 1850s through the early 1900s speak of green sea turtles nesting on the beaches of Southwest Florida, but at that time, it was still legal to hunt sea turtles and they were overfished. There have been occasional sightings of them in Gulf waters, but they were no longer observed nesting in this area. While experts believe that a few may have been nesting here recently, no one had any documented proof until now.

During 1994, twenty-nine green turtle nests were verified on Southwest Beaches.
Florida beaches extending from Pinellas County to the Keys, with seven nests in this area - two on Casey Key, one on Venice Beach, and the remainder on Manasota Key. Blood samples for DNA analysis will determine if these animals are of the same genetic strain as those nesting on the east coast of Florida, or if they are a genetically distinct group of animals.

After the last nest is laid, comes the hatching season. A total of 1,160 nests was found in the 25 miles of beach monitored by Mote - which is up over 1993’s total of 1,045. Nests, both verified and possible, are marked off by the volunteers monitoring their particular stretch of beach. Bright orange stakes and survey tape distinguish the entire nest area from the surrounding beach and “Do Not Disturb” signs warn beachgoers that the nest is protected by federal law.

Then the waiting game starts.

The average incubation time is 50 days, although 1994’s nests ranged from as few as 41 days to as many as 82 days. During this time, the nests are vulnerable to destruction from a variety of sources. The biggest is Mother Nature herself, through inundation by seawater or predation from raccoons. 237 nests were partially or completely destroyed in 1994, with four of those due to human vandalism (3 on Siesta Key and 1 on Longboat Key).

“Most human interference is unintentional... people just aren’t aware that they’re doing anything harmful or illegal,” states Foote. “We try to educate as many people as possible through lectures, the media, and even informational posters.”

Throughout the entire hatch portion of the season, the nest sites are monitored. New state laws dictate that the nests and hatchlings are interfered with as little as possible. Nests are not relocated as they once were, and most hatchings occur naturally. Volunteers continue to walk the beach in the early morning hours checking nests for the telltale “drop” that signals that the hatchlings will emerge in the next 12 to 48 hours, while others check the nests at night to document hatchings or any evidence of hatchling disorientation.

Disorientations occur when nests are laid in areas where strong artificial light sources attract the hatchlings toward the lights instead of the water. When this happens, the hatchlings may end up entangled in dense dune vegetation, under beach chairs, in parking lots and swimming pools, or even the street. In some areas, to limit the damage to hatchlings as much as possible, Mote places a wire restraining “cage” over nests laid in areas where lights have been a problem in the past. The cages are closed at night, and then checked at sunrise or before to see if any hatchlings emerged during the night. Because disorientations can spell disaster for an unprotected nest, people and businesses along the beaches are encouraged to keep their lights turned off during turtle season.

With dedication and caring such as this, it’s no wonder that Mote’s Sea Turtle Program is continuing to provide the scientific community with valuable data on these endangered animals.
Sea Turtles – Unlocking the Puzzle