Thanks to the generosity of the National Save the Sea Turtle Foundation, three Masters students in Biology at Florida Atlantic University will receive the support they need to complete their research projects. Mr. Frank Wojcik, Executive Director of the Foundation, presented a check for $12,715.00 to the students during a brief ceremony held in the Visitor’s Gallery of the FAU Marine Laboratory at the Gumbo Limbo Nature Center, Boca Raton. The students are all working toward their degrees under my direction.

Melanie Stadler came to FAU in the Fall, 2010, with strong interests in marine turtle behavior, ecology and conservation. She completed her undergraduate degree at the University of North Carolina, Greensboro, and has done volunteer work at the Caribbean Conservation Corp., field station at Tortuguero, Costa Rica, and at the Karen Beasly Sea Turtle Rescue and Rehabilitation Center, located in Topsail Beach, N.C. The goal of her research is to determine how beach nourishment projects impact juvenile Green Turtles and the nearby shallow water reefs where they live and that they use as feeding and resting sites. One of these projects was recently completed at Hillsboro Beach. Stadler is counting the number of Green Turtles she sees over the reef directly offshore of the project, and comparing those counts to surveys done at four control reef sites to the north and south of Hillsboro. Reefs near nourishment projects are often covered by silt and sand, killing the algae that the turtles depend upon for food. If that happens, the turtles may be forced to leave. Stadler’s study will be one of the first to correlate what happens to the turtles with what happens to their food supply.

Beth Resnick enrolled in our graduate program in the Fall, 2010, with interests in marine biology and ecology. She completed her undergraduate degree at the State University of N. Y., Binghamton. Resnick will be studying how young Loggerheads and Green Turtles change in body shape as they grow, and why those changes are important for their survival. Both species show remarkably different growth patterns during the first few years of life, when the turtles are small and most vulnerable to predators. Loggerheads, for example, grow prominent rear-directed spines on the top (carapace) shell. Green Turtles, however, have smooth carapaces but these widen much faster than they lengthen, causing them to resemble flattened “dinner plates” once they grow to a foot or so in length. Resnick will determine whether these changes make the turtles more difficult to handle and swallowed by certain kinds of turtle enemies known as “gape limited predators”. These are animals that lack the dental hardware to bite off pieces of their prey and instead, must swallow them whole. Known examples are dolphin (Mahi Mahi) fishes that attack small turtles swimming under water and Great Frigatebirds that catch small turtles swimming or resting at the ocean surface.

Resnick plans to determine if the body shape changes shown by the turtles makes them more difficult to swallow sooner than if the turtles simply grew and maintained their original hatchling-like shape. To find out, she will measure the growth patterns shown by both species of turtles as well as the gape dimensions shown by dolphin fishes of different size and by Great Frigatebirds. Using these measurements, she will be able to predict when the turtles are no longer vulnerable at least to these particular threats!

Morgan Young enrolled in graduate school in the Spring, 2010, with interests in animal behavior. She completed her undergraduate degree at the University of Miami, Coral Gables. Young is doing a project to determine whether marine turtles have color vision. She began her experiments last summer, first by determining how sensitive the turtles were to light varying in brightness and later, by training them to make discriminations between lights differing in color. A full description of the procedures she used is given here. Young recently received an “Archie Carr Student Award” for her project at the Annual Symposium for Sea Turtle Biology and Conservation. She will be training more turtles this summer, writing her thesis during the Fall semester, and graduating in December.