IU Southeast

UNIVERSITY NEWS FOR ALUMNI AND FRIENDS Ψ WINTER 2011

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IU Southeast field biology students head to Egypt's Red Sea coast to follow the travels of green sea turtles. ***p. 14***

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Turtle Trackers

IU Southeast field biology students meet the green turtles of the Red Sea

By Sara Cunningham

It doesn't seem to be all that difficult to collect data on where green sea turtles nest. The creatures can grow up to be five feet long, weighing 200 to 300 pounds, so it's not likely anyone is going to miss it when they come out of the water en masse to lay their clutches of eggs on the beach.

That information has helped scientists and conservationists mark off protected areas for this threatened and endangered species.

But the turtles spend the majority of their lives in the sea, not on the beach. Where they go and what happens to them after they lay their eggs is just as important to the survival of the species, but unfortunately, much less of that kind of information is known.

Two IU Southeast professors and their students traveled to the Red Sea coast of Egypt last summer to change that.

Biology professors Omar Attum, David Taylor, and 12 of their field biology students worked with the rangers at the Wadi Gemal National Park to attach satellite transmitters to green sea turtles that spend time in the shallow waters around the island of Zabaragad, also known as St. John's Island, before they lay their eggs on the island's beach.

"These turtles have complex lifecycles and can have a large migratory territory," Attum said. "We need to learn more so that we can identify other areas for protection but also to see how relevant islands like this one (St. John's) are."

The area is popular for tourists and many divers come just to see the turtles, according to Attum.

Taylor pointed out that the economic importance of the tourist industry for the area adds to the relevance of finding more ways to protect the turtles.

The original plan was for the students to help do the actual work of attaching the four transmitters, but when a permit problem arose, park ranger and ecologist Tamer Mahmoud made sure the transmitters were attached after the IU Southeast group left, Attum said.

Students were able to dive and snorkel in the bay where the green sea turtles swim among the sea grasses. IU Southeast Lab Services Coordinator Jon Norman went on the trip as the group's scuba expert, Taylor said.

IU Southeast biology senior Hannah Day said she had an understanding of what the sea turtles would look like from studying them but that she wasn't quite prepared for what it would feel like to be close to them.

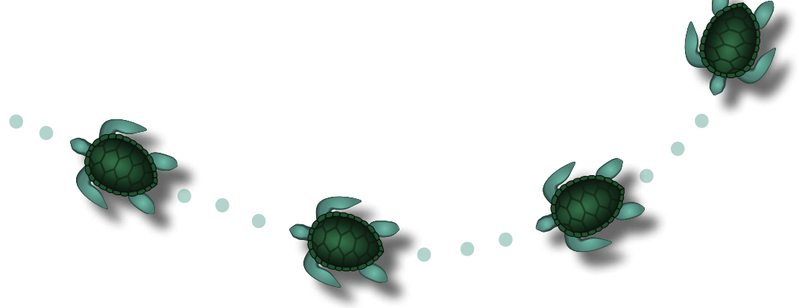
"I just couldn't believe how incredibly massive they were," Day said. "It was amazing to be swimming near them."

Attum said he also was moved by the experience of being close to the turtles.

EGYPT

Map adapted from Google Earth.

Sea turtle photos provided by IU Southeast biology professor David Taylor.



"They were just so timid and gentle," Attum said. "They were eating sea grass out of the dive master's hand."

The turtles with the transmitters – four females named Sallam, Fahd, Nada, and Zabaragad – have also been helpful in terms of providing information.

Just the four turtles were outfitted with transmitters on their shells because of the large cost of the equipment, Attum said. Each transmitter cost about $1,800, plus there was a subscription fee to use the satellite that transmits the location information of the turtles, he said.

As soon as the transmitters were attached, near the end of July 2010, location data poured in so that Attum, Taylor, and their students have been able to spend the past several months analyzing what's happening with these turtles.

Two of the turtles stayed within close range of the island where they laid their eggs, but one turtle traveled several hundred miles north near the city of El Gouna, and the other traveled south past Sudan to an area off the coast of Eritrea, according to Taylor.

The data highlights a territory that spans more than 900 miles of ocean, Attum said, and indicates much about the importance of St. John's Island.

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>
> Brett Whittaker

"It suggests that the island is internationally important for the survival of these turtles," Attum said. "It also shows us how different these animals can be in terms of what their post-nesting patterns are."

Apart from helping to collect data that could have a long-term impact on green sea turtle research, Day said the actual trip itself left a lasting impression on her and other students.

"It was a wonderful experience as far as tearing down any preconceived notions I had about the Middle East," Day said. "I consider myself a pretty well-traveled person, but there are some definite stigmas about being an American and going to places in that region. I was just so struck by how friendly and warm everyone was to us. It just really made it a once-in-a lifetime opportunity in another way, apart from the science."

IU Southeast senior Hannah Day, right, and dive instructor Essam Al Mahdy swim with green sea turtles in the Red Sea. Day was one of several biology students who made the trip to Egypt to tag turtles.

Biology junior Brett Whittaker called the trip a "life-changing experience."

"Everything about it was amazing from the turtles to the research techniques you learn to the people we met," Whittaker said.

Whittaker enjoyed the experience so much that he plans to join Taylor and Attum on their next trip, this time to Jordan, in summer 2011.

The trip will take the two researchers and their students to the Dana Biosphere Reserve where they will look at den selection of the Blandford's fox, a small and rare fox that lives in the mountains, according to Attum.

"Den sites are a limiting factor when you talk about populations of animals, and we will be looking at whether there are enough areas that would be good for these dens inside the protected area," Attum said.

To study the foxes, the group will be working with rangers to use transmitters, he said.

The trip will also involve looking at the use of watering holes by animals like the Nubian Ibex, the striped hyena, the Arabian wolf, and several others, according to Attum.

The watering holes will be set up with motion sensor cameras that will take photos when they sense movement so that the students can study the images later, according to Attum.

"It will be different animals but there are parallels as far as the field research skills used. It's also looking at an area from a conservation biologist or ecologist viewpoint," Taylor said. "It really allows students the opportunity to participate in something hands-on and something that has implications outside just this one class." IU

To follow the IU Southeast turtles, visit http://go.iu.edu/iW