

Commission embarks on turtle study

So far, population is looking really good

BY BRIAN ANDERSON
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A Diamondback terrapin male turtle weighs only a pound or two and is about a foot long, but this tiny reptile is helping scientists at the New Jersey Meadowlands Commission (NJMC) understand the health of the Hackensack River and the marshes of the Meadowlands.

Mike Newhouse, natural resource field specialist with the NJMC, is in charge of a turtle study that is attempting to find the population of Diamondback terrapins in the Hackensack River and the marshes. The study is also looking into the movement of turtles from marsh to marsh.

Dubbed simply "The Turtle Study" by all those involved, Newhouse and his team began last summer tagging these turtles, as well as weighing them. Tagging the turtles has resumed this summer, and Newhouse is hoping it continues into a third year. "We hope to do at least one more summer," he said.

Throughout the summer when the turtles are most active, Newhouse and his crew (which ranges from another environmentalist from the NJMC to a handful of others from other agencies or schools) go out onto the Hackensack River, or in one of the marshes, to locate, tag and measure turtles.

The crew sets 12 turtle traps at different locations on the river and its marshes in the morning, and pulls the traps from the water a few hours later, hoping to find a turtle inside. Where the turtles have taken up residence was not revealed by the naturalists as they fear poachers could trap the creatures.

If a Diamondback terrapin is in the trap, they scan it to see if it's been tagged with a small electronic transponder, Newhouse said. If the turtle has yet to be identified, researchers place a small electronic transponder in the turtle's leg and take its measurements. Turtles that have been tagged before are scanned to identify them and are re-measured.

In addition to easily identifying the turtles, one of the reasons for the transponder is to track movement of the turtles, he said.

"If you catch it in trap 1 and then in trap 3, then you can tell if it has moved from place to place," Newhouse said.

All of the turtles that the team tags and measures are returned into the water.

There are three native species of turtles in the Meadowlands, but the NJMC is only studying the Diamondback terrapin, Newhouse said; the two others are the painted turtle and snapping turtle.

Other turtle species may have been introduced into the Hackensack, but those species are uncommon and are not native to



PHOTOS COURTESY/NJMC

Senior Natural Resource Specialist Brett Bragin takes measurements of a Diamondback terrapin turtle as part of a study being conducted by researchers at the New Jersey Meadowlands Commission. Researchers hope to identify the population of these turtles once the study is complete.

the area.

And for Newhouse, part of the excitement of the study lies in finding a new turtle and just getting a look at it. He said unlike other animals (for example, a cardinal, where all cardinals look similar), each Diamondback terrapin has its own coloring on its shell and all shells are uniquely formed.

Newhouse explained that the study is important because the population of this single species can help identify the overall health of the ecosystem it's living in.

"They're a good keystone species to look at," he said.

The Diamondback terrapin is a predator, and feeds on fish, snails, worms, shellfish and plants. These turtles are referred to as a keystone predator, Newhouse said, because they feed on different animals that normally feast on each other.

As the keystone predator and by consuming these different types of prey, the Diamondback terrapin helps control the size of other populations and as a result, no one species dominates the rest. If the population of the turtles is stable, there's enough prey to feed on, meaning other creatures have stable populations in the river as well, Newhouse said.

"If you see their population declining, their prey species is



The turtles are tagged with an electronic transponder, allowing researchers to identify individual turtles and to track their movement in the Hackensack River and its marshes.

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probably declining as well," he said. This makes these turtles a good indicator species, and the population numbers of the Diamondback terrapin can tell

researchers the health of the ecosystem it's living in, according to Newhouse.

For researchers, it is easier to study a predator rather than its prey, he said. An environmental change affects a smaller prey species, like snails, more than a predator species, but the predator

is ultimately affected when the population of its prey drops.

Newhouse said the team is still not sure of the population of Diamondback terrapins in the Hackensack River and its marshes, or how the population is dealing with the environmental conditions of its home. But so far, Newhouse is

hopeful.

"We're seeing a somewhat healthy population," he said. "We're kind of thinking they're doing better than in the '50s and '60s."

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