



Danielle Bridgers displays the bog turtle's characteristic trait — a bright orange, yellow, or red spot behind the ear.

Bridgers. "Receiving the NSF award is definitely an encouragement. I now have the confidence to pursue my Ph.D. and follow my research interests."

Bridgers' accomplishments extend beyond academics and research. She was recognized as the Fisheries and Wildlife Graduate Student Association Mentor of the Year for her work organizing the fisheries and wildlife orientation, and her efforts to encourage high school students in the Baltimore and Washington, D.C., areas to attend college. She also serves on the diversity committee and as a student ambassador for the college, and is a peer mentor for the Multicultural Academic Opportunities Program.

Bridgers wants to use her academic success to help others. "I plan on using the money from my award to increase the representation of underrepresented groups in higher education science programs," explained Bridgers.

Graduate Student Pioneers Methods in Bog Turtle Research

No one had ever used sonar to study bog turtles until Danielle Bridgers did. The fisheries and wildlife sciences graduate student decided to use this sound-mapping technology on the species while completing her master's research project, which examines the reproductive cycle and nesting ecology of bog turtles in southwestern Virginia.

Amid skepticism, Bridgers successfully used sonar to examine the internal organs of female bog turtles. She uses the information obtained via sonar to better estimate when the turtles will begin to lay their eggs. "It was satisfying to prove that sonar would work with bog turtles," said Bridgers.

To research bog turtle nesting locations, Bridgers takes a team out in the field with her and observes where the turtles nest. "After the turtles lay their eggs, I look at why they chose one place over another," explained Bridgers. "They mostly select vegetated hummocks [knolls] or mossy areas, but two that I found chose a tree stump."

Bridgers shares her findings on the native turtle species with the Virginia Department of Game and Inland Fisheries to help the agency increase the bog turtle population in the commonwealth. "Understanding

ecological interactions and life history characteristics, such as reproductive ecology and nesting success, will allow resource managers to better predict how bog turtles may respond to environmental change," she remarked.

Because of the turtles' small size — the largest bog turtles grow shells of only four and a half inches in length — as well as their docile nature, they are heavily collected and sold in the pet trade. Predators such as raccoons, skunks, possums, foxes, dogs, and even birds feed on the eggs and hatchlings. As a result, the species has been federally listed as endangered in Virginia for 21 years.

Bridgers has had a preoccupation with turtles since she was a child. "My grandma used to give me turtle gifts when I was young," she recalled. "If I didn't choose bog turtles to study, it would have been another reptile."

Bridgers' work with bog turtles earned her a prestigious National Science Foundation (NSF) Graduate Research Fellowship award, which seeks out students who show potential to become leaders in their field. The award was unexpected by the Norfolk native. "I never imagined myself as an NSF fellow," admitted

Danielle Bridgers holds a bog turtle being screened with sonogram equipment by Richard Brunelli from Universal Ultrasound. Brunelli gave a demonstration of his company's latest portable ultrasound machine.



Technician Megan Walker (second from left) and interns (L-R) Larissa Bridgers, Jasmine Bryant, and Jarrett Wansley are helping with this summer's field work.



Juvenile bog turtles are captured and measured before being returned to their habitats.



Danielle Bridgers records the dimensions of bog turtles in their native nesting habitat.

