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Tiny Turtles, Big Learning At "Turtle Camp"

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OR SUCH A LONG-LIVED ANIMAL, TURTLES IN THE WILD face many challenges — so many that most species are considered endangered.

Fred Janzen has been studying turtles for more than 20 years and conservation has increasingly become the focus of his work. The professor of ecology, evolution and organismal biology created a “Turtle Camp” in 1995, the year after he joined Iowa State, that gives students the chance to “get out and do science.”

Janzen and his students camp in tents and cook outdoors while they study turtles on an island in the Mississippi River. Among other things, they examine the affect of predators on nest location and how location affects the sex of turtle offspring.

One of the interesting characteristics of most turtles is that they have environmental sex determination linked to temperature, Janzen says temperature determines how many male and female offspring are hatched, which directly links to whether a population will remain stable or survive.

Painted turtles, the primary species studied, can live up to 40 years. Box turtles, snapping turtles and Blanding’s turtles can live much longer, even up to a century.

Studying turtles would be an interesting scientific pursuit in itself, Janzen says, but this experience offers more.

“We’re using turtles as a model organism to help us answer interesting questions in environmental biology, ecology, evolutionary biology, genetics, behavior, all these big fields of biology; and conservation, increasingly conservation,” he says.

Students get a taste of research through the TREE program, which stands for Turtle Camp Research and Education in Ecology. Under-represented students from ISU and urban high schools who are identified by teachers as talented in science participate to gain experience in biology. Graduate and post-doctoral students also are part of the group.

The scientists get lots of volunteers from young kids to retirees who are camping at the island’s park near Clinton. This also gives students the daily opportunity to explain why studying turtles is important.

When he started decades ago, Janzen says conservation wasn’t a primary goal, but it has naturally come out of what they do. That’s partly because three-quarters of the turtle species in the world are considered critically imperiled by the International Union for Conservation of Nature.

“Our original motivation for the research was basic science, but it has application and it is being applied,” Janzen says.

He advises the Iowa Department of Natural Resources on policy for turtle trapping in the state, and on reptile conservation, particularly in respect to climate change. Many conservation groups also use his research findings in guidelines, practices and programs.