

Protecting the Springs

Growing up next to a lake can instill certain things in young children. For one, it can make them fearless of water. It can also make them curious about water and how important it is to all the living things that depend on it for life.

Luke Pidgeon grew up in Live Oak, Fla., spending many days at the lake near his home. The senior majoring in soil and water sciences knew from a young age he wanted to study water science.

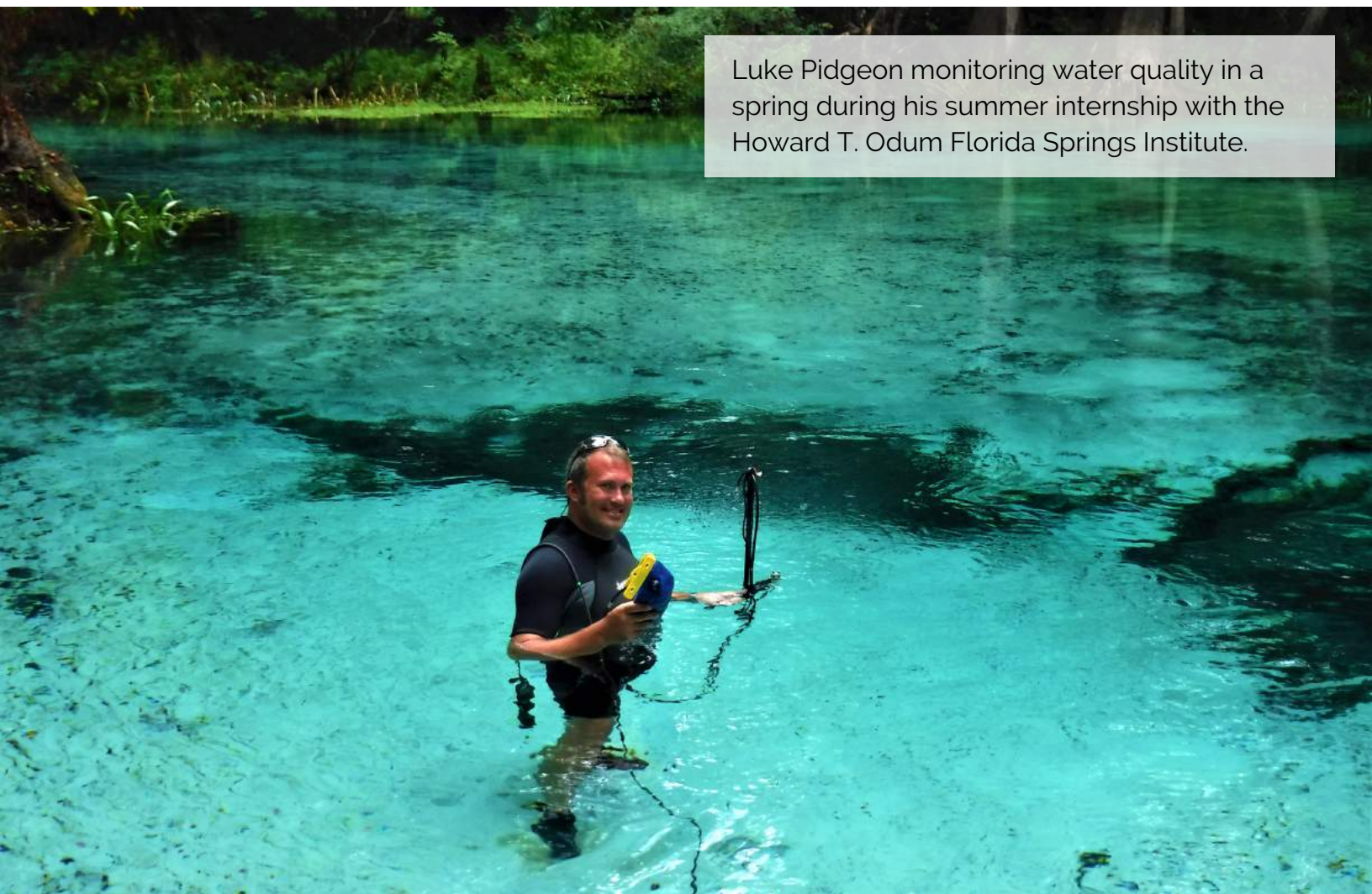
"I would see changes in the lake's ecosystem – algal blooms, changes in vegetation dominance, game wardens coming in and spraying herbicide," Luke said.

It was a living laboratory just a short walk out his back door.

"I had a microscope and I'd go out and take water samples to look at them," he said. "I had no idea what I was looking at, but there were cool, little microscopic things swimming. That was really neat, seeing different microbes and algae floating around."

Years later, Luke is winding down his time at the University of Florida. He has considered graduate school but thinks it might be better to start a career first.

"I want to work with water resource management in remediation of contaminants," he said. "For me, I'm really passionate about maintaining the quality of water in our aquifer, because nitrate pollution – pretty much, any pollution – is affecting it."



Luke Pidgeon monitoring water quality in a spring during his summer internship with the Howard T. Odum Florida Springs Institute.

The importance of Florida's springs is not lost on Luke. He grew up exploring and swimming in them. This past summer, he had an internship with the Howard T. Odum Florida Springs Institute. The work involved monitoring springs along the Santa Fe River.

"Any task given to Luke, was performed with enthusiasm," said Hillary Skowronski, environmental scientist at the Institute. "Luke came into the internship with extensive knowledge of water and water quality but was still excited to learn specifically about springs and the Santa Fe River."

Luke assisted with field work and data collection, primarily. Samples they took from the springs were sent to the Florida Department of Environmental Protection for analysis.

"They were testing for pesticides, trace metals, herbicides, phosphorus, nitrates, dissolved inorganic carbons," Luke recalled. "Basically, they're concerned with the health of the springs and maintaining the ecosystem or preventing further degradation."

The spring ecosystem is a delicate one. A lot depends on the flow rate of water from the aquifer. If it is low and the level of nutrients, like nitrogen and phosphorus, is high, there is a greater chance for algal blooms, according to Pidgeon.

"That would crowd out the native vegetation," he said, "which will degrade the overall ecosystem, so fish and wildlife won't live there."

Educating the Public

As Florida's population continues to grow, so does the demand on its aquifer from which cities and towns draw drinking water and agriculture pulls irrigation water. That impacts the pressure and flow to the springs. Luke thinks not enough Floridians know the connection. During his internship with the Institute, fieldwork allowed him to interact with people around the springs.

"People saw a rope across the river run or the spring, and they'd ask what we were doing or if they could cross through," he said. "That gave us the chance to explain what we were doing and why, and how their activities could potentially impact the spring ecosystem or what they could do to protect the springs."

He estimates about one in ten people who approached them were really curious about their work. It turns out some of these people were involved in spring, river, or watershed protection programs. Luke thinks they appreciated knowing about the work.

"Then other people really have no understanding of what spring ecosystems are," he said. "They just know the water comes out and it's cold. So, the interaction with them is a chance to gain a little more knowledge about where they're at."



Luke recording water quality readings on the Santa Fe River.

“For a long time, I wanted to be a cave diver, because growing up in Live Oak, cave diving was a popular thing. I remember Wes Skiles (American cave diving pioneer and underwater photographer) coming to the different springs and giving talks. I thought, ‘I want to be like that guy. He’s cool!’ Then I got a little older and a little wiser, and thought, ‘I can just look into the caves, without having to go in them.’” Luke Pidgeon

Assessing His Time at UF

Coming as a transfer student, Luke’s time at UF is shorter than a traditional undergraduate’s experience. Still, he said he has made the most of it.

“UF has always been a top-notch school in my opinion. Ever since I was a kid, trying to research into soil and water sciences and being a water scientist, I’ve thought that.”

He feels the experience has been a great one, from the variety and quality of the classes to the faculty and staff.

“The faculty, and the care they show for the students, have really made a big impact,” Luke said. “Before I came to UF, I was at a community college, and I felt the teachers were just there to teach you and move you out. Here, you build relationships and I feel really included in the university and the department. We’re part of a family and a bigger purpose. It’s really nice to see and feel that support.”

