



## Long road leads John Hernandez to water

**Hernandez took a winding path to his college degree. Now a PhD candidate at UW-Milwaukee, he's monitoring Lake Michigan's health.**

By [Stephanie K. Baer](#) of the Journal Sentinel  
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When John Hernandez dropped out of the University of Wisconsin-Milwaukee 13 years ago, he was hellbent on returning.

"I failed a bunch of courses," he said. "I needed some direction."

He realized that he had spent his high school years building his body more than his mind. He won the state discus title in 1998 while at Port Washington High School with a toss of 170 feet, 10 inches. His prowess got him a track scholarship to the University of Wisconsin-Milwaukee, but his athletic accomplishments were overshadowed by academic failings.

"I didn't have an education at the time and I relied on my physical capabilities," he said.

After he left school, he dreamed of the oak trees around the UWM campus. It took a stint in the Navy and two health scares before he would walk among them again.

Now 32, the 6-foot-6 Hernandez is a PhD candidate in the environmental/occupational health program at the campus' Zilber School of Public Health with an important public health job testing the quality of Lake Michigan water.

But it was a long road to get there.

After a few odd jobs and a stint as head chef at an Italian restaurant in Mequon, Hernandez joined the Navy in 2003.

Three years later, married with a baby on the way, he slipped off the wing of a frozen F-18 fighter jet while conducting maintenance at a naval base in Nevada, breaking his back in two places.

The drop was about 9 feet. The recovery was long and painful.

Soon after getting back to work in the barracks at a naval base in Lemoore, Calif., Hernandez came

down with valley fever, a fungal infection that's endemic to the southwestern United States. He got it when a friend's dog dug a 3-foot hole under his fence, kicking infected dust particles into the air.

The infection shut down one of his lungs and sent him to Balboa Hospital in San Diego, where doctors treated him with "buckets" of antifungal drugs.

He lost 20 pounds in two weeks.

"I can still remember choking on the dust from the soil," he said.

The infection spread to his skin and joints, causing lesions to develop on his knees. It took about two years to get it out of his system entirely.

For Hernandez, it served as another indicator that he needed to get back to oak trees and get his degree.

"I really needed to do this. I had a family to support," Hernandez said. "I used to rely on my strength a lot. I avoid that kind of stuff now.

"Now I do heavy mental lifting."

Along the way, he couldn't help but think of the missed opportunity at UWM.

"In the Navy, I had dreams of the campus," Hernandez said.

One particular tree dominated his dreams, guarding the backdrop of towering residence halls and majestic oaks. In the dreams, he hid behind the tree, unable to step beyond its rigid roots into the campus grounds, into the austere greenery.

But those dreams don't haunt him anymore.

"When I got out of the Navy, I knew what I wanted," said Hernandez, who received a bachelor's degree in biology from UWM in May. "It feels amazing to go sit and eat lunch under that tree."

Hernandez spends six mornings of the week at Milwaukee's three beaches, collecting water samples and testing for bacteria and other chemicals as part of a partnership between the Milwaukee Health Department and the Zilber School.

When the partnership formed last summer, Todd Miller, an assistant professor at Zilber, [hired Hernandez, then an undergraduate, to work in his lab](#) and conduct the water quality monitoring for the Health Department.

"I figured a Navy guy would be dedicated," Miller said recently, while driving the lab's boat out into harbor waters near Discovery World and Maier Festival Park, where Hernandez is taking additional water samples to test for two USA Triathlon races in August.

When asked to do the water monitoring for the swimming portion of the races — basically for free — Hernandez didn't have to think about it.

"I'll never say no," he said.

The races are being held in water that historically has not been tested for bacteria because of a city ordinance that prohibits swimming in the inner harbor for safety issues related to boat activity — not to mention the golf balls flying into the water from the Summerfest grounds.

So far, Hernandez has collected two sets of samples in the harbor, which he then takes back to the lab on the UWM campus to test for E. coli.

The U.S. Environmental Protection Agency requires local authorities to post advisory signs at beaches to inform the public of increased health risk when water samples show more than 235 colony-forming units of E. coli per 100 milliliters of water. E. coli is a common category of bacteria that is regularly used as an indicator of other health risks in the water.

But despite recent actions to post health advisories at — or even temporarily close — the city's three beaches, water samples in the harbor are yielding relatively low levels of E. coli.

At each of the six sampling sites along the swimming course, the E. coli count has ranged from 13.5 to 33.2 per 100 milliliters of water — well below the 235 CFU per 100 milliliters of water standard — which is good news for the 4,000 or 4,500 athletes expected to dive off the Discovery World dock in August.

With the exception of some boat activity, the inner harbor is relatively untouched, and calmer water makes it ideal for swimming.

"We don't do anything with the water ourselves," said Jeff Phillips, manager of marine operations for Discovery World. "Our facility is free of any pollution-type devices...we control a lot of our runoff."

Hernandez plans on boating out to the harbor at least four more times before the event in August. But even after the races are done, Hernandez will still be out in the water six mornings of the week in waders, while the rest of Milwaukee rises.

"It's really a calming feeling," Hernandez said. "(The beaches are) always changing. You don't know what to expect from people you're meeting or what will be in the water."

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