



BUSINESS MONDAY

JOB FILE

Biologist at Nova pioneers shark DNA tags

■ **Work by the director of the Guy Harvey Research Institute helps ID species in meat markets, combat illegal activity.**

BY SOLANGE REYNER
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Mahmood Shivji didn't like sharks. And he didn't plan to make South Florida his home. Shivji, a marine biologist, intended to stay at his teaching job at Nova Southeastern University for only two to three years when he accepted the position in 1993.

The move to a climate that was as welcoming to hurricanes and rainstorms as it was to sharks didn't really sound too appealing.

But the Kenyan-born director of the Guy Harvey Research Institute at Nova in Fort Lauderdale found his niche when he began to study shark forensics.

Shivji, who is also a professor at Nova's Oceanographic Center, started working on how to identify a shark's species by using DNA in 1998. He got students involved in his study soon

after and published his first paper on the subject in 2001.

Shivji's research involved developing DNA markers to identify shark species. He got the idea when he read about the shark meat market and how enforcement agencies couldn't tell species apart.

"Nobody was keeping track of that — and the sharks couldn't be identified by their body parts. I wasn't working on sharks at the time, but I realized that DNA could be used to identify species, like we do with humans," Shivji said.

"I talked to some federal government agencies and shark biologists and I said I was interested and I told them I thought that I could develop DNA markers and told them that they first needed to send me [tissue] samples. Over the years we developed all these forensic markers."

Shivji's markers made a splash with the National Oceanic and Atmospheric Administration's law enforcement agency soon after, and the attention put him in the spotlight.

"Nothing like that existed," Shivji



MAHMOOD SHIVJI

TAGGING SHARKS: Mahmood Shivji.

said. "Soon, I started getting phone calls from the media and they wanted to talk to me about my work. Now, I do cases for NOAA where if their agents detect some illegal activity they would send us the samples and we would check it out."

Now his study is being used worldwide.

Shivji was originally interested in being a university professor with

Marine biologist

Requirements: Bachelor's (least marketable degree), master's or Ph.D. (professor status).

Salary Range: \$30,000 up to \$400,000 depending on experience and degree.

Perks: Working in a learning environment. 'I can honestly say that there is not a single day in my career that has been a boring day,' Shivji says.

Challenges: Working 60 to 80 hours a week to succeed.

research as an additional option when he received his Ph.D. in 1990 from the University of Washington's School of Fisheries. While there, he studied genetics and learned about its theory and technology.

He also has a master's in marine science from the University of California in Santa Barbara.

His research there focused on how kelp utilized nutrients and how that affected its growth rate.