

# For 50 years, biologist has studied bottlenose dolphins from a research center on Florida's Gulf Coast

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Beginning his work in marine biology, Randy Wells thought he was a shark guy.

But the teenager whose family had just moved from Peoria to Florida's Gulf Coast volunteered to help a local researcher study the migration patterns of the bottlenose dolphins off of Sarasota.

And now it's 50 years later and Wells—a staff scientist at Brookfield Zoo in suburban Chicago since 1989—heads the world's longest running study of a marine mammal population in the wild, tracking the lives, loves and losses of some 170 Sarasota Bay dolphins and delivering globally significant insight into these creatures that have long fascinated humans.

In the process Wells has become one of the best-known dolphin guys on the planet—and helped make Brookfield more than just a landlocked zoo in a sleepy western suburb.

But the essence of what he has learned, Wells says, is not that different from life in a Chicago 'burb. He explained:

"So when we started, we had no idea what we were going to find back in 1970. It was completely exploratory, with a pilot tagging study back then, and it could have gone a variety of directions. But the idea that we could find the same identifiable individual dolphins time and time again within a fairly limited area set the stage for everything we've been able to do since then.

"So we can recognize 95 percent of the dolphins in Sarasota waters just from looking at their dorsal fin, looking for patterns of nicks and notches on their fins. Within that 170-dolphin community, we have been monitoring them through six generations. At any given time, we can have up to five concurrent generations within a lineage.

"So it's very much like a suburban neighborhood outside of Chicago. For example, I lived in LaGrange Park for a few years and in the

neighborhood that I lived in, there were multiple generations of the same family on back-to-back streets. And that's kind of how I envision what's going on in Sarasota."

That explanation is true enough, but it doesn't capture the breadth of work that Wells and scores of colleagues and visiting scientists have been able to do over the years from their headquarters on Sarasota Bay.

After first establishing the crucial fact that the wild dolphin population was resident, rather than transitory, Wells and what is now called the Sarasota Dolphin Research Program have helped prove the damage to dolphins and the Gulf of Mexico ecosystem caused by the Deepwater Horizon oil spill, spotlighted the impact of red tide events, pioneered techniques in health assessment of dolphins and established that dolphins can live to age 67 and give birth up to age 48.

"Scotchgard, which we used to put on couches?" said Stuart Strahl, president and CEO of Chicago Zoological Society, the parent organization of Brookfield Zoo. "One of the reasons that's off the shelves now, it's a bioaccumulator like DDT." The original formulation of the 3M product, "that's off the shelves because of Randy's research, because of what he found in the dolphins."

The list of SDRP impacts Brookfield has compiled to mark the 50th anniversary, which happened officially in October, is remarkable for their length and detail, but it would be wrong to think of the program as all white lab coats and clipboards.

"Randy and his crew, they're the most prolific scientists I've ever met," said Strahl, who has a research background himself. "They are some of the most remarkable humans I've seen in the field, and the enthusiasm they have when they see a dolphin they haven't seen in a while is terrific. "That must be so and so!" It's infectious when you're around them."

And the reason for Brookfield to continue supporting the program—to the tune of almost \$1 million annually, primarily through grants and philanthropy, the zoo says—is because it complements the work done on the zoo campus.

"We have an obligation to engage people in not just the animals that we have on display but also to learn their stories and learn the stories of what things they face in the wild and how those issues can be mitigated," said Strahl. "It's two halves of a solution for wildlife."

Brookfield support is crucial to the project, pointed out Peter Tyack, a professor at University of St Andrews in Scotland who studies cetacean vocalizing and has done research on the Sarasota dolphins.

"Having reliable continuous support is what's essential for this kind of long-term study," Tyack said.

And having so much data over so long a time is essential to understanding the big problems of today, including the effects of climate change, Tyack said. "What I say about Randy's project is ... the older the data, the more valuable it gets to us today in terms of tracking long-term trends."

Another profound impact of the program has been in the development of scientists.

Trevor Spradlin, who is now deputy chief of the marine mammal and sea turtle conservation division at the National Oceanic and Atmospheric Administration, the leading federal marine conservation agency, first experienced scientific field work as a volunteer with Wells in 1989, he recalled.

"Randy has been such a nurturer to so many different generations of

marine mammal biologists," Spradlin said, noting that SDRP's work is "the blueprint for what we know about coastal dolphins around the world."

"He's done so much not just for dolphins but also for the whole field of marine mammal science," Spradlin said. "He's provided platforms of opportunity for so many scientists around the world to learn about dolphins and wildlife conservation techniques and procedures."

More than 80 doctoral dissertations and masters theses have involved work done at SDRP, the zoo says, and just since 1991 more than 400 interns have trained there.

And the work has been a backbone of NOAA's efforts "to get people to respectfully view animals in the wild," Spradlin said. "All these efforts to promote safe and reasonable dolphin viewing really have their genesis with Randy. It's more than just cool science—and it is cool science—but it's also very important data to help preserve and protect these animals."

Even growing up in Peoria, Wells was fascinated by water, he said, the result of family spring breaks: "I just—I was taken by the ocean. For years my parents led a delegation that eventually grew to over 500 Peorians that would come down and take over multiple hotels on Panama City Beach."

The family moved when he was in high school to Siesta Key, just off Sarasota, and "I was so ready for the move," Wells said. He was able to take [marine biology](#) classes in high school, and when his dad's company sold a house to researcher moving from California to study sharks and dolphins, Wells's father asked the man if he needed an assistant.

Wells began working with that researcher, Blair Irvine (who now sits on the SDRP board), and it was an unfunded offshoot program tagging

coastal [dolphins](#), Wells said, that led to the pioneering work that established the animals were residents of the area rather than mere passers by.

He has seen remarkable changes in the field. A 1977 marine mammal conference drew fewer than 200 scientists, he said, while one held recently in Barcelona attracted more than 2500. Technology has dramatically aided in the work researchers are able to do, from unobtrusive tracking devices to the dolphin identifying and age-estimating work pioneered by Wells's team.

But it all comes back to that baseline work his project has done.

"We know the individuals," he said. "We know how old they are. We know where they are, who they're related to on the maternal side. And in many cases, with analyses that have just been completed, we know who their fathers are. We have a good sense of their condition in terms of their health and their contaminant load. We know where they spend their time. We know with whom they spend their time. And so with that background knowledge, it just makes all kinds of research possible.

"And it's just gotten more interesting as time as gone on and we've gotten to know these individuals."

Wells turned 67 in November, but he said he doesn't see himself retiring anytime soon.

"It is both my job and my hobby," he said. "I love being around the water. I love being on the water. And even if I'm just out kayaking, it just adds that much more when there's a dolphin around, So I don't envision myself stopping completely being interested in the lives of these animals and what I can do to help them."

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