

Bottlenose dolphins contain mysteries. She's trying to get answers

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Bottlenose Dolphin - *Tursiops truncatus*. A dolphin surfs the wake of a research boat on the Banana River - near the Kennedy Space Center. Credit: Public Domain

Rain flecked the fiberglass boat and the still green waters as professor Shannon Gowans pushed off from Dock 6. Her students noted in pencil the particulars of time and weather: Not ideal, perhaps, for a Saturday on the bay, but what they sought was below the surface.

The boat took on speed. Eckerd College grew small, and the muggy expanse of Boca Ciega Bay opened wide. Along the mangroves, through the channels, her three students scanned.

"There's a dolphin," Kaitlynn Stewart said, with urgency.

"Let me know if you see him again," Gowans said.

"By the sign," said Karastyn Bennett. A silver arc curved through the water, then vanished.

Stewart readied the camera and stood steady under the bimini as Gowans edged closer, then lined up with the dolphin's path. Parallel to the

dolphin meant parallel to its fin, the closest thing to a name tag it could wear.

The shutter sounded.

"Ope, got him!" Stewart said. She hoped.

The next 10 minutes passed like this: A sighting. A disappearance. A guess at the dolphin's route and a stab at getting close.

"Want me to do one more pass?" Gowans said. To the rippling water, she said, "Cooperate!"

She had devoted her career to marine mammals, particularly bottlenose dolphins. Such dolphins are the celebrities of aquarium billboards, the stars of luxury seaside resorts, the reason little kids dream of becoming marine biologists. They're whistling on the Discovery Channel and flipping for fish at SeaWorld. They're picking Super Bowl winners. On some sunset cruises, they're guaranteed or your money back.

Gowans was that little kid. She grew up in the Canadian prairies but visited the Vancouver Aquarium and was captivated by the whales, these big, intelligent, social creatures in a foreign ecosystem.

She studied in Nova Scotia under the renowned Hal Whitehead, the one person who did exactly what she hoped to do.

By now, she knew as well as anyone about dolphins' patterns, their ways of foraging and diving deep. She had learned that each had quirks. Some dolphins spread out to forage alone, while others feed together, herding schools of fish against seawalls.

Yet for all their ubiquity, from Iceland to New Zealand, and for all of the reams of research already done, [bottlenose dolphins](#) remain creatures

of mystery.

Picture this, she tells her students. Aliens come down to study humankind, but they're stuck in your refrigerator. They only catch a glimpse of you when you open the door. From that brief flash, they must make assumptions about our species.

The longest-running dolphin research program in the world began in Sarasota in 1971—the year Gowans was born. We're only now beginning to track wild dolphins over their lifespan, and we still see hardly anything of their experience.

Speaking of which—how long do wild dolphins live? Gowans wonders.

And: How many are here? Why are some roamers and others homebodies? When they whistle, what are they saying?

On the bay, the students braced as a passing boat sent them rocking. They resumed their watch. Each had their passions—coral reef ecology, marine animal rehab, bioacoustics—but to be part of the Eckerd College Dolphin Project was to be part of a legacy.

Gowans and her husband and colleague, Peter Simard, oversee the program, which began in 1993. Simard would have been out on the water, too, but he was on kid duty.

Both teach—Gowans in marine science and biology, Simard in environmental studies—and research. Gowans looks at dolphins' societies, and socialization; Simard at their ecology, range and acoustics.

Students help them fill in the blanks of *Tursiops truncatus*. They track where dolphins meet and drift, analyze whistles and host parties to name new additions. (Think "Nick Jagger" and "Ice Cream Scoop.") They publish research on a species that, as a top-level predator, is a sentinel for the health of the entire bay.

If we lose those seawall feeders, we lose something about our ecosystem.

For Gowans, much of the work comes down to this: Understanding dolphins helps us protect them.

The boat left a green churn in the glassy bay. Pelicans rested on channel markers. The Don CeSar rose at the bay's far edge.

Gowans slowed for another sighting. Meher Datta, who goes by Nemo, crouched in red rubber Birkenstocks. She needed a fast hand to capture the fin's telling details: the traces of shark bites, the scars left by fishing gear, the natural rips in the dorsal cartilage.

Later, those details would reveal whether this was a familiar dolphin—one of 1,000-plus in their digital catalog—or a new addition.

Click, click, click. Bennett noted the time and coordinates.

Gowans pulled the hydrophone out of its bin—essentially, a microphone suspended 6 feet below a floating foam ball. Stewart spooled out its long, black cord behind the boat, where seagrass waved.

Nearby, cars and big rigs roared toward the Sunshine Skyway. The dolphin slipped into the quiet, where the hydrophone recorded. Would a lone dolphin make a sound?

They would listen later. Much of Simard's work explores how dolphins use sounds, whether to find food, navigate or "talk." For years, scientists thought of certain whistles as distress calls, but now "signature whistles" appear to be the rough equivalent of a dolphin shouting its name. While whales share click patterns, somewhat like regional clans, dolphins are highly individual. In class, Gowans explained: "Instead of saying, 'I'm a Gowans, any Gowans out there?' it's more, 'I'm Shannon!'"

Other research at Eckerd has shown that, when boats pass by, dolphins alter their whistle frequency to be heard over the rumble.

A passive listening station at the college's dock was helping capture dolphin sounds, until it was fried in

a summer lightning storm. A replacement is in the works.

For now, the lone dolphin rose up and chuffed, pushing air through its blowhole.

"Think you got a few?" Gowans asked Datta. They pushed farther out, where dark clouds ate away at the hazy sky.

The students had piles of homework waiting in their dorms, but working with the Dolphin Project fell somewhere between work and pleasure. Especially when it involved babies.

Days like this let them witness "social balls," like the time Bennett saw two groups converge and play, rolling and showing their bellies. Or the time they saw calves so new their skin bore folds from being in utero.

A little lower in the bay, they spotted another, and another—much smaller. Probably born this year, Gowans said. Then dolphins kept surfacing.

"Aerial!" someone shouted.

"A fluke-out!" They had been taking turns filling out sighting sheets, and now, it was a whirlwind of activity. Mothers swam up with calves, smacking tails against the surface.

Little fish leapt out of the water, a good sign it was snack time. A dolphin logged—floating atop the water for a rest.

While the students spun from sighting to sighting, clouds darkened. Gowans made the call to race back to the docks.

Halfway there, she cut the speed. In the hot, still channel, a dolphin tour boat had paused. Tourists held cameras, fixated on the water.

"I think Cupid's got a new baby!" Gowans said.

Cupid, first added to the catalog in 1997, spotted since a hundred-plus times, bears telltale notches on her fin in the shape of a heart. Gowans would know her anywhere.

Beside Cupid, a calf lifted halfway out of the bay and flopped onto its chin, perhaps trying to get a look at the world above. The students squealed.

Cupid is her own mystery. Some dolphins swim the length of California. Cupid has never, as far as they know, made the day's swim to Sarasota.

The boat turned back. Cupid floated for a minute, then slipped under.

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