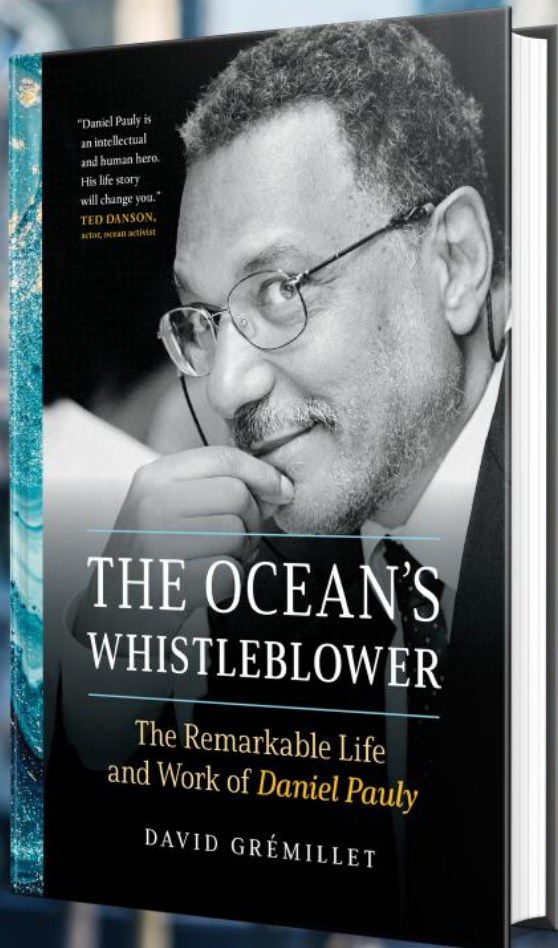


# Excerpt: The Ocean's Whistleblower

David Grémillet explores the remarkable life and work of fisheries scientist Daniel Pauly



An icon in the field of marine biology, fisheries scientist Daniel Pauly is the subject of a new biography, *The Ocean's Whistleblower*.  
(Photo: Paul Joseph/UBC-Sea Around Us; Cover: Courtesy Greystone Books)

By [Can Geo Staff \(/author/can-geo-staff\)](#)

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Daniel Pauly is one of the world's most important fisheries scientists, and it's easy to see why. An icon in the field of marine biology, he has devoted his life's work to the environmental and political problem of overfishing, coining the term "shifting baselines" to explain our collective short memory of environmental disaster, and sounding the alarm on the devastating impacts of modern fishing. The University of British Columbia professor and principal investigator of the Sea Around Us initiative is also the subject of a new biography; *The Ocean's Whistleblower* by David Grémillet was released this past September.

Read an excerpt below:

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On a warm January day in 2017, I sit with José Ingles — aka Jingles — in the cafeteria at the University of the Philippines Diliman, a sizable campus shaded by giant acacias on the north side of Manila. Aside from the university, built by the Americans a century ago, the golf courses are the only green spaces for miles around. Our spot on the terrace seems pleasantly calm, though listening to the interview later, I realize that the noise of the city nearly drowns out our voices.

I have been navigating through Manila's hellish traffic for the previous week — a megalopolis of 20 million people, it has one of the most densely populated centers on earth. Since the Paulys arrived here in 1970, the country's population has risen from 50 to 100 million, and Manila now possesses thirty towers over fifty stories tall. The city is in the throes of a construction frenzy, the financial bubble not having popped yet in that part of Asia. The country's political situation is still delicate, however. To the south, a lawless zone is controlled by ex-Maoistscum-mafiosos and Islamic extremists. On its northeast maritime border, this archipelagic country stands toe-to-toe with the Chinese giant and its strategic ambitions. To make matters worse, the freshly elected President Duterte has recently decided to go against the United States, calling Barack Obama vulgar names in front of the world's television cameras. Duterte has also given new powers to the police, recalling the darkest hours of Marcos's reign. In the months before my visit in 2017, thousands of drug dealers and users were murdered in the streets, and the police have just admitted to kidnapping and killing a Korean businessman in order to extort 100,000 dollars from his widow. For a naturalist like me who is only ever happy in the wilderness, this environment proves testing. Luckily, the Filipinos I meet are extremely friendly and relaxed, like Jingles, who agrees to share his story.

"My parents are in the fishing business; my family used to own a fleet of trawlers. Naturally, I was attracted to ocean science, and at twenty-three, I was a master's student at the University of the Philippines and working as a research assistant part-time on oceanographic research expeditions. I knew San Miguel Bay well because my parents had bought a trawler there; I knew it was extremely productive, but also that it was heavily fished, maybe with some conflict between the trawlers and the more artisanal fisheries. With my classmate Dennis Pamulaklakin, we had this idea of developing a research proposal that was biological, social, and economic. At the time nobody was talking about multidisciplinary analyses, and we had the idea over a beer. Dennis knew about ICLARM [International Center for Living Aquatic Resources Management, now called the WorldFish Center], so we took our chances to submit a proposal to them."

A few weeks later, the two friends received a call from Ian Smith, the chief economist at ICLARM. To their surprise, Smith was interested, and he offered to launch the project quickly, with only a few minor changes. "From there on out, we were employees on the project, which doubled our salaries," Jingles says with a big smile. "The funniest part was, we had written our budget in Filipino pesos, but ICLARM approved it in US dollars! Dennis and I laughed so hard." The two students stopped laughing, though, when their supervisor from the university, Antonio Mines, sensing a golden opportunity, declared himself ICLARM's sole partner on the project. Disgusted, Dennis soon left research, but Jingles helped implement their ideas in San Miguel Bay before being recruited by ICLARM to work on other things.

Daniel Pauly, for his part, was named the project's scientific co-manager upon his arrival in Manila. He would ultimately become its word machine as well, composing most of the reports, even those where Antonio Mines or other members of the team appeared as first authors. Daniel enjoyed working on the project, however, one of the few in his career that he hadn't launched himself. In fact, San Miguel Bay, located in the Bicol Region 125 miles southeast of Manila, is one of the poorest parts of the country, and artisanal fishing is vital for many villagers there. Daniel was keenly aware of the destruction caused by industrial trawlers and wanted to better understand their ecological impact on fish stocks, but also their effects on local economies and social structures.

“The great thing was that we had hired research assistants from the region’s villages, fourteen people in all. We could really talk to each other because there was no idiotic hierarchy in the way.” Daniel didn’t know it at the time, but the whole region was covertly controlled by Maoists. Jingles confirms, “Everything went smoothly because, as university students, we were also in the struggle, so the rebels treated us as comrades. This despite the fact that the New People’s Army didn’t like foreign scientists.”

The team’s first assignment was to build an 860-square-foot bamboo house that would serve as their accommodation and mission headquarters on land given to them by the town of Castillo. Michael Vakily, a young German newly arrived from Kiel, was also among the pioneers and would work through the whole following year to estimate the size of the fish stocks in the bay. Daniel left Manila to visit the team regularly, speeding along the dirt roads as though they were German autobahns. In particular, he helped take the first systematic measurements of the depth and salinity in the bay, an expedition that earned him another tropical sunburn, just like in the Sakumo Lagoon. Michael learned quickly that, when going on a mission with Daniel, by land or by sea, it was best to bring along a compass, since the boss, more interested in conversation than navigation, almost always got lost.

One of these excursions, which took Ian Smith and Daniel to the distant limits of the bay, almost turned tragic: the two scientists stayed a little too long at a local fisherman’s house because he offered them a cup of instant coffee, “liquid gold for a family with so few means; they give you a pinch of it in a mug of hot water, as though it were a 1933 grand cru, and you have to honor the drink, like we were on a terrace in Rome with Sophia Loren.” The return trip across the bay was dangerous: “We had a tiny little boat, it got dark all of a sudden, like it always does in the tropics, and we ended up out at night in the middle of a storm with huge waves filling up the boat.” Ian and Daniel were saved from drowning by one of the trawlers they had criticized so vehemently: “We didn’t want to say too much about who we were — it was a sticky situation.”

During their two-year run, research assistants interviewed hundreds of fishermen and their families, using a single questionnaire that covered every aspect of fishing, from fish biology to governance mechanisms. “It was unique at the time,” Daniel recalls. “We were able to get a complete social and ecological picture.” What would Daniel and his colleagues learn from their research when the study was finished, in 1982? Mainly that the muddy and shallow San Miguel Bay (320 square miles) was being overexploited by the fisheries: 80 percent of its exploitable biomass had disappeared, and sharks and rays were nothing but a memory. The catches now consisted of smaller fish, squid, and shrimp. The approximately twenty thousand metric tons caught each year was three or four times higher than the official figure given by the Filipino government, which minimized the seriousness of the problem. What’s more, nearly a hundred trawlers were exploiting the entire area despite the fact that they were only supposed to fish the deeper waters near the mouth of the bay. Their motors ran on diesel, subsidized by the state, whereas the smaller craft used in artisanal fishing ran on gas, which was not subsidized. The trawlers took more than a third of the catch, which benefited thirty-five families, while the remaining two-thirds fed two thousand families of artisanal fishers. Five bosses owned half the trawlers and collected a quarter of the total revenue. Daniel comments, “With their money, they take care of their families, plus one or two mistresses, and the rest is spent in bars and brothels. These guys walk around in jeans and T-shirts like everyone else, including the poorest of the poor. It’s camouflage for their industrial operations, kind of like the discretion of the French bourgeoisie.”

The communist New People’s Army had infiltrated the research team, but this evidence of social inequality appealed to them, and they mostly left Daniel and his colleagues alone. The researchers’ results led to the usual reports and publications, but they also distributed them in the form of brochures in Tagalog (the national language) and Bikol (the local language), beautifully illustrated with photos and drawings. These documents didn’t just point out problems; they also proposed a number of management scenarios, an innovative move at the time. “It is critically important in this fishery, as elsewhere,” the documents conclude, “that a management partnership is forged between fishermen and local and national officials with responsibilities in the fisheries sector.” Such a management partnership was put into place and even worked for a time, but eventually it vanished into the sands “because it’s the Philippines,” Daniel comments with a sigh. “It was doomed from the start; we were looking for solutions, but at the time we were like a drunkard looking for his keys under a streetlight.” In particular, the law dictated that in order to prevent fishers from harvesting very small fish, the mesh size of a fishing net was not to be less than two centimeters (about three-quarters of an inch), “which is already very small, and besides, everyone cheated by using several nets layered on top of each other.” The San Miguel project wouldn’t have much local impact, nor would it attract attention from the international research community, the publications having only a very modest distribution. But for Daniel, it was still an essential step: “I

learned everything in San Miguel, about the connections between fisheries and politics, equity, justice, about the challenges of accessing data and the challenge of highlighting it in an interdisciplinary setting.”

In San Miguel, but especially in the Bolinao area that fellow marine biologist John McManus had shown him, three hundred miles north of Manila, Daniel made an important observation: “At the time, the sociologists thought that young men wanted to get out of fishing, whereas in fact, more and more children from these big families were fighting over shrinking marine resources. In the villages we saw, the children had big bellies, like little Ethiopians during a famine. The men drank and smoked and ate the family’s money, leaving nothing for their wives, who looked old and tired by thirty, surrounded by an army of malnourished children. It was obvious in the villages but, at the time, none of the development programs were taking it into account. I didn’t write about it either because I didn’t have the right intellectual vocabulary yet, but it’s the same process that supplies the brothels in Manila: the young women are much more mobile. They leave to prostitute themselves, usually in the capital or near the American bases, but they stay extremely loyal to their families and continue sending money, which subsidizes fishing. This kind of mobility is inconceivable for the men who are just fine in the village with their friends, their cigarettes, and their beers. That’s why I have never understood the anthropologists’ obsession with fishermen and their nice traditions. Besides, what I saw in the Philippines, and then in a lot of other countries, is that there are artisanal fishers who aren’t traditional fishers. They are poor people who have only recently arrived from the inland areas, for whom fishing is a last resort. I discovered this some years later on a fishing boat in Peru: I saw a man who looked like a sailor, but he couldn’t tie a single knot. It turned out he was from the Altiplano. Same thing in Vietnam and Thailand, where the sailors are often mountain men, from Cambodia, for example. The anthropologists hadn’t noticed them because these people weren’t ‘interesting,’ compared to the Lebu in Senegal or the Badjao of the Philippines, who have lived on their boats for centuries.”

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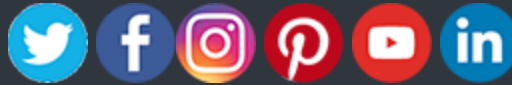
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