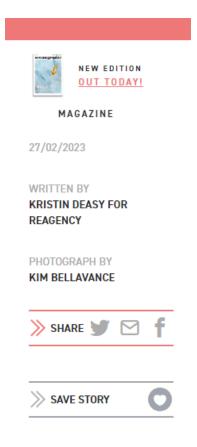


Ocean justice and representation are some of the most important topics in ocean conservation today. Black scientists are also at the forefront of a growing movement to protect the ocean as nations gather in New York for renewed talks on a highly-anticipated 'High Seas Treaty'.



Black scientists Prof. Daniel Pauly and Prof. Rashid Sumaila have published an open letter to UN leaders demanding an end to high seas fishing in the 'High Seas Treaty' as pressure mounts on world leaders to finalise the agreement during talks February 20 and March 3. The two were awarded the prestigious Tyler Prize for Environmental Achievement on Monday for their work in exposing the overfishing crisis.

They are part of a growing number of Black scientists and conservationists working toward a better world. Dr. Ayana Elizabeth Johnson, a leader in marine science and an increasingly influential voice on climate change, calls Pauly and Sumaila her "ocean heroes."

"Their work to end overfishing and advance #oceanjustice is brilliant and critical," Johnson posted on social media, where she has a massive following.

Johnson will be speaking live with Pauly, the world's most-cited fisheries biologist, as well as Sumaila, the world's most-cited fisheries economist, on Monday at 7PM ET (12pm GMT) as part of a Black History Month event open to the public.

Johnson knew she wanted to be a marine scientist when she saw coral reefs through the bottom of a glass bottom boat as a child and started reading Pauly's papers on global fisheries in graduate school. Little did she know that the man now considered the "grandfather of fisheries science" didn't even want to be a marine scientist in the beginning.

Born to an African-American GI and a French mother, Pauly hadto put it lightly—a difficult childhood. Kidnapped by a Swiss couple, he was forced to work as their servant amid a culture of petty crime. His manner of rebellion was to be everything they weren't: an upstanding, responsible, highly educated young man.

His studies, which at the time had nothing to do with marine science, took him to Germany where he ran straight into Nazis.

"I did a semester studying agronomy, but the agronomy department was full of Nazis," he recalls. "I don't mean Nazis in terms of them being bad people; I'm talking about real Nazis. This was in '69. It was so disagreeable that I moved to the institute of marine science."

Pauly flourished in his new field and his career has been on the rise ever since. Never comfortable in Europe, he sought out work in developing countries. His work in Indonesia led him to publish

his first paper on "fishing down marine food webs" in 1998, a landmark publication that brought him widespread recognition.

A pioneer in marine biology, Pauly has worked across five continents documenting the widespread decline of fish while advancing groundbreaking investigative research on the oxygen capacity of fish gills—now relevant more than ever as oxygen levels in the ocean continue to drop. He also helped spearhead innovative data platforms for tracking fish and other animal species, notably FishBase.

Pauly is now a professor at Vancouver's University of British Columbia (UBC), where he founded The Sea Around Us initiative and met a fellow Black professor who would become his collaborator: fisheries economist Rashid Sumaila.

Pauly says he shares a "similarity of purpose" with his Tyler Prize co-recipient Sumaila, another tenacious Black leader in marine science. Sumaila, the world's most-cited fisheries economist, is celebrated for his ability to quantify key issues in ocean science, making it easier for policymakers and everyday citizens to understand and contextualize the challenges facing us there.

"Because [Pauly]'s an ecologist and I'm an economist, it really worked well because we could compliment each other and together do things that neither of us can do separately," explains Sumaila, a University Killam Professor and Canada Research Chair in Interdisciplinary Ocean and Fisheries Economics at the Institute for the Oceans and Fisheries and the School of Public Policy and Global Affairs at UBC.

In a seminal piece of research, Sumaila accounted for missing data related to the government subsidies received by the industry, revealing they were even higher than previously thought.

Currently, the fishing industry receives \$35 billion in government subsidies, 20 billion of which are believed to contribute directly to overfishing.

Sumaila is known for applying economics to marine science in novel ways, for example by generating what he calls "infinity fish" (also the name of his latest book) by establishing key marine protected zones or giving fish a "carbon value" to reflect their role–together with the oceanic ecosystem–in sequestering carbon emissions.

"If we take good care of the ocean, the ocean will take care of us, because then we have an ocean full of life," says Sumaila, who was born in West Africa and worked his way up to the highest echelons of European academia. He says such an ocean would be able to continue giving us "ecosystem services, the fish forever, we have carbon sequestration, we have oxygen generated by algae and other life in the ocean."

Together with Johnson, Pauly and Sumaila work to make their science matter. They continue to advocate for climate-first policy changes and have advised world leaders on ocean conservation. Their data is used by influential international institutions like the World Trade Organization and the UN's Food and Agriculture Organization.

Together, these Black leaders in marine science are helping all of us better understand how and why our oceans are in crisis—and what to do about it.

Register for the free webinar, "Black History Month: Dr. Ayana Elizabeth Johnson & Tyler Prize Laureates" here. This article is contributed content. ReAgency represents the Tyler Prize for Environmental Achievement.

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