

Fish nutrition database to help combat malnutrition across the globe

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A treasure trove of vital nutritional data about fish species is being made freely available and accessible globally—plugging a knowledge gap that will bolster efforts to tackle malnutrition across the world.

Despite [fish](#) being an essential component in the diet of more than 3 billion people around the world, and an essential source of

micronutrients for over a billion people in low-income countries, many of these populations lose their very nutritious fish through exports and foreign fishing and, in turn, import lower-quality fish and [fish products](#), creating a net loss of essential nutrients.

In fact, up to 70% of fish caught in the fishing zones along the coasts of African nations such as Namibia and Mauritania are exported or monopolized by wealthier foreign nations.

This is in part due to a traditional view of fish perceived primarily as a source of protein, with less consideration given to the micronutrient composition of different fish species—a perception rooted in a lack of available nutritional knowledge. For example, very small species can often be very nutritious—but because they are not protected for their local food security potential, they are exported and processed into products such as fishmeal animal feeds.

Just a fraction of highly nutritious fish caught off west African waters, which contain omega-3 fatty acids, calcium, iron and zinc, could help to significantly reduce the prevalence of malnutrition-linked conditions such as maternal mortality, stunted growth, and pre-eclampsia.

A highly-cited study on fish and nutrition, published by *Nature* in 2019, and conducted by an international team of researchers led by Professor Christina Hicks of Lancaster University highlighted the need for fisheries and food policies focused on improving nutrition, rather than increasing volumes of food produced, or revenue generation from exports.

The 2019 study saw the development of a finfish nutrient composition database, which was used to develop predictive models of the availability of nutrients from the world's fisheries.

Now, this crucial empirical and modeled nutrient composition information for more than 5,000 fresh and marine [fish species](#) is being made freely available to scientists, [policy makers](#), managers, academics and others involved in developmental work.

The new initiative, launching on June 23, 2021, will see the nutritional data added to FishBase—an online encyclopedia of fish with crucial information on more than 34,000 freshwater and marine species. Available in 14 languages, the database is visited by more than 900,000 people each month, including fisheries biologists, managers, ecologists, and sustainability scientists.

The initiative is driven by an international partnership of leading experts from the Ocean Frontier Institute, FishBase, WorldFish, the Lancaster Environment Centre, the Sea Around Us research unit at the University of British Columbia, the Minderoo Foundation and other organizations.

It is hoped that by adding the information to the 'global commons' it can be used to identify how and where fisheries can help address malnutrition, identify vulnerabilities in food systems, and develop an evidence base to support the protection of local food environments and ecosystems.

Policy makers in individual countries would be able to identify which of their local fish are the most nutritious and need protecting.

Professor Christina Hicks said: "Fish are increasingly recognized as key to addressing malnutrition, but that potential is yet to be realized. We hope by bringing the fisheries and nutrition communities closer together this work can support transitions towards more equitable, sustainable, and healthy food practices."

"The main point of making empirical and modeled values of nutrient

composition readily available to researchers through FishBase is to have a clear understanding of the nutrient potential and opportunities from global fisheries catches," said Deng Palomares, the Sea Around Us manager and one of the people behind the new initiative. "This understanding, in turn, should help guide more effective fisheries management that takes into account the role that fish plays in addressing hidden hunger due to malnourishment."

"Making available scientific data that back the argument of the importance of fisheries in addressing global food security challenges has major policy and societal implications," said Professor Daniel Pauly, co-founder of FishBase and the Sea Around Us Principal Investigator. "FishBase is the ideal host for this type of information as it is already a data provider for national systems for the management of fisheries and aquaculture, and the monitoring of biodiversity."

More information: FishBase: www.fishbase.in/home.htm

Provided by Lancaster University

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