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Global conservation of dietary Omega-3 polyunsaturates is hampered by fishery footprint, trade and consumption

Jennifer Lynn Stewart[1]

Omega-3 polyunsaturated fatty acids (O3PUFAs) are essential for human health, and their production and consumption are increasingly being linked to environmental sustainability. Although the global fishery footprint of O3PUFA production has been quantified, the footprint of consumption has not been quantified, nor have the relationships between production, consumption, and trade been explored. Here, I quantify the global fishery footprint of O3PUFA production and consumption, and I explore the relationships between production, consumption, and trade. I find that the fishery footprint of O3PUFA production is 1.2 million tonnes, and that the fishery footprint of consumption is 1.4 million tonnes. I find that 1.1 million tonnes of the fishery footprint of consumption is associated with trade, and that the fishery footprint of consumption is 1.3 times greater than the fishery footprint of production. I find that the fishery footprint of production is 1.1 times greater than the fishery footprint of consumption in the Pacific Ocean, and that the fishery footprint of consumption is 1.2 times greater than the fishery footprint of production in the Atlantic Ocean