

NEW ACADEMIC ARTICLE

Biodiversity consequences of replacing animal protein from capture fisheries with animal protein from agriculture

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An outcome of a IFFO funded workshop

The expanding global population is driving an increasing demand for food production, further aggravating biodiversity declines



Food production has impacted native biodiversity for millennia.



In the last few centuries, this impact has expanded dramatically with deforestation, the more recent development of global large-scale fisheries and aquatic farming practices.



83% of the expansion of global agriculture in the 1980s and 1990s replaced tropical forests, leading to biodiversity loss.



**Reviews in Fisheries
Science & Aquaculture**

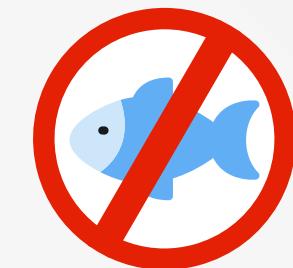
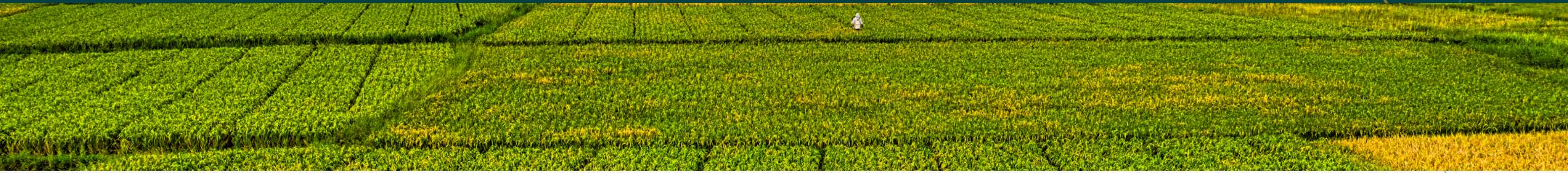


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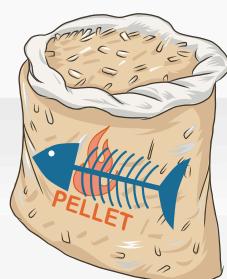
Both agricultural and marine systems remain vital for feeding a growing population



Replacing all animal protein from marine fisheries
almost 5 million km² of new land converted to agriculture
→ larger than the extent of intact rain forest in Brazil.



Replacing all fish in aquaculture diets
over 47 000 km² of new land converted to agriculture
→ i.e. the size of Pennsylvania's land area (USA)



Eliminating only whole fish from fishmeal production
over 20,000 km² of new land converted to agriculture
→ i.e. the size of Wales (UK) or New Jersey (USA)



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New tools for comparing and managing biodiversity impacts are needed



There needs to be more **transparency** on how and from where products are sourced and how they were grown.



Good data and effective controls on **fishery harvests** have proved to be successful.

+16M mt

Improved **management of fishery resources** could result in significant increases in catches.

Increased fish catches in well-managed fisheries could save land-based biodiversity.



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Critical role of seafood in global food security and biodiversity protection



"This peer-reviewed article underscores the essential role of responsibly managed fisheries in sustainable food systems and biodiversity protection. Despite their impacts, agricultural systems remain vital for feeding a growing population. However, more tools are needed to enable objective, localized comparisons between the biodiversity impacts of land-based animal protein production and marine fishing."

Brett Glencross
IFFO's Technical Director

"There are choices to be made as to how more food will be produced in the coming decades and what unintended land use and biodiversity consequences will result from these decisions. Well-managed fisheries do not rely on fundamental changes to ecosystems in the way that agriculture does."



Duncan Leadbitter
Lead author of the paper



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