

Media Release

Chiefs of Staff, News Directors

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How far will we need to go for fish?

As fishing fleets go farther and farther afield, Tasmanian scientists are pointing to heightened competition between communities and industries wanting to acquire protein from the ocean for human, animal or industrial consumption.

In a paper published today in the journal *Nature Communications*, lead author Professor Reg Watson said projections of wild and farmed seafood resources indicate nations are unlikely to continue feeding themselves at current levels with protein sourced from the ocean without making significant changes.

“The clear message is that global marine resources are finite and there are not enough to go around,” said Prof Watson, from the University of Tasmania’s Institute for Marine and Antarctic Studies (IMAS).

Prof Watson, a contributor to numerous international studies, including several for the UN’s Food and Agriculture Organisation (FAO), said the study is the first in the world to consider changes in the efficiency of sourcing seafood to the end of this century.

“Communities will need to decide how to use accessible fish protein – either directly as protein, as a food supplement for farmed seafood species such as salmon or intensive industries like chicken and pork, or even in fertilizer,” he said.

Many countries already require areas multiple times the size of their own waters to support their population’s seafood requirements. Fleets travel widely and seafood is traded globally in unprecedented volumes.

The University of Tasmania research team examined global patterns of where seafood is sourced from ocean ecosystems and where it is consumed, what portion of finite global marine production is required, and whether, through aquaculture to supplement wild sources, we can hope to meet future demands.

The study highlights how the human footprint has expanded across the world’s oceans – where seafood is sourced from ocean ecosystems and where it is consumed, and how strategically important the resource is to communities that have almost solely relied on seafood for protein.

“Marine farm systems face another set of challenges – finding new, suitable coastal ground on which to create farming operations that won’t be vulnerable to increasing storm events expected with climate change,” Prof Watson said.

“Seafood sourcing (wild or farmed) is closely linked to the health of marine ecosystems and has one of the greatest impacts on them.

“Our results illustrate how incrementally each year, marine foods have been sourced farther from where they were consumed and moreover, require an increasing proportion of the total ocean primary productivity that underpins all marine life.”

He said considerable evidence indicates that agricultural food supply systems are struggling to meet expanding demand, with production challenged by climate change, loss of top soil, and critical shortages of phosphates and water. A similar situation exists in the marine environment with ocean warming and acidification leading to a range of concerns.

“Historically, marine production has supported some of the world’s poorest people, but increasingly marine protein is sold to provide for the affluent, either directly by fishing or via fodder-based feeds for marine and land-based farming. Cheap oil and subsidies have underpinned our push to source marine proteins farther from ports,” Prof Watson said.

“While aquaculture has allowed our consumption of seafood to increase, it continues to require feeds based on fully or near fully-exploited wild stocks.

“Our examination of the global ocean’s ability to meet future demands to 2100 indicates that even with aquaculture supplementing near-static wild catches, growing demand is unlikely to be met without significant changes.”

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