

Science for Environment Policy

Can sustainable supplies of fish meet healthy eating recommendations?

For people in the UK to eat the recommended 280 grams of fish per week, the country would have to rely on aquaculture and increasingly on imports of both wild and farmed fish from poorer countries, a recent study has revealed. This can have social and environmental implications and the researchers urge governments, particularly in developed countries, to consider nutritional advice in a global context, to minimise the impact of fish exports from poorer countries.

Governments are encouraging their citizens to eat fish as part of a [healthy diet](#). Fish is a good source of protein, vitamins and minerals. Oily fish in particular supplies essential fatty acids, which the body cannot make itself. Yet at the same time, global [wild fish](#) stocks are under pressure from [overexploitation](#), pollution and habitat destruction.

Fish is a globally traded commodity, but it is questionable whether enough fish can be sustainably sourced to meet growing demand. This study reviewed past records of fish supply in the UK and worldwide to see how patterns of fish consumption have changed, and whether enough fish is available to meet the recommended levels for healthy eating.

The researchers used the UK as an example of fish supply and demand in a developed country. They sourced data on fish landings and imports and exports from official statistics for 1881–2012, as well as UK aquaculture production figures from the Food and Agricultural Organisation's (FAO) [FishStat](#) database. They then compared the fish supply with UK population data and calculated whether supplies could meet the UK recommendation of eating 280 grams (g) of fish per person per week.

Their analyses revealed that UK fish landings were highest in 1913 and have been in decline since. The gap between domestic supply and demand from the growing population has been met by imports, which rose by 305% from 1970 to 2012, and by UK aquaculture production, particularly since the 1980s. Declining domestic landings and increased imports in the UK reflect the trend elsewhere in developed countries — Europe imports 65% of its fish for consumption.

In the UK, current fish supplies including domestic and imported landings and aquaculture meets only 64% of the recommended consumption for the population. This suggests people are not getting their recommended intake of fish, and further fish imports would be needed to meet the demand.

According to FAO data, global fish supplies have increased by 10% per person per year over the last 30 years due to the rapid expansion of aquaculture. However, wild fish supplies have actually fallen by 32% per person since 1970.

The researchers compared health advice for the 14 countries where it was available to generate an average recommended dietary intake of 246 g of fish per week. They then estimated the fish available globally, which is only sufficient for each person in the world to eat 181 g of fish a week — 65 g less than the recommended average.

The researchers discuss four ways in which the gap between supply and demand can be reduced. First, they recommend less intense fishing of wild fish stocks to allow recovery. Second, fish could be used more fully in a future in which discarding is prohibited, as has been the case in Norway, where discards are converted into fishmeal and oil. Third, fish from further down the food chain, such as herring and anchovies could be exploited if managed correctly. Fourth, aquaculture could be expanded sustainably.

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The authors note that there is evidence of aquaculture having damaged the environment where it was incorrectly managed¹. This includes the clearing of vital seagrass ecosystems and the eutrophication of surrounding waters due to feed, pesticides and waste. The authors also note, however, that there are more sustainable methods being used for aquaculture operations, such as mollusc culture which requires no feed or pesticides, and freshwater fish which are fed on low-protein grain-based diets.

The researchers recommend that nutrition policies be made within a global outlook and strive to balance consumption with sustainable methods of production, while safeguarding marine biodiversity and ocean health.



1. State of Nature in the EU. Technical report No 2/2015: <http://www.eea.europa.eu/publications/state-of-nature-in-the-eu>