

Highest levels of microplastics found in molluscs, new study says

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Mussels, oysters and scallops have the highest levels of microplastic contamination among seafood, a new study reveals.

The research—led by researchers at Hull York Medical School and the

University of Hull—looked at more than 50 studies between 2014 and 2020 to investigate the levels of [microplastic](#) contamination globally in fish and shellfish.

Scientists are still trying to understand the health implications for humans consuming fish and shellfish contaminated with these tiny particles of waste plastic, which finds its ways into waterways and oceans through waste mismanagement.

Study author, Evangelos Danopoulos, a postgraduate student at Hull York Medical School said: "No-one yet fully understands the full impact of microplastics on the [human body](#), but early evidence from other studies suggest they do cause harm.

"A critical step in understanding the full impact on [human consumption](#) is in first fully establishing what levels of microplastics humans are ingesting. We can start to do this by looking at how much seafood and fish is eaten and measuring the amount of MPs in these creatures."

The study shows microplastic content was 0-10.5 microplastics per gram (MPs/g) in molluscs, 0.1-8.6 MPs/g in crustaceans, 0-2.9 MPs/g in fish.

The latest consumption data in the research shows China, Australia, Canada, Japan and the US are amongst the largest consumers of molluscs, followed by Europe and the UK.

Molluscs collected off the coasts of Asia were the most heavily contaminated with researchers suggesting that these areas are more heavily polluted by plastic.

Evangelos Danopoulos added: "Microplastics have been found in various parts of organisms such as the intestines and the liver. Seafood species like oysters, mussels and scallops are consumed whole whereas in larger

fish and mammals only parts are consumed. Therefore, understanding the microplastic contamination of specific body parts, and their consumption by humans, is key."

Plastic waste generated worldwide is expected to triple to 155-265 million metric tonnes per year by 2060. Once the plastic finds its way into oceans, lakes and rivers it has the potential to end up as microplastic inside shellfish, [fish](#) and marine mammals.

The research points to the need to standardise methods of measuring microplastic contamination so that different measurements can be more readily compared. Researchers said more data is needed from different parts of the world to understand how the issue varies between different oceans, seas and waterways.

The paper, "Microplastic contamination of seafood intended for human consumption: a systematic review and meta-analysis" is published in *Environmental Health Perspectives*.

Provided by University of York

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