Investigation of PFAS in Pitt Water - Summary

In early 2018, the Department of Health engaged GHD to investigate the presence of PFAS chemicals in fish, shellfish and waters of the Pitt Water area. We did this because the historical use of PFAS in this area posed a risk of local environmental contamination.

PFAS in the environment

PFAS (per- and poly-fluoroalkyl substances) are a class of manufactured chemicals which include perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), and perfluorohexane sulphonate (PFHxS). PFAS have been widely used globally to make household and industrial products that resist heat, stains, grease and water, and in firefighting foams. They do not break down in the environment and can accumulate in animals and humans. The use of PFAS has now been minimised in Australia.

PFAS are found in higher concentrations in environments around sites where PFAS-containing products have been used. These include certain defence sites, airports, firefighting training grounds and some heavy industrial sites.

Food Standards Australia New Zealand (FSANZ) has developed 'trigger points' for individual foods and food groups. These values help state and territory food authorities determine if further investigation is required if PFAS is detected in food. The Commonwealth Government has published guidance values for PFAS in drinking water and recreational water to use in site investigations.

Pitt Water sampling

Pitt Water is a site for commercial fishing, and for recreational fishing and other activities. This investigation focused on the shellfish, fish, and water of Pitt Water because the fish and shellfish are eaten, and residents and visitors may have contact with the water.

The investigation was not designed to be an exhaustive assessment of PFAS in the Pitt Water environment. Rather it was a timely initial investigation of a potential environmental health risk, and may be part of a staged investigation.

The most commonly consumed shellfish and fish ('biota') from Pitt Water were sampled – wild and farmed oysters, wild mussels, flathead and flounder. Recreational water samples were collected from three locations across Pitt Water and two locations at Seven Mile Beach.

Results

The lowest level of each of the chemicals (PFOS, PFHxS, PFOA) that the laboratory test can detect in foods is 0.0005 mg/kg, and in water is 0.0001 µg/L. These are called the 'limit of reporting'.

Flathead and flounder were sampled from five locations. PFOS was detected in fish, but all results for PFOS+PFHxS (combined) were below the FSANZ trigger point for finfish (0.0052 mg/kg). All results for PFOA were below the limit of reporting.

Farmed shellfish were sampled from 12 leases and wild oysters and mussels were sampled from three locations. All samples were below the laboratory's limit of reporting for PFOS, PFHxS and PFOA.

PFOS and PFHxS were detected in 4 of 5 water samples and PFOA in one. All were far below the recreational water guideline values for PFOS+PFHxS (0.7 µg/L) and PFOA (5.6 µg/L).

These detections of PFAS do not pose a risk to persons exposed to the water of Pitt Water through recreational activities in and on the water.

While PFAS was detected in flathead and flounder, all results were the below 'trigger points' for further investigation. It is safe to continue to eat fish from Pitt Water in line with general fish and seafood consumption advice and as part of a balanced diet. Food Standards Australia New Zealand (FSANZ) provides advice on fish consumption: http://www.foodstandards.gov.au/consumer/chemicals/mercury/Pages/default.aspx.