



Illinois PFAS Advisories

People can be exposed to per- and polyfluoroalkyl substances (PFAS) by eating contaminated fish. You can reduce your exposure to PFAS in Illinois fish by following the Illinois Department of Public Health's (IDPH's) fish advisory guidance.

WHAT ARE PFAS?

PFAS are chemicals used for industrial applications, firefighting, and stain or waterproofing consumer products. PFAS do not break down in the environment. Once released, PFAS can build up in fish that live in contaminated water.

WHY IS ILLINOIS TESTING FOR PFAS IN FISH?

The U.S. Environmental Protection Agency (USEPA) tested a small number of Illinois fish for PFAS in 2011. PFAS were detected in nearly all samples. In 2021, the Illinois Environmental Protection Agency received USEPA funding to purchase an instrument capable of analyzing PFAS in fish tissue. Illinois began statewide PFAS testing in 2023.

WHICH PFAS ARE COMMONLY DETECTED IN FISH?

PFOS (perfluorooctanesulfonic acid) and PFUnA (perfluoroundecanoic acid) are the most commonly detected PFAS in fish across the United States.¹ Illinois has developed fish consumption advisory guidelines for PFOS and PFUnA due to their presence in Illinois fish.

WHAT ARE THE POTENTIAL HEALTH EFFECTS FOR PEOPLE WHO EAT FISH CONTAMINATED WITH PFAS?

PFOS has been associated with increased cholesterol levels and low birth weights, developmental delays, and decreased vaccine effectiveness in children. PFOS and PFUnA exposure may cause liver damage. PFOS is also a suspected human carcinogen.²

HOW CAN I REDUCE MY EXPOSURE TO PFAS IN FISH?

PFAS are stored in the muscle of fish and cannot be reduced by trimming, skinning, or cooking your meal. The best way to reduce your exposure to PFAS is by following IDPH's fish advisory guidance.

HOW DO FISH BECOME CONTAMINATED WITH PFAS?

PFAS are released into waters near areas where they were produced, used, or disposed. Fish are exposed to PFAS by breathing contaminated water and eating contaminated food. Certain PFAS, such as PFOS and PFUnA, can build up in fish at levels thousands of times greater than levels in their surrounding environment.

¹ Stahl, L.L., Snyder, B.D., McCarty, H.B., Kincaid, T.M., Olsen, A.R., Cohen, T.R., Healey, J.C., 2023. Contaminants in fish from U.S. rivers: Probability-based national assessments. *Science of The Total Environment*, 861, 433 160557. <https://doi.org/10.1016/j.scitotenv.2022.160557>

² Zahm, S., Bonde, J.P., Chiu, W.A., Hoppin, J., Kanno, J., Abdallah, M., Blystone, C.R., Calkins, M.M., Dong, G.H., Dorman, D.C., Fry, R., 2024. Carcinogenicity of perfluorooctanoic acid and perfluorooctanesulfonic acid. *The Lancet Oncology*, 25(1), pp.16-17. [https://doi.org/10.1016/S1470-2045\(23\)00622-8](https://doi.org/10.1016/S1470-2045(23)00622-8)

DO CERTAIN ILLINOIS FISH HAVE HIGHER PFAS LEVELS THAN OTHERS?

PFAS can build up at similar levels in all sizes and types of Illinois fish. This is unlike other contaminants that may be higher in fish that are large, bottom dwelling, or predatory.

HOW LONG ARE PFAS STORED IN THE HUMAN BODY?

PFAS mainly accumulate in the blood, kidney, and liver of humans. After exposure, it takes more than three years for half of PFOS to leave the human body. PFUnA has a human half-life of up to 12 years. Due to their long half-lives, PFAS can build up to high levels in humans if exposure is not reduced.³

DOES SEAFOOD SOLD IN RESTAURANTS AND GROCERY STORES HAVE PFAS?

The U. S. Food and Drug Administration has tested seafood from the United States and other countries for PFAS.⁴ Farmed seafood, such as Atlantic salmon, tilapia, and shrimp, have low PFAS levels. PFAS levels are higher in wild-caught seafood, such as tuna, cod, and clams.

WHERE CAN I GET MORE INFORMATION?

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³ Agency for Toxic Substances and Disease Registry (ATSDR). 2021. Toxicological profile for Perfluoroalkyls. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>

⁴ Young, W., Wiggins, S., Limm, W., Fisher, C.M., DeJager, L., Genualdi, S., 2022. Analysis of Per- and Poly(fluoroalkyl) Substances (PFASs) in Highly Consumed Seafood Products from U.S. Markets. Journal of Agricultural and Food Chemistry, 70 (42), 13545-13553. DOI: <https://doi.org/10.1021/acs.jafc.2c04673>