Georgia Environmental Health
404-657-6534

FACT SHEET

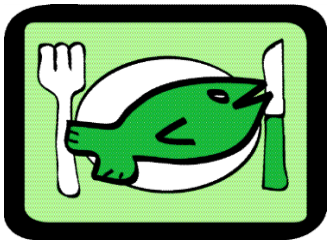
PERFLUOROOCTANE SULFONATE (PFOS) IN FISH

Whitfield County, Georgia

This fact sheet provides information about the potential health effects of perfluorooctane sulfonate (PFOS) in fish from the Conasauga River.

What is perfluorooctane sulfonate (PFOS)?

Perfluorooctane sulfonate (PFOS) is a synthetic (man-made) chemical compound in a broad class of manufactured chemicals that has been produced since the 1950s. This class of chemicals is used in making products that resist oil, stains, heat, water and grease. These products include non-stick cookware, oil and moisture-resistant paper coatings, stain-resistant carpets and fabrics, nail polishes, and fire-fighting foam. In addition to the many consumer-product uses, the aerospace, automotive, construction, electronics, semiconductor, and textile industries use PFOS as well. In 1999, the U.S. Environmental Protection Agency (EPA) began investigating PFOS and related chemicals after receiving data on the global distribution and toxicity of PFOS. As a result, the production of PFOS-containing products began to be phased out in May 2000. PFOS continues to be produced in China.



PFOS was used by some companies in the Dalton carpet industry to make stain-repellent floor coverings. As a result, PFOS can be found in water and fish after release from the manufacture, use, and disposal of products that contain these chemicals. PFOS poses health concerns because it persists in the environment for many years. It accumulates in wildlife such as birds, mammals, fish, and people.

There are very few epidemiological studies of exposure to PFOS and adverse health outcomes in humans; however, several animal studies have been conducted with PFOS. Available study data for humans and animals show that repeated exposure to PFOS can affect the liver and thyroid. Animal studies with food containing PFOS showed slow growth and evidence of cancer. There is no conclusive evidence that PFOS causes cancer in humans.

What are the levels of PFOS in fish?

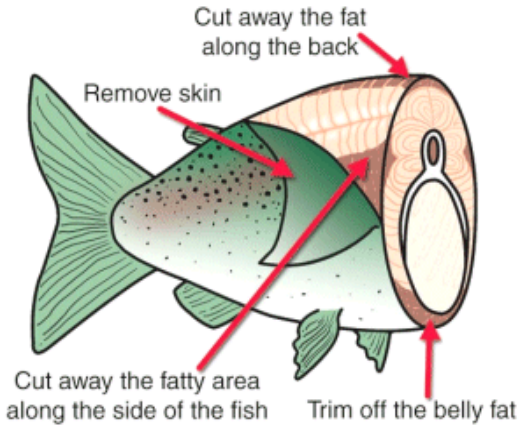
In 2010, the Georgia Department of Public Health (GDPH) published a health consultation that evaluated the levels of PFOS found in fish and freshwater mussels caught in the Conasauga River southeast of Dalton. A health consultation summarizes environmental sampling data to determine the extent of past, current, and future exposure to hazardous chemicals in the environment, and the potential for resulting health effects. GDPH concludes that exposure to low levels of PFOS found in fish and freshwater mussels is not expected to harm people's health because the estimated exposure doses are many times lower than exposure doses shown to have adverse health effects in many animal studies.

The average level of PFOS was lowest in mussel samples, and ranged from 18 – 180 parts per billion (ppb) in spotted bass and blue catfish samples. The U.S. Food and Drug Administration has not set an Action Level for the amount of PFOS in fish and seafood. (The term Action Level refers to the concentration of a residue in fish that will initiate an investigation and/or risk management action.) However, results show that background samples had concentration of 1.8 to 4 ppb of PFOS.

Can I eat fish from the Conasauga River?

- Yes. Health experts recommend eating one to two meals of fish per week. Fish are a good source of protein and contain many vitamins and minerals. Eating fish may help protect adults against cardiovascular disease. Pregnant women and women who may become pregnant should also eat fish because it promotes eye and brain development in fetuses.
- Those who catch fish and seafood in Georgia should follow the Guidelines for Eating Fish from Georgia Waters published by the Georgia Department of Natural Resources (DNR). The Guidelines can be found on the DNR website, *www.dnr.org*.
- Mercury and polychlorinated byphenyls (PCBs) are the chemicals that have been measured at levels of concern in the Conasauga River. The Guidelines for this area of Georgia are based on these contaminants, and are also protective for the low levels of PFOS found in fish and mussels. Be aware that special cleaning and cooking precautions used to reduce contaminants stored in fat, like PCBs, are not effective with PFOS.
- The Guidelines for the Conasauga River (Coosa River Basin) make a recommendation of no more than one meal per week for spotted bass and depending on the size of the blue catfish, no more than one meal per week or one meal per month.

What can I do to protect myself from chemicals found in fish?



1) Eat a variety of fish and seafood
2) Avoid eating fish and seafood known to have high levels of contamination
3) Find safer ways to prepare fish and seafood
4) Before cooking, remove organs, skin and fat as shown in the diagram below
5) Cook the fish in a way that the fat can drip away from the fish, such as grilling
6) Avoid breading and deep frying fish which causes the fat to be absorbed into the breading.

FOR MORE INFORMATION, CONTACT:

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