

Alabama Fish Consumption Advisories

The State of Alabama has an abundance of clean rivers and lakes. These waters give sport fishermen great recreation, while providing subsistence fishermen with an abundance of good food. However, fishermen need to understand both the benefits and the risks of their fish consumption practices, especially in areas where fish advisories have been issued.

The benefits of fishing are many. It provides stress-reducing recreational and outdoor activity needed for good health. Fish provide a high protein food, low in fat, cholesterol, and calories when prepared properly. Some components of fish, such as the 3-omega fatty acids, may benefit the cardiovascular system.

Unfortunately, certain toxic chemicals have been unintentionally added to some lakes and rivers in Alabama. These chemicals can accumulate in fish. When these chemicals become highly elevated, they can pose certain health risks to people who eat these fish.

This pamphlet should help inform fishermen of particular fish species in specific bodies of water that are affected by toxic chemicals, the risks of consuming those fish, and methods for limiting risks of eating a particular catch.

Contaminants in Fish

Fish consumption advisories have been issued for chlordane, DDT, mercury, and polychlorinated biphenyls (PCBs). **Chlordane** is a chlorinated hydrocarbon frequently used as a pesticide until it was banned in the late 1980's. Contamination problems presently exist from run-off in agricultural land and other areas where it was heavily used. **DDT** is another chlorinated hydrocarbon used as a pesticide for insect control during World War II. The United States permitted the commercial use of DDT in 1945. It was a widely used pesticide until it was banned in 1972. **Mercury** is a naturally-occurring element and is used in a variety of products, such as barometers, thermometers, paints and batteries. Manufacturers also use mercury in the production of chlorine, caustic soda, urethane foam and other products. Such wide use has led to unintentional contamination of the environment. Once in the environment, mercury is converted to methylmercury, which is the chemical form that is hazardous to human health. In recent years, the government has made regulations to limit or ban the use of mercury in various products and industrial processes. **PCBs**, used in capacitors and transformers, have good dielectric and fire resistance properties. In 1979, the U.S. Environmental Protection Agency (EPA) prohibited all manufacture of PCBs. All of these chemicals persist in the environment. Chlordane, DDT, and PCBs collect in fatty tissue, while mercury collects in muscle tissue of fish.

The presence of toxic contaminants in Alabama waters should decrease due to the current regulations which ban or restrict their use. Therefore, advisories are removed when their

presence in the environment is sufficiently reduced.

Advisories

Advisories are to help fishermen realize and reduce the potential health risks from eating contaminated fish. When advisories are issued, fishermen can continue to catch fish and may choose to eat them; an advisory is only a recommendation.

Advisories are based on the risk of cancer or other serious illnesses that may result from eating contaminated fish. The cancer risk is usually given as 1 in 10,000 or 1 in 100,000 additional cancers over a lifetime of consumption. Therefore, the cancer risk from eating a few fish from the area over a few years is slight. Advisories for non-cancer causing agents are usually based on a level of a chemical below which no adverse health effects are found in animal studies. The level shown by animal studies to be safe is usually divided by 100 or more to determine a daily level of intake that is likely to be without risk of adverse health effects for humans. Women of childbearing age and children may be particularly vulnerable to the effects of toxic substances. Therefore, some advisories particularly limit consumption by these groups.

There are two types of advisories; both are for specific fish species in defined areas of lakes and streams. A **limited consumption advisory** states that women of reproductive age and children less than 15 years old should avoid eating certain fish from these areas. Other people should limit their consumption of the particular species to one meal per month. A **no consumption advisory** recommends that everyone avoid eating certain species of fish in the defined area.

Risks Can Be Reduced

Anglers who fish in an advisory area may take actions to reduce risks from contaminants in fish. Chlordane, DDT, and PCBs tend to stick to sediments; therefore, eating fish that feed on the bottom of lakes and streams (catfish, carp or sucker) should be avoided. However, in waterways contaminated with mercury, game fish such as largemouth bass tend to store mercury in the muscle and should be eaten less often.

A second way to limit exposure to contaminants in fish is to keep and eat smaller fish. It's nice to catch big fish, but the longer the exposure time to a chemical, the greater the chemical level in the fish tissue. As fish grow older, the conversion of food to muscle tissue changes, increasing the build-up of fat where most toxic materials are stored.

Cutting away most of the fatty tissue when cleaning fish is a third way to limit exposure to toxic chemicals. The skin, belly flap and the fatty strip along the backbone and lateral line should be removed to reduce the amount of contaminants in the meal.

Cooking methods can provide a fourth method for reducing toxic substances in fish meals. Since most of the contaminants are stored in the fat, cook the fish in a manner that allows

the juices to drip away from the meat. Broiling and grilling are recommended. Frying, chowders and stews are not recommended.