



FAQ's Associated with the Trinity River Fish Consumption Advisory

*Prepared by the Seafood and Aquatic Life Group
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Q: What recommendation has the Texas Department of State Health Services (DSHS) made to protect human health?

A: Specific consumption advice, Fish Consumption Advisory 43 (ADV-43), has been issued for the Trinity River recommending that persons should not consume any species of fish from these waters. The advisory area is defined as the Clear Fork of the Trinity River from the Benbrook Reservoir Dam and the West Fork of the Trinity River from the Lake Worth Dam including the main stem of the Trinity River downstream to the U.S. Highway 287 Bridge.

Q: What species of fish were tested from Trinity River?

A: Blue catfish, channel catfish, common carp, flathead catfish, freshwater drum, largemouth bass, longnose gar, smallmouth buffalo, spotted bass, spotted gar, and white bass.

Q: What are the chemical contaminants of concern in the Trinity River?

A: Polychlorinated Biphenyls (PCBs) and polychlorinated dibenzofurans and polychlorinated dibenzo-p-dioxins (PCDFs/PCDDs or "dioxins").

Q: What are polychlorinated biphenyls (PCBs)?

A: PCBs are synthetic (man-made) mixtures of up to 209 individual chlorinated compounds (known as congeners). Many commercial PCB mixtures in the U.S. are known by the trade name Aroclor. PCBs are oily liquids or solids that are colorless to yellow. Some PCBs may also exist as a vapor in air. PCBs were once used commercially as coolants and lubricants in electrical transformers and capacitors, heavy-duty electrical equipment in power plants, industries, and large buildings across the country and other electrical equipment, carbonless copy papers, sealing and caulking compounds, paint additives, cutting oils, ballasts in fluorescent light fixtures, and hydraulic fluids. PCBs were valued for chemical stability and fire resistance.

Q: How do PCBs enter the environment?

A: In 1979, The United States Environmental Protection Agency (USEPA) banned the manufacture of PCBs in the United States. However, the USEPA did not require removal of PCB-containing materials still in service at the time of the ban. Therefore, some materials

remain in use today. The major source of environmental PCBs in the United States today is from ongoing use, storage, and disposal of products in landfills or improper disposal of products that contain PCBs. PCBs also may be released from sediments disturbed by flooding, dredging, and other activities.

Q: What are dioxins?

A: Dioxins are a group of synthetic organic chemicals that contain 210 structurally related individual polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). In pure form, dioxins are crystals or colorless solids. Dioxins are primarily produced as unintentional byproducts of chlorine bleaching in pulp and paper mills, municipal solid waste and industrial waste incineration, combustion of fossil fuels and wood, waste and drinking water chlorination, and as contaminants in the manufacture of certain organic chemicals. Dioxins are also natural products of forest fires and possibly other natural processes, but these sources are small compared to dioxins produced by human activity.

Q: How do dioxins enter the environment?

A: Currently, the major environmental source of dioxins is incineration. Dioxins are highly persistent in the environment due to their very low water solubility and low volatility. Most are contained in soil and sediments that serve as environmental reservoirs from which dioxins may be released over a long period of time. Particle resuspension from environmental reservoirs is an important contributor to dioxin distribution.

Q: How do dioxins and PCBs accumulate in fish?

A: Dioxins and PCBs have been found in soil, ground and surface water, air, sediment, plants, and animals in all regions of the world. PCBs break down very slowly in the environment and accumulate in fatty tissue, skin, and internal organs of fish and other animals. Levels of dioxins and PCBs in fish may be hundreds to a million times higher than the concentrations found in water or sediments. The amount of dioxins and PCBs found in fish varies with species, age, size, fat content, diet, and surface water and sediment concentrations. Generally, Larger, older fish will contain higher levels of dioxins and PCBs than smaller, younger fish; fatty fish such as catfish species and gar species may contain higher levels of dioxins and PCBs than lean fish such as the black bass species and sunfish species locally known as *perch*.

Q: How can dioxins and PCBs affect my health?

A: Eating fish that contain dioxins and PCBs may cause skin conditions such as acne and rashes. Dioxins and PCBs may also affect the immune system, reproductive system, liver, impair physical and neurological development of fetuses and children, and may increase the risk of cancer.

Q: What is the source of dioxins and PCBs in the Trinity River?

A: DSHS does not attempt to determine contaminant sources. The Texas Commission on Environmental Quality (TCEQ) is the state agency responsible for identifying contaminant sources.

Q: I have been eating these fish all my life. Will I have adverse health effects?

A: The consumption limits recommended by the DSHS have allowed a margin of safety below those levels that could result in adverse health effects; however, eating more than the recommended amount of fish from the Trinity River does not necessarily mean that a person will have observable adverse health effects.

Q: Should I stop eating fish?

A: No. Fish are an important source of protein in the diet. The DSHS recommends that you follow general consumption guidelines and/or fish consumption advisories or bans issued for specific water bodies provided in the *DSHS Fish Consumption Advisories and Bans* booklet (copies of this booklet may be obtained by calling the DSHS Seafood and Aquatic Life Group (512) 834-6757 or by accessing the DSHS Seafood and Aquatic Life Group Web site at <http://www.dshs.state.tx.us/seafood>). Fish consumption advisory information is also published in the *Texas Parks and Wildlife Outdoor Annual Hunting and Fishing Regulations* booklet. This booklet is provided to all licensed anglers in Texas.

Q: Will cooking or cleaning fish a certain way reduce the dioxin and PCB level?

A: Yes. These chemical contaminants readily accumulate in the fatty tissues of fish. To reduce exposure to these chemicals, the skin, dark (reddish-color) muscle tissue, and fatty portions (i.e. belly fat, side fat, and fat along the top of the back) of the fish should be removed before cooking. The DSHS recommends baking or broiling skinned, trimmed fish on a rack or grill to allow fat to drip away from the fillet. If fish are fried, the frying oil should not be reused. These cooking methods will reduce exposure to many of the most common organic chemical contaminants in fish.

Q: Should I stop fishing?

A: No. Recreational fishing does not need to stop. Consuming fish in amounts recommended by the DSHS poses no significant health risk and catch-and-release fishing eliminates potential health risks.

Q: Should I be concerned about dioxins and PCBs while participating in contact recreation activities like boating or swimming?

A: There is not a concern for dioxins and PCBs while swimming or other contact recreational activities. Levels in the water are low. The concern is for consumption of fish that concentrate the dioxins and PCBs in their tissue.

Q: Will the Trinity River fish consumption advisory be long term?

A: Dioxins and PCBs are contaminants that persist in the environment for years. Due to the long-lived nature of these contaminants there is a strong likelihood that the Trinity River fish consumption advisory could be long term.

Q: Will the Texas Department of State Health Services (DSHS) conduct additional monitoring?

A: The DSHS will continue to monitor fish from the Trinity River if funding becomes available.

Sources of Information

United States Environmental Protection Agency (EPA) Chemical Fact Sheets
<http://www.epa.gov/waterscience/fish/technical/chemfacts.html>

Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs
<http://www.atsdr.cdc.gov/toxfaqs/index.asp>

Agency for Toxic Substances and Disease Registry (ATSDR) Public Health Statements
<http://www.atsdr.cdc.gov/PHS/Index.asp>